Role of family in HIV prevention: systematic reviews and qualitative investigation of young Thai women in Bangkok

Thesis submitted in partial fulfilment of the requirements of the degree of DPhil in Social Policy and Intervention in the Social Science Division at the University of Oxford

Hilary term, 2014

Mukdarut Bangpan

Wolfson College

DPhil Candidate in Evidence-Based Social Intervention

Department of Social Policy and Intervention

University of Oxford

52965 Words

CONTENTS

CONTENTS **2**

TABLES **6**

FIGURES **7**

ACKNOWLEDGEMENTS **8**

ABBREVIATIONS **10**

ABSTRACT **12**

CHAPTER 1: INTRODUCTION **14**

1.1 AIM AND RESEARCH QUESTION 15

1.2 HIV/AIDS IN THAILAND 17

1.3 SEXUAL RISKS OF YOUNG THAI PEOPLE 20

1.4 THESIS STRUCTURE 25

CHAPTER 2: FAMILY INFLUENCES AND SEXUAL BEHAVIOUR **28**

2.1 FAMILY INFLUENCES ON YOUNG PEOPLE'S SEXUAL BEHAVIOUR 28

2.1.1 Parent-child communication *29*

2.1.2 Family relationship *33*

2.1.3 Parental monitoring *36*

2.1.4 Other family influences *37*

2.2 FAMILY INFLUENCES ON YOUNG THAI WOMEN'S SEXUAL BEHAVIOUR 39

2.3 THEORETICAL AND CONCEPTUAL FRAMEWORK 43

2.3.1 Ecological Systems Theory *47*

2.3.2 Family Change Theory *50*

CHAPTER 3: METHODOLOGY **54**

3.1 RESEARCH PHILOSOPHY 54

3.2 SYSTEMATIC REVIEWS 57

3.2.1 Systematic review methods *58*

Identification of relevant studies 58

Defining relevant studies: Inclusion and exclusion criteria 59

3.2.2 Characterisations of studies in the systematic knowledge map *59*

Characteristics of studies included in the systematic knowledge map are presented in Appendix 8 ..... *60*

3.2.3 Systematic review of family-involved HIV interventions for young people *62*

Identification of relevant studies 62

Data extraction, quality assessment and data analysis 63

3.2.4 Systematic review of studies exploring young women's perception of family influences on sexual decisions *65*

Identification of studies 66

Data extraction and quality assessment 66

Synthesis 67

3.2.5 Reflexivity *68*

3.3 QUALITATIVE PRIMARY RESEARCH 70

3.3.1 Recruitment and participants *72*

3.3.2 Data collection ... *74*
3.3.3 Data analysis ... *75*
3.3.4 Reflexivity ... *77*
3.3.5 Research ethics ... *80*

CHAPTER 4: FAMILY INVOLVEMENT IN HIV INTERVENTIONS FOR YOUNG PEOPLE: A SYSTEMATIC REVIEW ... 83

4.1 MOVING FROM SYSTEMATIC KNOWLEDGE MAPPING TO SYSTEMATIC REVIEWING OF FAMILY-INVOLVED HIV INTERVENTIONS FOR YOUNG PEOPLE ... 86
4.2 RESULTS ... 87
4.2.1 Characteristics of family-involved HIV interventions ... *87*
4.2.2 Characteristics of the included studies ... *101*
Unit of allocation ... 103
Method of randomisation ... 103
Allocation concealment and blinding procedure ... 104
Self-reported data ... 105
Adherence and fidelity ... 105
Clustered RCTs ... 107
Attrition ... 108
Overall quality of studies ... 109
4.2.3 Impact of family-involved HIV interventions on biological and sexual behaviour outcomes ... *111*
HIV and Herpes Simplex Virus-2 (HSV-2) prevalence ... 111
Self-reported STIs ... 111
Pregnancy ... 112
Sexual initiation ... 113
Recent sexual intercourse ... 114
Frequency of sexual intercourse ... 116
Condom use ... 118
Sexual partners ... 122
Contraceptive use ... 123
Overall sexual behaviour ... 124
4.2.4 Impact of family-involved HIV interventions on non-sexual behaviour outcomes ... 124
Cigarette use ... 124
Alcohol use ... 124
Illicit drug and substance uses ... 125
Healthcare seeking behaviour ... 125
Other risk behaviours ... 126
4.2.5 Impact of family-involved HIV interventions on family outcomes ... *126*
Family functioning ... 127
Parent-child communication ... 128
Parental monitoring ... 128
4.3 CONCLUSION ABOUT THE EFFECTIVENESS OF FAMILY-INVOLVED HIV INTERVENTIONS ... 129
4.3.1 Characteristics of effective family-involved HIV interventions in improving young people's sexual behaviour ... *131*
Programme characteristics ... 131
How were the effective FIHIs delivered? ... 136
How were the effective FIHIs implemented and managed? ... 138

CHAPTER 5: SYSTEMATIC REVIEW OF STUDIES EXPLORING YOUNG WOMEN'S PERCEPTIONS OF FAMILY ROLES AND SEXUAL DECISIONS ... 142

5.1 MOVING FROM SYSTEMATIC KNOWLEDGE MAPPING TO SYSTEMATIC REVIEWING OF STUDIES EXPLORING YOUNG WOMEN'S PERCEPTIONS OF ROLES OF FAMILY AND SEXUAL DECISIONS ... 145

5.2 DESCRIPTION OF INCLUDED STUDIES 146
5.3 FINDINGS 148
5.3.1 Data extraction and quality assessment *148*
5.4 SYNTHESIS RESULTS 151
5.4.1 Dynamics of family processes *153*
Concept one: Parent-child communication 154
Concept two: Family relationships 156
Concept three: Parental monitoring 158
5.4.2 Parental attitudes towards sexuality and gender *159*
Concept four: Parental expectations 159
Concept five: Parental attitudes towards gender roles 161
Concept six: Religious beliefs 162
5.4.3 Daughters' internalisation of parental attitudes *163*
Concept seven: Daughters' internalisation of parental attitudes 163
5.5 CONCLUSIONS 164

CHAPTER 6: FAMILY, SOCIAL INFLUENCES AND SEXUAL DECISIONS: PERCEPTIONS OF YOUNG THAI WOMEN IN BANGKOK 169
6.1 CHARACTERISTICS OF THE FOCUS-GROUP PARTICIPANTS 171
6.2 RESULTS 174
Theme 1: "Family is only one part…": Sense of self and social influences 174
Theme 2: "I got confused, because they don't talk about this at home": Parent-child communication about sex 180
Theme 3: "My mother is so kind. My father doesn't talk": Parent-child relationships 188
Theme 4: A different and changing society: Contextual and social influences 190
6.3 CONCLUSION 194

CHAPTER 7 DISCUSSION AND RECOMMENDATIONS 201
7.1 POTENTIAL OF FIHIS IN A THAI CONTEXT: OPPORTUNITIES AND CHALLENGES 202
7.2 LIMITATIONS OF THE RESEARCH 210
7.2.1 Systematic review of FIHIs *210*
7.2.2 Systematic review of qualitative studies *211*
7.2.3 Qualitative investigation of young Thai women *213*
7.3 RECOMMENDATIONS FOR RESEARCH, PRACTICE AND POLICY 214

REFERENCES 220

APPENDIX 1: SEARCH STRATEGIES 252

APPENDIX 2: EXCLUSION CRITERIA FOR SYSTEMATIC KNOWLEDGE MAP 264

APPENDIX 3: CODING TOOL FOR SYSTEMATIC KNOWLEDGE MAP 265

APPENDIX 4: DATA EXTRACTION TOOL AND CHECKLIST FOR SYSTEMATIC REVIEW OF FAMILY-INVOLVED HIV INTERVENTIONS 281

APPENDIX 5: DATA EXTRACTION TOOL AND CHECKLIST FOR SYSTEMATIC REVIEW OF QUALITATIVE STUDIES 288

APPENDIX 6: DEMOGRAPHIC QUESTIONNAIRE 293

APPENDIX 7: TOPIC GUIDE 296

APPENDIX 8: SYSTEMATIC KNOWLEDGE MAP 298

APPENDIX 9: CHARACTERISTICS OF THE 18 STUDIES INCLUDED THE SYSTEMATIC REVIEW OF FIHIS.....325

APPENDIX 10: FURTHER FINDINGS OF THE FIHI STUDIES 374

APPENDIX 11: KEY CONCEPTS CODED IN THE SYSTEMATIC REVIEW OF STUDIES EXPLORING PERCEPTIONS 386

Tables

TABLE 1.1: STRUCTURE OF THE THESIS 27
TABLE 3.1: INCLUSION CRITERIA FOR THE SYSTEMATIC KNOWLEDGE MAP 61
TABLE 4.1 KEY CHARACTERISTICS OF FAMILY-INVOLVED HIV INTERVENTIONS IN THE REVIEW 90
TABLE 4.2: KEY CHARACTERISTICS OF INCLUDED STUDIES 110
TABLE 4.3: FIHI STUDIES REPORTING SELF-REPORTED STI INCIDENCE 112
TABLE 4.4: EFFECT OF FIHI STUDIES ON SEXUAL INITIATION 113
TABLE 4.5: FIHI STUDIES REPORTING INCIDENCE OF RECENT SEXUAL INTERCOURSE 115
TABLE 4.6: FIHI STUDIES REPORTING FREQUENCY OF SEXUAL INTERCOURSE 117
TABLE 4.7: FIHI STUDIES REPORTING CONDOM USE AND UNPROTECTED SEX OUTCOMES 120
TABLE 4.8: FIHI STUDIES REPORTING SEXUAL PARTNER OUTCOMES 123
TABLE 4.9: SUMMARY OF INTERVENTION EFFECTS ON PRIMARY OUTCOMES (AT LONGEST ASSESSMENT, UNLESS STATED OTHERWISE) 130
TABLE 5.1: MAIN CHARACTERISTICS OF THE 11 STUDIES IN THE SYSTEMATIC REVIEW 146
TABLE 5.2: COMPREHENSIVENESS OF REPORTING, QUALITY AND RELEVANCE OF THE 11 STUDIES 148
TABLE 5.3: MAJOR CONCEPTS OF THE 11 STUDIES INCLUDED IN THE REVIEW 152
TABLE 6.1: MAIN CHARACTERISTICS OF YOUNG WOMEN IN THE FOCUS GROUPS 173
TABLE A: OVERVIEW OF STUDIES THAT EXPLORE YOUNG WOMEN'S PERCEPTIONS 302
TABLE B: SUMMARY OF FAMILY-INVOLVED HIV INTERVENTIONS AND OUTCOMES REPORTED IN STUDIES INCLUDED IN THE REVIEW 376

Figures

FIGURE 1.1: PERCENTAGE OF YOUNG PEOPLE WHO SAID THEY HAVE HAD SEX 20
FIGURE 2.1: THEORETICAL AND CONCEPTUAL FRAMEWORK 52
FIGURE 3.1: AN OVERALL RESEARCH APPROACH OF THE THESIS 56
FIGURE 3.2: COMMON STAGES IN SYSTEMATIC REVIEWS 57
57
FIGURE 4.1: SELECTION PROCESS OF STUDIES IN THE SYSTEMATIC REVIEW OF FIHIS 87
FIGURE 5.1: FLOW OF SCREENING PROCESS FOR QUALITATIVE STUDIES 145
FIGURE 5.2: THE FRAMEWORK DERIVED FROM THE SYSTEMATIC REVIEW OF QUALITATIVE STUDIES 153
FIGURE A: FURTHER DETAILS OF THE SELECTION PROCESS IN THE SYSTEMATIC KNOWLEDGE MAP 299
FIGURE B: QUALITATIVE STUDIES BY STUDY COUNTRY (N=34) 300
FIGURE C: SAMPLE CHARACTERISTICS OF 34 QUALITATIVE STUDIES IN THE SYSTEMATIC KNOWLEDGE MAP 301
FIGURE D: CORRELATIONAL STUDIES BY STUDY COUNTRY (N=120, CODES NOT MUTUALLY EXCLUSIVE) 307
FIGURE E: SAMPLE CHARACTERISTICS OF 120 STUDIES INCLUDED IN THE SYSTEMATIC KNOWLEDGE MAP 308
FIGURE F: FAMILY VARIABLES IDENTIFIED IN THE SYSTEMATIC KNOWLEDGE MAP 309
FIGURE G: CHARACTERISTICS OF FIHI STUDIES IN THE SYSTEMATIC KNOWLEDGE MAP (N=44) 311

ACKNOWLEDGEMENTS

It was a cold, quiet night, when I realised that I was writing this very last section of my thesis. It came as a surprise, a good surprise in that I had begun to think about the thesis submission. It has been a long journey and it has become a big part of my life in the past few years. I would like to thank my supervisors, Teresa Smith and Don Operario for enabling me to get to this point. Teresa has been providing unconditional support academically and emotionally since I started my journey as an MSc student at was then the Department of Social Policy and Evidence-Based Social Work in 2004. She accepted the request to be my supervisor again when Don got a new post at Brown University. Although we had to work from different locations and time zones, Don, regardless of his other commitments, has provided support, expertise and guidance throughout my DPhil study. I am greatly indebted to them both.

I would like to acknowledge the support of my colleagues at the EPPI-Centre, who have been a source of expertise, personal development and encouragement along the journey. My special thanks go to Jenny Caird, Katrina Hargreaves, Naira Kalra, Irene Kwan, Mark Newman, Sandy Oliver and Kelly Dickson, who spent their valuable time in quality appraisal of the studies in the systematic reviews, read and provided constructive comments on the chapters, and offered invaluable support throughout.

I am fortunate to have my loving husband, Mikhail Komarov. He gave me confidence and encouragement, and sacrificed his time to support me. He was in a driving seat and without him I would have got to nowhere. I am very thankful for his love and support. Also, I am grateful to my sisters, Chawanrat Charatsusawat and Kanyanat Bangpan

Dendee for their love and support during the difficult times. They are always with me by my side.

Finally, whatever I do my mum and dad are always in my mind. They were an inspiration to me. I am sad sometimes to think how much happiness I could share with them if they were here. But I know how much they love us regardless of whoever and wherever we are. I give any credit I may have from this work to them. I miss you both terribly.

Mukdarut Bangpan

ABBREVIATIONS

Add Health	The National Longitudinal Study of Adolescent Health
CBQ	Conflict Behaviour Questionnaire
CImPACT	Caribbean Informed Parents and Children Together
CSW	Commercial Sex Worker
EC	Emergency Contraception
EPPI-Centre	Evidence for Policy and Practice Information and Co-ordinating Centre
ESOL	English for Speakers of Other Languages
FIHI	Family-involved HIV Intervention
FOK	Focus For Kids
FOYC	Focus on Youth in the Caribbean
GFI	Goal For It
HEART	Heart Power for Hispanic
HEC	Health Enhancement Curriculum
HERR	Health Expert HIV Risk Reduction curriculum intervention
HIV	Human Immunodeficiency Virus
HSV-2	Herpes Simplex Virus-2
IDU	Injecting Drug User
ImPACT	Informed Parents and Children Together
LSK	Like Skill Programme
MDHP	The Mother/Daughter Health Promotion curriculum intervention
MDRR	The Mother/Daughter HIV Risk Reduction intervention
MPM	Managing the Pressures Before Marriage

PATH	Parent-Preadolescent Training for HIV Prevention
PSI	Postponing Sexual Involvement
PSN	Parent Support Network
PTSRC	Parent-Teen Sexual Risk Communication Scale
R.E.A.L.!	Responsible, Empowered, Aware, Living
RCT	Randomised Controlled Trial
SAAF	Strong African American Families
SCI	School/Community Intervention
SCT	Social Cognitive-based Intervention
SDC	Social Development Curriculum
SES	Socio-economic Status
STI	Sexually Transmitted Infection
UNGASS	United Nations General Assembly
WW	Wondrous Wetlands
YAPP	Youth AIDS Prevention Project

ABSTRACT

Young women are particularly vulnerable to HIV. Despite the successful HIV prevention efforts in Thailand in the past, young Thai women are at increased HIV risk and in urgent need of effective HIV interventions. Numerous studies have emphasised the importance of family in determining young people's sexual behaviour. This thesis explores the roles of family in shaping young people's sexual decisions and examines the potential of family-involved HIV interventions (FIHIs) for young Thai women.

The thesis systematically examines studies across settings to determine whether involving family in HIV interventions could influence young people's sexual behaviour. The findings suggest that FIHIs have a potential in shaping young people's condom use practices. It identifies several key characteristics of effective FIHIs that can potentially be valuable for future HIV development in other contexts. Qualitative data collected from focus groups of young Thai women in Bangkok are analysed using the framework developed from the systematic review of qualitative studies. The findings highlight several challenges for future FIHIs for young Thai women. These are barriers to parent-child communication, a tension of coexistence of two divergent sexual norms - traditional/Thai versus modern/globalised, alternative sources of sexual health and HIV knowledge, the importance of family relationships, and the different circumstances and needs of young Thai women from different backgrounds. Future FIHIs for young Thai women should consider a comprehensive, structural and eco-developmental approach, simultaneously targeting both individuals and the wider environment. This thesis offers a new contribution to the HIV prevention and sexual health education literature and identifies the potential effectiveness of FIHIs tailored to young Thai women,

constituting an important step in addressing the public health problems of HIV/AIDS infections in Thailand.

Publications and presentations

- **Bangpan, M.** (2014) **"**Effectiveness of family-involved HIV interventions on young people's sexual behaviour: a systematic review", a poster presentation, 20th International AIDS Conference (AIDS 2014), 20-25 July 2014, Melbourne, Australia.
- **Bangpan, M.** & Operario, D. (2014) 'The family is only one part…': understanding the role of family in young Thai women's sexual decision making [Online], Culture, Health, and Sexuality, DOI: 10.1080/13691058.2014.886723
- **Bangpan, M.** (2013) Understanding family and social influences on young women's sexual decisions: Implications for family-involved HIV interventions in Thailand, 12 June 2013, Social Science Research Unit Seminar, Institute of Education, London
- **Bangpan, M.** and Operario, D. (2012) Understanding the role of family influences on sexual-risk decisions of young women: a systematic review, AIDS Care, 24, 1163-1172.
- **Bangpan M**. (2012) "Understanding family influences on young women's sexual risk behaviour: experience from Thailand", Oral poster presentation, XIX International AIDS conference July 22-27, 2012, Washington DC.

Chapter 1: Introduction

Young people are particularly vulnerable to Human Immunodeficiency Virus (HIV) and remain at the centre of the effort for HIV prevention (UNAIDS, 2010). Many factors have contributed to young people's vulnerability due to physical and psychological changes during that critical stage of their lives, including a) individual-level factors – a lack of knowledge and skills, drug and alcohol use, b) social factors – family violence, peer pressure, or c) structural factors – gender inequality, poor access to health care systems, poverty (Ross et al., 2006). In many poor resource settings, approximately 60% of new HIV infected cases occur among young people (Kim and Free, 2008).

Adolescent girls and young women are at high risk of contracting Sexually Transmitted Infections (STIs), including HIV. Around half of new HIV infections occur among people aged under 25, particularly in sub-Saharan Africa, where young women are disproportionately HIV-infected compared with their male counterparts (Glynn et al., 2001; Weiss et al., 2000). In Malawi, the data showed that HIV prevalence in young women was four times higher than in young men (9.1% vs. 2.1%) (Baird et al., 2012). Young women are particularly at greater risk for HIV/STIs than adult women and their male counterparts due to heightened physiological, biological and social vulnerabilities (Braverman, 2000; Hutchinson, 2002). Young women tend to have older partners who have more power to coerce them into unsafe sexual practices (Manning et al., 2000) and report less consistent use of condoms than young men (Shrier et al., 1997). Moreover, a substantial body of literature supports the premise that disempowerment, economic dependence, gender inequality, domestic violence and physiological factors in women

and girls increase their vulnerability to HIV infection (Commonwealth Secretariat, 2002; UNAIDS, 2006).

1.1 Aim and research question

The purpose of this thesis is to explore the roles of *family* in shaping young people's sexual decisions, and to identify possible opportunities and potential challenges for future family-involved HIV intervention (FIHI) development for young Thai women. The overarching research question which guides the study inquiry, therefore, is formulated as:

What is the potential for future family-involved HIV interventions for young Thai women?

Sub research questions

- What is the impact of family-involved HIV interventions on young people's sexual-risk behaviour? (Chapter 4)
- What are young women's perceptions concerning family roles and their sexual decisions? (Chapter 5)
- How do young Thai women perceive family and other social influences that affect their sexual decisions? (Chapter 6)

In order to address a complex research question such as that proposed in this thesis, a mixed-methods research design is employed. A combination of two parallel, complementary research components, offering breadth and depth of *global evidence* and

local knowledge, provides valuable insights relevant to the future development of FIHIs for the target population in a Thai context. First, in order to gather existing research evidence and assess the impact of involving family in HIV interventions for young people across settings, **a systematic review of studies that evaluated FIHIs** was carried out between 2009 and 2012 (Chapter 4). The review aims to systematically identify and synthesise research evidence in order to a) assess whether involving parents in HIV intervention could shape young people's sexual behaviour, and b) identify key characteristics of effective FIHIs.

In addition to the systematic review of existing research evidence on FIHIs discussed above, in order to gain a deeper understanding of young Thai women's perspectives about family influences on their sexual decisions, two sequential research projects are carried out. In the first project, **a systematic review of studies that explored young women's perceptions of family influences on their sexual decisions** was conducted in 2009 and finalised in August 2011 (Chapter 5). The review aims to gain a *broad* understanding of family influences that shape young women's sexual decisions across contexts, and to provide a *framework* guiding initial ideas for data analysis of the primary research in Thailand. The second project, **focus group interviews**, was carried out between November and December 2009. The data analysis was completed in May 2013 (Chapter 6). It aims to provide a better understanding of underlying factors influencing young Thai women's sexual decisions in order to develop FIHIs that are relevant to young Thai women's needs.

It is envisaged that the mixed-methods research employed in this thesis provides a more complete picture of how and the extent to which families play a role in young Thai

women's sexual decisions, and offers a foundation for designing future evidence-based HIV interventions that are relevant, appropriate and acceptable to the target population. In the next sections, the situation of HIV/AIDS in Thailand and sexual risks of young Thai people are briefly discussed. An overall thesis structure is provided in section 1.4.

1.2 HIV/AIDS in Thailand

"Public information, which was once ubiquitous, has dropped off the radar screen … Thailand must revive its flagging HIV/AIDS awareness programmes to reach out to a new generation of young people, who currently see the virus as a problem largely affecting their elders. They are clearly vulnerable to infection with HIV."
Patrick Brenny, UNAIDS Country Coordinator for Thailand, 2006

The first case of AIDS in Thailand was reported in 1984. Four years later in 1988, within a single year, HIV prevalence in Injecting Drug Users (IDUs) increased from 1% to 43% (Weniger et al., 1991). Subsequently, the national HIV serosurveillance system was set up and confirmed the second wave of the HIV epidemic among commercial sex workers (CSWs), reporting 44% prevalence among sex workers in Chiang Mai. By the mid-1990s, HIV infection had spread to other population groups, such as male clients of CSWs and their partners, as indicated by the prevalence of 4% among military recruits in 1993 and 2.3% among women attending public antenatal clinics in 1995 (Nelson et al., 1996).

The Thai government at that time responded to the crisis by launching a national campaign to combat the epidemic. The programme gained commitments from local and national authorities, non-governmental organisations (NGOs), the media and academics in the country. The main purpose of the campaign was to reduce the risks of HIV infection in CSWs. These included three main activities: (a) condom distribution

through brothel managers/operators, (b) a monthly mandatory STI monitoring programme and a quarterly HIV test for all CSWs, and (c) imposition of penalties and fines on brothel managers and operators if STI cases were found among their CSWs (Celentano, 2003; Punpanich et al., 2004). This was a major step for the Thai government in tackling the HIV/AIDS epidemic as prostitution was and remains illegal, and the problem had never been placed on a political agenda. Dependency on the tourism industry as a main source of national income also challenged the government's launch of these HIV/AIDS intervention programmes. Amongst other initiatives, Thai authorities started implementing sex and HIV/AIDS education programmes using mass media targeting schools and local communities (Punpanich et al., 2004).

The impact of the interventions was evident. Behavioural changes were found among both CSWs and male conscripts, as shown by an increase in the percentage of CSWs using condoms from 14% in 1989 to 92% in 1994 (Hanenberg and Rojanapithayakorn, 1996). Inversely, HIV seroprevalence among male conscripts nationwide had decreased from 3.5% in 1991 to 2.7% in 1994. At the same time, the number of male STI cases had also declined, from 237,237 cases in 1987 to 27,569 cases in 1994 (Hanenberg and Rojanapithayakorn, 1996). These data indicated improvements in protective sexual behaviours occurring among Thai men. By the mid-1990s, Thailand had become an exemplar of HIV prevention programmes that achieved measurable impacts on reducing HIV and STI transmissions, especially among high-risk groups.

Almost two decades later, Thailand faces a new challenge as the profile of the HIV epidemic in the country has been changing, from being predominantly driven by the activities of sex workers and their customers to becoming a more generalised epidemic

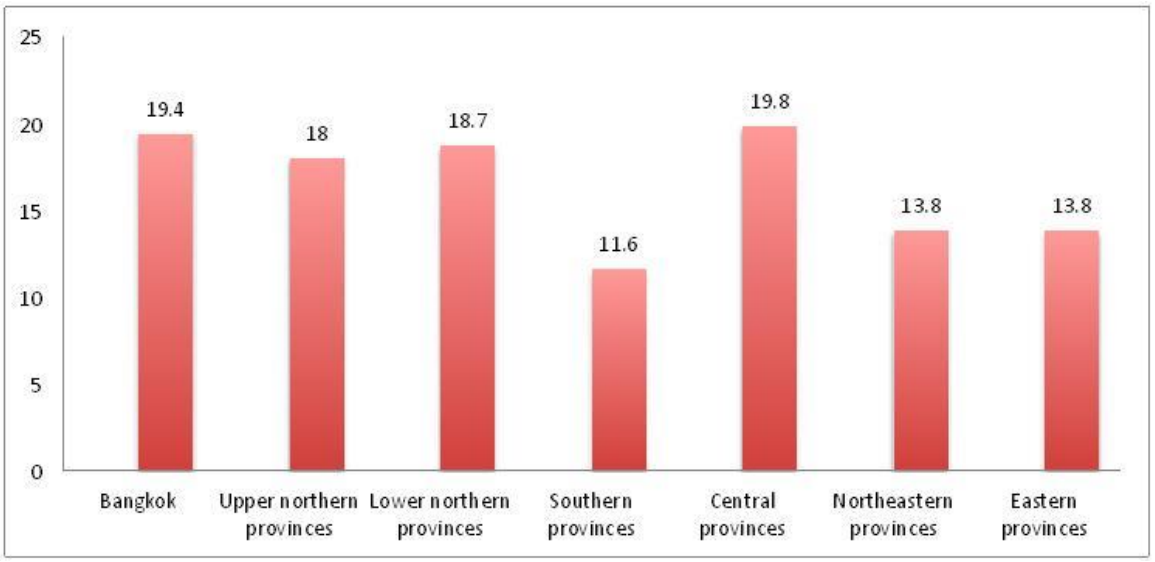
(Bond et al., 1999; UNAIDS, 2007). Thailand is the only country in Asia that has an adult HIV prevalence of more than 1%, with HIV prevalence of 1.3% among adults aged 15-49 years (UNAIDS, 2006). In recent years, there has been an increasing trend of HIV/STIs among Thai adolescents and young people under the age of 25 (Thato et al., 2008). Two cross-sectional surveys carried out with vocational students in northern Thailand reported an increase in the prevalence of *C. trachomatis* infection in male students (2.5% in 1999 to 6.0% in 2002, $p<0.001$) and female students (3.2% in 1999 to 7.5% in 2002, $p<0.001$) (Whitehead et al., 2008). Reported cases of STIs among the 15-24 age group also increased from 33.26 cases per 100,000 in 2002 to 49.87 cases per 100,000 in 2007 (Leela and Punsuwan, 2008). According to a recent AIDS national surveillance survey, an increasing number of teenage AIDS patients has been reported, rising from 5.64% in 2008 to 7.23% in 2010 (Ministry of Public Health, Thailand, 2011).

Other data from the National AIDS Prevention and Alleviation Committee were available to provide evidence of increased sexual engagement in young Thai people. Based on the United Nations General Assembly Country Progress Report (UNGASS), there is evidence of an increase in the percentage of women making their sexual debut under the age of 15 from 0.2% in 2005 to 0.6% in 2007 in female vocational students and from 9% to 14% during the same time period among military recruits. Teen pregnancies also increased from 10.4% in 2000 to 12.4% 2003 (Liabsuetrakul 2012). By region, based on a behavioural survey of in-school children and college students[1] in 2008, 19-20% of young people from Bangkok and the central region of Thailand

[1] The typical age of in-school children and college students in Thailand is 18 years old or younger

indicated that they had had sex, compared to 11.6% of young people in the south (Figure 1.1) (UNGASS, 2010).

Figure 1.1: Percentage of young people who said they have had sex



Source: *Survey of behaviour of in-school children and young people*. Child Watch, Ramajitti Institute, in UNGASS, 2010

1.3 Sexual risks of young Thai people

Thai adolescents are at a high risk of getting HIV/STIs due to several risk factors. Studies reported that Thai adolescents have limited HIV knowledge and do not use condoms consistently, and they also have increasing numbers of sexual partners (Rasamimari et al., 2007; Atwood et al., 2010; Tangmunkongvorakul et al., 2010). In Bangkok, Apakupakul (2006) surveyed 400 teenagers and young adults and found that sexually active teenagers used a condom only *occasionally* and around a quarter of the participants had never used a condom with a regular partner. Another study conducted in Bangkok with 425 vocational students reported that nearly half of the participants were sexually active. Only 6.3% of these sexually active students reported always using

condom when starting a new relationship, and 1.2% reported using a condom in recent sexual engagements (Thato et al., 2003).

A survey conducted in other parts of Thailand found that only 10% of the participants had adequate levels of HIV knowledge (Wiwanitkit, 2003). A study conducted in the northeast province of Thailand identified unprotected sex, sexual abuse and abortion as common HIV/AIDS risk behaviours among young people (Saranrittichai et al., 2006). Two cross-sectional surveys conducted in northern Thailand with vocational students aged 15-21 years found that there was an increase between 1999 to 2002 in the mean lifetime number of steady partners in both men and women (Whitehead et al., 2008).

In addition to individual and interpersonal-level risk factors, environmental influences including extensive socio-economic development in the past few decades in Thailand have shaped young Thai people's sexual norms and attitudes. Economic development and expansion has created opportunities for social mobilisation, distribution of wealth, migration, rural development and urbanisation (Phananiramai, 1997; Tangmunkongvorakul et al., 2005). Premarital, casual sex, and indirect sex work (e.g. those who engage in sex for extra income) has become increasingly common among young Thai people (Srisuriyawet et al., 2006; Fongkaew et al., 2012).

Thianthai (2004) interviewed 60 young people living in Bangkok to explore gender and class as influences on young people's beliefs about sexuality and HIV/AIDS-risk behaviour. The findings suggested that nearly all participants, regardless of class and gender, believed that there was a change in beliefs about premarital sex among the young. As explained by the author, "*a greater exposure to Western influence*" (p.196)

might be responsible for the difference in the sexual beliefs and attitudes of young Thai people. However, young Thai women were conventionally expected to stay and take care of their parents at home and to be obedient to parents or guardians (Liu et al., 2006). Gender-related double-standard beliefs remain strong in Thai families, and parents expect a daughter to be a *"sweet girl, who is modest, obedient, and respectful of her parents*" (p.2074) and sexually inexperienced (Vuttanont et al., 2006).

Two studies investigating the knowledge, attitudes and beliefs of various stakeholders (young people, parents, teachers and policy makers) in relation to sex in Chiang Mai suggested that a tension exists between modern values, influenced by recent social and economic expansion, versus traditional Thai norms toward sex may increase the risk of unsafe sex practices and HIV infection (Morrison, 2004; Vuttanont et al., 2006). The coexistence of two distinct sexual norms may hinder young Thai people from receiving sexual-health knowledge and developing skills that are essential for making responsible sexual decisions and avoiding negative health outcomes (Thato et al., 2008).

Indeed, young Thai women are vulnerable to HIV infection owing to multiple risks, ranging from individual-level factors including lack of knowledge about HIV/AIDS and inconsistent condom use, to social risk factors. For example, Allen et al. (2003) reported that almost half (43.1%) of young female vocational students in northern Thailand engaged in sexual intercourse at age 17 or younger, and also reported that young Thai women possess limited HIV/AIDS-related knowledge. Only one-third of the young women in the study were confident that condom use could prevent HIV infection. Around 80% of the respondents believed that kissing, drinking from the same glass,

using the same eating utensils, or working near an HIV-infected person could cause HIV infection.

In recent years, young Thai men have tended to initiate sexual engagement with their girlfriends or unmarried partners, rather than with sex workers (Tangmunkongvorakul et al., 2012). However, young Thai women used condoms inconsistently. Rasamimari et al. (2007) found that only 11% sexually active young women reported using condoms consistently. Only 38.6% of young Thai women used condoms at most recent sexual intercourse with their regular partners, compared to 51.2% of young Thai men (Narmwart and Chantanee, 2011). Other risk factors such as being out of school, smoking, drinking alcohol and having a history of sexual coercion affected young Thai women's sexual intercourse (Tangmunkongvorakul et al., 2012; Liu et al., 2006).

Other researchers have investigated HIV-risk behaviour of young women from specific risk groups, including migrant factory workers (Cash et al., 1999) and young women from low-income communities (Powwattana, 2009), and their findings are in line with the other studies concerning sexual risk for young Thai women. Powwattana (2009) conducted a cross-sectional study that assessed the sexual-behaviour model of 492 young women living in low-income communities in Bangkok and found that the majority (55.8%) were sexually active and nearly half (41.8%) of these sexually active participants engaged in sexual intercourse without using condoms. Cash et al. (1999) carried out interviews and focus-group discussions with 61 Thai single female migrant workers in Chiang Mai and concluded that the majority of young women were sexually active and did not practise safe sex. The study indicated that this vulnerable group of

young women faced a conflict between traditional Thai norms and a new urbanised society, which could put them at risk of HIV.

After the first case of HIV was identified in Thailand, HIV prevention programmes were primarily aimed at high-risk groups such as CSWs. Other HIV-intervention programmes were later developed and evaluated for other populations, frequently carried out in the northern and northeastern parts of Thailand: for example, an HIV education programme targeting married women in rural villages in Northeast Thailand (Elkins et al., 1996; Maticka-Tyndale et al., 1994); a HIV/AIDS awareness and condom distribution initiative was conducted at cattle markets and festivals in Khon Khen province (Dole et al., 1998); a group-based intervention was developed for HIV serodiscordant couples to increase condom use in Chiang Mai (McGrath et al., 2007); and a community-based voluntary counselling and testing programme was implemented to increase HIV testing in Chiang Mai communities (Sweat et al., 2011). Relatively few HIV-prevention programmes have been developed for young people and many are largely school-based sex education programmes (for example, Smith et al., 2003; Thato et al., 2008); none was designed specifically to target young Thai women. Given that the research thus far has noted that young Thai women are increasingly at risk of HIV due to multiple and co-occurring risk factors, it is imperative that future HIV interventions should reflect the contextual relevance and developmental ecology of young Thai women by considering a holistic approach to design HIV interventions that can introduce positive sexual behaviour changes. Clearly, there is a need to refocus intervention strategies and develop HIV interventions for young Thai women who are vulnerable to HIV infection.

Elsewhere, there has been numerous research investigating the effectiveness of HIV intervention programmes in the past few decades aiming to change young people's sexual-risk behaviour; however, several reviews of HIV intervention programmes have shown inconclusive results (for example, DiCenso et al., 2002; Speizer et al., 2003; Magnussen et al., 2004; Robin et al., 2004; Kim and Free, 2008; Medley et al., 2009; Michielsen et al., 2010). Increasingly, researchers have underscored the importance of the ecological perspective when designing strategies to shape young people's sexual behaviour (DiClemente et al., 2005; Aronowitz et al., 2006; Henrich et al., 2006; Voisin et al., 2007). Recently, there has been a call for future HIV interventions that consider and emphasise family in shaping young people's sexual outcomes (Lightfoot, 2012). In Chapter 2, the importance of family on young people's sexual behaviour is discussed in greater detail.

1.4 Thesis structure

This chapter (**Chapter 1**) has set out to describe the background literature on young Thai people and their sexual risk behaviours, the HIV/AIDS situation in Thailand, previous responses to the HIV epidemic and recent challenges, including increased HIV risks among young Thai women. This chapter also presents the research questions for this thesis. **Chapter 2** outlines the key literature and research evidence on family influences on young people's sexual behaviour. Chapter 2 concludes by providing the theoretical and conceptual framework guiding this thesis. **Chapter 3** introduces the research questions informing each research project in the thesis, which includes two systematic reviews and a primary investigation using qualitative methodology. Chapter 3 also presents research methods employed in this thesis. **Chapter 4** presents the

findings of the first systematic review (completed in May 2012), which investigates studies that evaluated the impact of FIHIs on young people's sexual behaviours**.** **Chapter 5** outlines the findings of the second systematic review (completed in August 2011), which synthesises studies that explored young women's perceptions of family influences on their sexual decisions. The findings of the primary qualitative research carried out in Bangkok (completed in May 2013) are discussed in **Chapter 6**. **Chapter 7** summarises and discusses the findings of the research projects in order to identify possible challenges and opportunities for FIHIs for young Thai women. In this chapter, the limitations of the study are discussed. The final section of Chapter 7 presents recommendations for research, policy and practice. See Table 1.1 for the structure of the thesis.

Table 1.1: Structure of the thesis

<table>
<tr><td colspan="2">Chapter 1: Introduction and research questions</td></tr>
<tr><td colspan="2">Chapter 2: Literature review</td></tr>
<tr><td colspan="2">Chapter 3: Methodology</td></tr>
<tr><td colspan="2">Chapter 4: Family involvement in HIV interventions for young people: a systematic review</td></tr>
<tr><td>Rationale and aims</td><td>Type of knowledge and contributions to the thesis</td></tr>
<tr><td><u>Rationale</u>: Research evidence of the impact of FIHIs on young people’s sexual behaviours has not been rigorously and systematically reviewed.
<u>Aims</u>
i) To systematically identify and analyse research evidence to assess whether involving parents in HIV interventions could shape young people’s sexual behaviour.
ii) To identify key characteristics of effective HIV interventions that might occur across different settings and cultural contexts.</td><td>i) Identification of gaps in research and description of characteristics and contexts of FIHIs on young people’s sexual behaviour.
ii) Improved understanding of whether and to what extent FIHIs are effective in improving young people’s sexual outcomes.
iii) New insights into key strategies for future FIHIs for young people.</td></tr>
<tr><td colspan="2">Chapter 5: Systematic review of studies of young women’s perceptions of family roles and sexual decisions</td></tr>
<tr><td>Rationale and aims</td><td>Type of knowledge and contributions to the thesis</td></tr>
<tr><td><u>Rationale</u>: Relatively little is understood about the underlying factors that influence the sexual-decision process during the transition to adulthood. There is no systematic review of qualitative studies that aims to understand the role of the family in influencing sexual risk behaviour among young women across contexts.
<u>Aims</u>:
i) To systematically identify and critically analyse studies that explored perceptions among young women regarding familial factors that influence their sexual-risk decisions
ii) To gain a broad understanding of family influences on young women’s sexual decisions and to provide a framework for data analysis of focus groups in Thailand.</td><td>i) Identification of gaps in research; identification and understanding of key domains of family roles in young women’s sexual decisions across contexts

ii) A thematic framework of family roles in young women’s sexual decisions.</td></tr>
<tr><td colspan="2">Chapter 6: Family, social influence and sexual decisions: perceptions of young Thai women in Bangkok</td></tr>
<tr><td>Rationale and aims</td><td>Type of knowledge and contribution to the thesis</td></tr>
<tr><td><u>Rationale</u>: Studies of young Thai women and families focus largely on young girls and early adolescents. The subjective perceptions of young Thai women (aged 18-25 years old) on family roles and their sexual decisions remain largely unknown.
<u>Aims</u>: To explore and understand the experiences and perceptions of young Thai women concerning family influences on their sexual decisions.</td><td>A better understanding of young Thai women’s social contexts and perceptions of HIV risks, HIV infections, roles of family and social influences on their sexual decisions.</td></tr>
<tr><td colspan="2">Chapter 7: Discussion and recommendation</td></tr>
</table>

Chapter 2: Family influences and sexual behaviour

In Chapter 1, the background of HIV/AIDS prevention efforts in Thailand and sexual risks of young Thai people were discussed followed by the sections outlining the research questions, the research approach, and the thesis structure. In this chapter, previous research on family influences on young people's sexual behaviour is described in the first two sections (Section 2.1 and Section 2.2). The studies that investigated the influences of family on young people's sexual behaviour are reviewed in Section 2.1, including those examining the relationship of parent-child communication, family relationships, parental monitoring and other family factors on various sexual behaviours. Subsequently, the studies that have investigated the family influence of Thai families and young people's sexual behaviour are discussed in Section 2.2. In the last section, the theoretical and conceptual framework guiding this thesis is outlined (Section 2.3).

2.1 Family influences on young people's sexual behaviour

Family is a fundamental facet of any society that interacts with other social institutions throughout the individual's life (Leslie and Korman, 1967). Past research on the family and parenting has provided a wealth of knowledge and theoretical understanding of child development, children's outcomes and their behaviours (for example, Bronfenbrenner, 2005; Grusec and Kuczynski, 1997; Lytton, 1980; Miller and Pasta, 2000; Moore, 1997; Parsons and Bales, 1956; Steinberg et al., 1992). There is growing evidence supporting family as a key predictor and one of the most proximal factors to young people's knowledge, attitudes, self-efficacy and sexual-risk behaviours (for

example, see Dutra et al., 1999; DiClemente et al., 2001; Romo et al., 2002; Hutchinson and Wood, 2007; Chung et al., 2007; O'Donnell et al., 2008;). Family plays a significant role in determining adolescents' sexual behaviour through different socialisation processes, including parent-child communication, parent-child relationships, parental monitoring and parental attitudes about sex. The following sections (Sections 2.1.1 to 2.1.4) briefly outline research evidence investigating the relationship of these familial factors and young people's sexual behaviours.

2.1.1 Parent-child communication

Research on parent-child communication about sex has examined a wide range of processes and factors that may influence young people's sexual behaviour. Several reviews of this research literature have been published, described below. The relationship between parent-child communication and young people's sexual behaviour is complex and the findings across studies are discrepant.

A literature review by Dilorio et al. (2003) identified 36 studies that examined the associations of parent-child sex communication and young people's sexual outcomes. Although the review observed mixed findings from the studies that investigated the relationships between parent-child communication about sex and several sexual outcomes (abstinence, the initiation of sexual intercourse, and contraceptive use), it found more consistent evidence in supporting the positive relationship between parent-child communication about sex and condom use practices. Another review examining studies of parent-child communication about sexuality and HIV/AIDS in sub-Saharan Africa also suggested that the importance of parent-child communication about sex in

influencing young people's sexual behaviour was unclear (Bastien et al. 2011). For instance, the authors described a study of four African countries (Burkina Faso, Ghana, Malawi, and Uganda) which indicated the association between parent-child communication about sex and an increased likelihood of having had sexual intercourse in the previous 12 months among Malawian males and Ugandan females (Biddlecom et al., 2009). At the same time, a study from the Ivory Coast found that parent-child communication was positively associated with sexual abstinence and number of sexual partners in girls (Babalola et al., 2005). The review underscores the importance of standardised communication measures that would allow a meaningful comparison of the findings across studies.

Indeed, widely different uses of concepts and measures to determine parent-child relationships might in fact contribute to the inconsistency of findings across different studies (Miller et al., 2001). The findings from the review carried out as part of the current thesis aiming to identify and describe characteristics of studies that investigated the impact of familial factors and young women's sexual behaviour (*systematic knowledge map*) also suggested that a wide range of parent-child communication concepts had been used and measured (see Appendix 8). Many used validated, standardised scales, for example, the Parent-Adolescent Communication Scale by Barnes and Olsen (Christopher et al., 1993; O'Sullivan et al., 1999; Cha et al., 2008; Nagamatsu et al., 2008). In some cases, a new scale was developed to measure parent-child communication variables. For example, Hutchinson and Cooney (1998) used the Parent-Teen Sexual Risk Communication Scale (PTSRC) developed in their pilot study to analyse the pattern of communication, and this was then used in later studies (Hutchinson, 2002; Teitelman et al., 2008).

The research synthesised in the review by Miller et al. (2001) also suggested that other familial factors, such as parents' sexual values, might also be a predictor of successful parent-child communication to prevent sexual-risk behaviour. Young people received information and sexual values from parents, and subsequently internalised these messages and accepted them before allowing them to guide their behaviour (Grusec and Goodnow, 1994).

A study of 647 Bahamian mothers and their early adolescent children by Cottrell et al. (2007) found that parents' conservative values were positively associated with greater parent-child communication ($p<0.01$). Parents who have conservative sexual values may communicate more about abstinence, which could delay young people's sexual initiation. Indeed, a longitudinal study of 12,105 US students in grades 7 to 12 reported that young people who perceived that their parents disapproved of sex were more likely to delay sexual intercourse ($p<0.001$) (Sieving et al., 2000). Another US longitudinal study of Latino mothers and their children found that young Latinos whose mothers talked more about their sexual values were less likely to engage in early sexual behaviour ($p<0.01$) (Romo et al., 2002).

Some other researchers have suggested that parent-child communication can indirectly affect young people's sexual behaviour. In other words, it can influence other interpersonal variables such as relationships with peers, which in turn affects adolescents' sexual attitudes and behaviours. For example, Whitaker and Miller (2000) found that peer influences were more strongly related to young people's sexual behaviour when they did not discuss sex with their parents. In another study, Dilorio et

al. (2007a) investigated whether mother-child discussions of sex-related issues had an effect on the relationship between friends' sex discussions and adolescent sexual-risk behaviours. They suggested that young women who discussed sexual topics with mothers were less likely to be influenced by peer norms.

Unfortunately, studies show that parents often fail to provide sex education to their children (Hutchinson and Cooney, 1998; Raffaelli et al., 1998), which has prompted several investigators to identify barriers to parent-child communication. For example, Jaccard et al. (2000) found that parents' *fears* about whether discussion of sex would be embarrassing were negatively associated with parent-child communication ($p < 0.001$). Poulsen et al. (2010a) explored parent-child communication behaviour in 1,115 parents in the US and Kenya; they found that parents were more likely to discuss HIV/AIDS if they perceived that their children were *ready to learn about sex* ($p<0.001$ in US and $p < 0.05$ in Kenya); perceived that they had *sufficient knowledge* to educate their children ($p<0.001$ in US and Kenya); were *responsive when communicating* about sex ($p<0.001$ in US and $p < 0.01$ in Kenya). In fact, young people whose parents *openly provided positive and receptive discussion* with their children about sex reported safe-sex behaviour, including remaining abstinent, delaying sexual intercourse and having fewer sexual partners (Whitaker et al., 1999). However, many young women perceived parental discussion about sex as restrictive and that the messages received from their parents were largely negative (McNeely et al., 2002; O'Sullivan et al., 2001; Lesch and Kruger, 2005).

Previous studies have indicated that fathers play an important role in the sexual education of their daughters; however, they are under-represented in clinical research

(Bennett, 1984). Wright (2009) examined studies of father-child communication about sex in the US and found that the findings across studies were mixed. Teitelman et al. (2008) reported no relationship between father-daughter communication and young women's sexual abstinence outcomes. Hutchinson and Montgomery (2007) found that young people who reported greater amounts of father-child communication were less likely to engage in sexual activities during the previous three months ($p<0.05$). However, others have found that father-child communication was associated with more frequent sexual behaviour or a greater likelihood of engaging in first sexual intercourse at a younger age (Somers and Paulson, 2000; Clawson and Reese-Weber, 2003). Factors, such as young people's age and timing of first parent-child sexual discussions, were likely to contribute to the mixed results and further investigation is warranted.

2.1.2 Family relationship

Another dimension of familial influence that has been widely examined is the relationship between parents and children. The findings from the systematic knowledge map (see Appendix 8) have identified a broad range of *family relationship* concepts, for example, parent-child relationship quality (Whitbeck et al., 1993; Silva and Ross, 2002; Parera and Suris, 2004; Pearson, 2006); parental involvement-time spent with children, shared dinners, etc. (Pearson, 2006); perceived parental trust (Borawski et al., 2003); differences in adolescents' relationships with their parents before and after their sexual initiation (Ream and Savin-Williams, 2005); and family-sexual partner closeness (Aalsma et al., 2006).

These family relationship concepts have been measured and defined in different ways, using different standardised questionnaires. In one study, three different instruments were used to combine the effect of parental *warmth, attachment* and *closeness* (Somers and Vollmar, 2006). Although the Parent-Adolescent Attachment Inventory (Armsden and Greenberg (1987) is commonly used to measure parental support/attachment (For example in Paul et al., 2000; Rodgers, 1999; Small and Luster, 1994; Somers and Vollmar, 2006), other instruments were also identified. These instruments include, for example, the Parent Attitudes Toward Child Scale for parental attachment (Smith, 1997), Family Environment Scale for participation in family decision making (Paul et al., 2000; Ramirez Valles et al., 2002), and the Conflict Behaviour Questionnaire (CBQ) for quality of relationship (Maguen and Armistead, 2006).

It is believed that a strong parent-child relationship is related not only to greater parental communication about sex, contraceptive use and abstinence, but also to better long-term sexual outcomes in young people (for reviews see Miller et al., 2001, Perrino et al., 2000). The findings from a survey study of 751 young people aged 14-17 in US suggested that the closer the relationship that the young person had with their mother, the less likely they would be to initiate sexual intercourse ($p< 0.01$), the less often they engaged in sexual activity ($p< 0.0001$), and the more likely they were to use contraceptives consistently ($p< 0.05$) (Jaccard et al., 1996). In a longitudinal study using nationally representative sample in the US, National Longitudinal Study of Adolescent Health (Add Health), the analysis of data collected young people at one year and approximately six years later found that a low quality of parent-child relationship was associated with sexual initiation ($p<0.001$) and STI diagnoses six years later ($p < 0.001$) (Deptula et al. 2010).

Whitbeck et al. (1993) explained one of many pathways in which parent-child relationships might influence young people's sexual behaviour. In the study, the authors investigated the impact of the quality of parent-child relationships on depressive symptoms. Later, they examined the effect of the depressive symptoms on young women's sexual attitudes, susceptibility to peer influences, and sexual activity. The findings suggested that a lack of family support and connectedness could lead to depressive symptoms, which, in turn, were thought to be associated with risky sexual behaviour in young people. They found that the quality of parent-child relationships was negatively associated with depressive symptoms ($p < 0.05$). The depressive symptoms were directly associated with sexual activity one year later ($p < 0.05$) (Whitbeck et al., 1993). Moreover, another review suggested that young people who felt distant from their families sometimes found other help from outside the family and were more likely to be open to peer influences, which could lead to negative outcomes (Perrino et al., 2000).

Some researchers also suggested that family relationship could influence other predictors of adolescents' sexual-health behaviours. Rodgers (1999) hypothesised that parent-child relationships has a moderating effect on parental monitoring. The author expected that a greater degree of parent-child connectedness could improve the effectiveness of parental monitoring by allowing young women to accept and take parental rules into consideration when making sexual decisions. In addition, Somers and Vollmar (2006) pointed out that adolescents might increase their sexual disclosure to parents when they perceived warmth and support from their families.

2.1.3 Parental monitoring

Although there is well documented research on parental monitoring and parental control related to young people's sexual behaviour in terms of reducing the chances of young people engaging in sexual activity, several reviews (Miller, 2002, Miller et al., 2001, Meschke et al. 2002, Perrino et al., 2000) found inconsistent evidence across studies on the potential benefits of parental monitoring on young people's sexual outcomes. The findings from the longitudinal study of young people in US using data of the National Survey of Families and Households over a four-year period found that greater parental monitoring was associated with a delay in sexual initiation (Longmore et al., 2001). At the same time, some studies showed no association between parental monitoring and young women's sexual behaviour. For example, Borawski et al. (2003) investigated the impact of parenting practices (parental monitoring, negotiated unsupervised time and parental trust) on young people's sexual behaviour in US. The study found no association between parental monitoring and young women's sexual initiation, recent sexual activity, consistent condom use, or STIs. The authors suggested that, when parental monitoring was analysed alongside other parenting practices (parental trust and negotiated supervised time), the role of parental monitoring was not that as strong as suggested by other researchers.

Possible explanations of these mixed findings include the use of excessive control and inappropriate styles to monitor their children. Upchurch et al. (1999) collected data from 890 adolescents from a community in Los Angeles; they found that young people who perceived their parents to be over-controlling were more likely to initiate sexual intercourse at a younger age ($p < 0.05$). Equally important, monitoring and control

strategies need to be suitable for the stage of young people's development (Miller et al., 2001). In a longitudinal US study, the findings showed that parental monitoring had a positive effect on young people's sexual activity in the 8th and 9th grades, but that it was related to increased sexual activity when young people were older (Whitbeck et al., 1999).

Others have showed that parental monitoring and control had a different impact on male and female adolescents (Luster and Small, 1994; Donenberg et al., 2002). In a cross-sectional US study of 2,567 young people by Luster and Small (1994), the findings showed that a low level of parental monitoring was statistically associated with sexual risk taking in young women ($p < 0.05$), but not in young men ($p > 0.05$). Young women might be supervised more than boys in line with the conservative sexual norms, which could prevent young women from engaging in sexual activity. In qualitative studies carried out in Tanzania, it was found that parents were motivated to control and monitor their children, in particular daughters, to prevent socially undesired outcomes, such as unintended pregnancy (Wamoyi et al., 2011).

2.1.4 Other family influences

Family structure was found to be an important factor in the timing of young people's sexual debuts (Pearson, 2006). Previous research found that adolescents from single-parent families were more likely to engage in sexual activities earlier than those who were from two-parent families (Belgrave et al., 2000). The US study by Longmore et al. (2004) analysing the data from Add Health found that young women living with single parents were more likely to initiate sex earlier than those living with both parents ($p \leq 0.05$). It is believed that girls from two-parent families might have access to more

resources, support, and supervision at different stages of their lives, which could delay their sexual engagement (Moore and Chase-Lansdale, 2001). Indeed, the study by Davis and Friel (2001) suggested that only single-parent families, not other family structures (e.g. cohabiting parents or gay-lesbian parents) were associated with girls' early sexual initiation.

The relationship between family socio-economic status (SES) and young people's sexual behaviour is also widely investigated. Much of the evidence suggests that low family SES is negatively correlated with safe-sex behaviours in young people (Inazu and Fox, 1980; Lammers et al., 2000; Newbern et al., 2004). For example, the study by Lammers et al. (2000) of 26,023 US students to identify protective factors for early onset of sexual behaviour found that young people with higher SES ($p< 0.0001$) and living in rural areas ($p < 0.01$) were less likely to initiate sexual intercourse than those with low SES and living in urban areas, respectively. The mother's level of education was related to early onset of sexual intercourse ($p \leq 0.01$). However, researchers have acknowledged that measuring family SES based on adolescents' self-reported data is quite challenging (Santelli et al., 2000).

Parental disapproval of sexuality has been regarded as an important influence on children's sexual-risk behaviours (Dittus and Jaccard, 2000). Their personal values are translated and transferred through interactions, relationships and communication with their children throughout the children's developmental stages. However, the findings across studies are inconclusive. Several studies reported an association between perceived parental approval of sex and sexual behaviour. For example, one study reported that one of the reasons for girls' refraining from sexual intercourse was

perceived parental disapproval (Loewenson et al., 2004). Davis and Friel (2001) considered sexual permissiveness of parents by asking the mother whether she approved of her adolescent child having sex in general and whether she approved of her child having sex if she were with a special person. The findings showed that parental approval of sex was associated with the likelihood of engaging in sexual activities among girls ($p<0.5$). Another study found that young women who perceived more restrictive parental attitudes were less likely to initiate sex ($p<0.1$) (Maguen and Armistead, 2006). Other studies found no relationship between perceived parental attitudes about sex and young women's sexual behaviour (Hampton et al., 2005; Nagamatsu et al., 2008).

Other parental characteristics that have been investigated and found to have influence on young women's sexual behaviour include mother's age when she had her children (Paul et al., 2000), parental alcohol-related problems (Chandy et al., 1994) and family religiosity (Manlove et al., 2008).

2.2 Family influences on young Thai women's sexual behaviour

In line with research evidence in other contexts, Thai studies supported the notion that family plays an important role in young Thai women's sexual behaviour. The findings from a study of parent-child relationships suggested that young women who had a good relationship with their family were less likely to have had sexual intercourse than those who came from a dysfunctional family environment ($p<0.01$) (Tangmunkongvorakul et al., 2012). In an unpublished study of 377 young women in high school and vocational college in Bangkok that examined factors relating to sexual abstinence,

Danaidussadeekul (2004) found that having good family relationships predicted sexual abstinence in these young women. The importance of parent-child relationships was also emphasised in a qualitative study of teenagers (aged 13-14) living in Bangkok. The teenagers expressed their desire for parents to spend time with them, but with less parental control and more autonomy for the adolescents in decision-making (Fongkaew, 1996).

Parent-child communication has also been found to be associated with young Thai women's sexual-risk behaviour. Allen et al. (2003) reported that young women who had family members as confidants were less likely to engage in early sexual intercourse ($p<0.01$). Similarly, in a more recent study, Liu et al. (2006) found that young women who had no family members as confidants were more likely to initiate sex ($p<0.01$).

However, Thai parents often did not discuss sex with their children, and for young women, the main message in such discussion concerned abstinence until marriage, the negative consequences of having premarital sex and the risks of contracting STIs/HIV (Rhucharoenpornpanich et al., 2012). Young women may have less chance to receive sexual and HIV information from parents owing to traditional family values regarding sexuality (Sethaput and Pattaravanich, 1993; Vuttanont et al., 2006). Sridawruang et al. (2010a) identified barriers to parent-child communication using focus-group discussions with teenagers (15-19 years) and parents in the northeast province. Here, parents described how traditional Thai culture prevented them from openly discussing sex with their children, as did the belief that parents were not responsible for sex education. Other factors raised in these focus groups were: parents' inadequate HIV knowledge; differences in attitudes towards sex between parents and children; and fears of

encouraging children to engage in sexual activities. Another qualitative study carried out in the northern provinces reported that young women rarely discussed sex with their parents because they believed such discussions to be inappropriate and they were expected to conform to traditional Thai norms. Parents would be the last people to talk about any adverse health consequences of sexual activity (Sridawruang et al., 2010b).

Moreover, it appears that parents need more education about young people's development of sexuality and about HIV/AIDS. A study in Chiang Mai revealed that Thai parents lacked knowledge of sexual health, as well as the confidence and skills to discuss sex comfortably with their children (Vuttanont et al., 2006). Sethaput and Pattaravanich (1993) surveyed 472 mothers and daughters from the rural northeast province; their results suggest that limited knowledge of the topics and the perception of inappropriateness of girls discussing sex were two of the reasons why mothers did not talk to their daughters about sex.

Another barrier to parent-child communication about sex in the Thai context is that Thai families socialise men and women to perceive and act out gender roles in different ways (Phananiramai, 1997). Men are expected to experience sex before marriage; multiple sexual partners for men are socially accepted (Thianthai, 2004). Women, in contrast, learn that they have responsibilities to family and that sex is about trust and love (Tangmunkongvorakul et al., 2005). Discussion and negotiations about sex are seen as inappropriate (Pattaravanich, 1993). Gender inequality in Thai families was highlighted in a qualitative study carried out in the rural northeastern province by Sridawruang and others (2010a). The authors claimed that Thai parents accepted and reinforced double standards and expected their children to conform to these conservative Thai norms.

Studies also suggested that young women who lived with their parents were more likely to delay sexual initiation compared with those who did not live with parents. The analysis of data from the Family and Youth Survey (FAYS) carried out with more than 2,000 young people aged 15-24 years, covering all regions of the country, found that both young men and young women living with no parents were more likely to engage in premarital sex than those living with both parents ($p < 0.05$) (Podhisita et al., 2001). Similarly, the findings of the cross-sectional study of 1,725 young people in northern Thailand showed that, for young women, living by themselves in boarding houses or rented rooms was associated with early sexual initiation ($p<0.05$) (Liu et al., 2006). A recent study by Tangmunkongvorakul (2012) compared the sexual experiences of three groups of young people aged 17-20 (out-of-school, vocational students, general school students and university students) in Chiang Mai reported that young women who lived alone ($p < 0.05$) were more likely to engage in sexual intercourse than those living with parents.

At the same time, urbanisation and recent economic developments seen in Thailand attract young women from rural societies to live in industrialised cities, such as the capital, Bangkok, for reasons of employment and education (Cash et al., 1999; Ford and Kittisukasthit, 1994). Living in an urbanised community and being exposed to new, modern values were found to be associated with young Thai adults' early sexual initiation (Rasamimari et al., 2007).

Although the research outlined above has provided insights that generally support the importance of family in shaping young Thai women's sexual-risk behaviours, the main limitation of these studies is that they were carried out in north and northern parts of

Thailand and focused mainly on school-aged girls. The subjective perceptions of older young Thai women on family roles and their sexual decisions remain largely unknown. Therefore, there is a need for a better understanding of the underlying processes by which familial factors influence the sexual decisions of young Thai women and the patterns of the sexual-decision process during the vulnerable period when they are departing adolescence and entering adulthood. In Chapter 6, the primary qualitative investigation of young Thai women aged 18-25 living in Bangkok is described, aiming to explore perceptions about family and sexual decisions. Such knowledge would provide an important step in the future development of HIV interventions for the target population.

2.3 Theoretical and conceptual framework

There have been a number of views on what is meant by *family*, ranging from medical to sociological concepts, from historical to modern perspectives. It is challenging, if not impossible, to give an all-inclusive meaning of *family*, reflecting practical and political uses from different social norms. As pointed out by Bor and Elford (1994), family is a biological, historical and social construct, and can be defined and understood in many ways.

From the political and biological perspectives, family is defined as an entity based on two broad phenomena: whether individuals are living in the same household and/or whether they are related. According to the Oxford English Dictionary (2009), *family* refers to "*a group consisting of two parents and their children living together as a unit*". The US Supreme Court (1974) uses the term *family* to mean "*one or more persons*

related by blood, adoption or marriage, or not more than two unrelated persons, living and cooking together as a single housekeeping unit…". However, in other contexts, family meanings vary. For example, in the Arab world, the equivalent word for family is "*aila*" – "*to support*". This means that children are supported by the father and the mother. When parents get old, children then take responsibility for caring for and supporting the older generation (Nosseir, 2003).

From a developmental perspective, *family* is understood as the interaction between individuals and the roles of relationships between members within the same institution. For example, Burgess (1926) defined family as "*a unit of interacting personalities*" (p.3). White (1991) described family as "*an intergenerational social group organised and governed by social norms regarding descent and affinity, reproduction, and the nurturant socialization of the young*" (p.7). In this thesis, the terms *parent* and *family* are used interchangeably to refer broadly to all adults who act as a socialising agent for young women, (i.e. the focus of the analysis), providing support, and having an influence throughout the young women's life, regardless of whether they are related by blood, adoption or marriage, or whether they are living in the same household.

Much of the research into HIV-risk behaviour has been underpinned by behavioural and social psychological theories focusing on individuals, couples, or groups (O'Reilly et al., 1999). These models seek to understand sexual behaviour, predict behavioural changes and define long-term safe-sex behaviour. The leading theories used in analyses of HIV prevention – including Ajzen and Fishbein's Theory of Reasoned Action (1980); the Health Belief Model (Rosenstock et al., 1994); the AIDS Risk-Reduction Model (Catania et al., 1990); and Bandura's Social Cognitive Theory (1977) – aim at

understanding, classifying and evaluating the impact of key determinants affecting sexual behavioural intentions, decisions and sexual behaviour.

These theories posit the individual as the key determinant factor of one's health-related behaviour and, as the person who is responsible for health decisions, making necessary changes to improve his/her own health outcomes, as the natural target for developing HIV prevention at the individual level (Wingood and DiClemente, 1999; Crosby et al., 2002a). Among these theories in the field of HIV prevention, Social Cognitive Theory has been widely used to guide behavioural HIV interventions (Wingood and DiClemente, 1999) and is further discussed below.

Social Cognitive Theory (Bandura, 1977) emphasises the role and interaction of external reinforcement, outcome expectations and self-efficacy in influencing behaviour and personality development. Bandura suggests that individuals learn through observations of the positive and negative consequences of their own and others' behaviour. Individuals' behaviour is an outcome not only of their experience, motivation and reasoning, but also of their direct observation of the behaviour of others, aiming to understand the underlying rules of such behaviour, then reinforcing behavioural changes. It offers a model of "*triadic reciprocal determinism*" that illustrates the interaction of intrapersonal and environmental factors, and the resulting behaviour (Wingood and DiClemente, 1999). Environmental factors that contribute to an individual's action include support, encouragement from parents and social networks. In the field of HIV prevention, the theory suggests that people must control their own sexual behaviour by developing self-esteem, confidence and skills that enable

them to adopt safe-sex behaviour, by expecting positive consequences from such safe-sex behaviour, and by receiving adequate and appropriate support from others.

In addition, Social Cognitive Theory emphasises the interaction of an individual with unfamiliar environments, allowing a deeper understanding of the behaviour of individuals from different ethnic backgrounds and those who are living in two cultural contexts (Crosbie-Burnett and Lewis, 1993). This includes cultures where traditional social values are dominant, but that are facing the challenges of globalisation and modernisation.

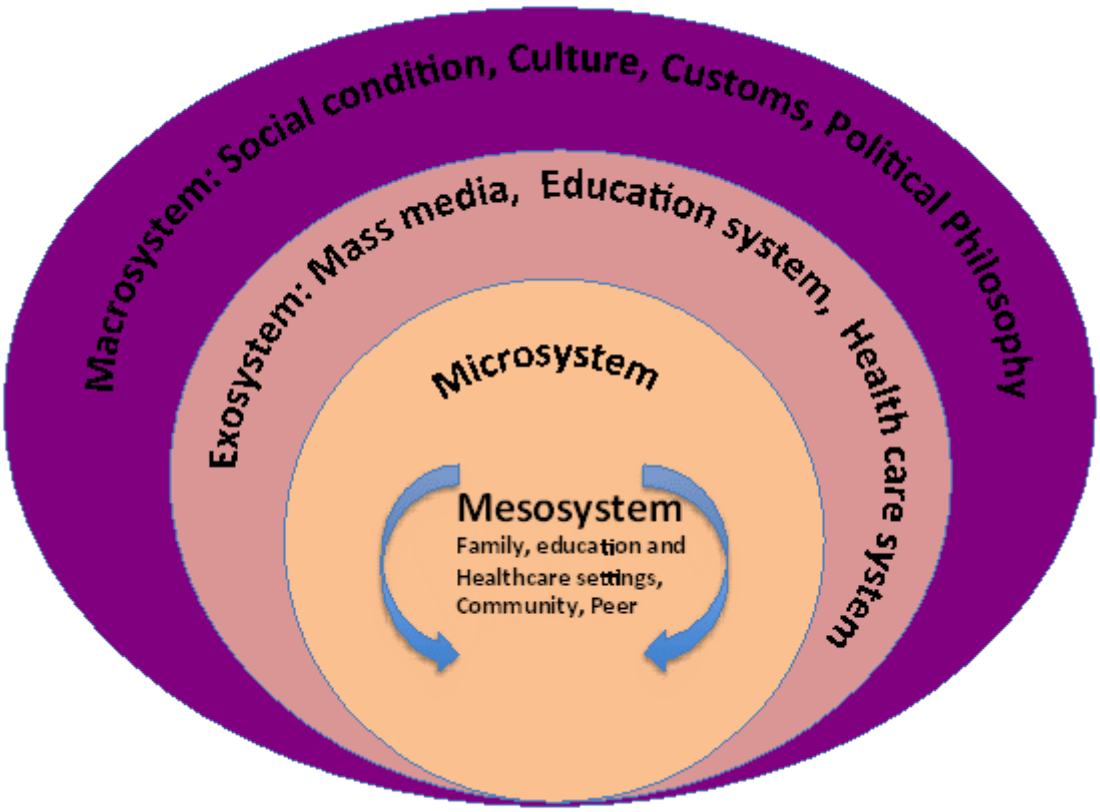
Although the psychosocial theories mentioned above can provide a better understanding of young people's sexual behaviour and how HIV interventionists may use them to modify HIV-risk behaviours, some have argued that these theories have ignored the interaction of the individual with a wider societal system, including family and cultural influences (Kotchick et al., 2001; Locke and Newcomb, 2008). Indeed, until fairly recently, researchers took a holistic approach to investigating health-related behaviour. Theories that emphasise an understanding of sexual-risk behaviour by acknowledging the importance of environmental factors postulate that the individual's behaviour is determined not only by that individual's intention to behave in a certain way, but also by societal influences. In addition, some theorists have developed specific systems-focused theories that stress the importance of social influences, linking individual behaviour to familial and cultural factors. These theories include Ecological Systems Theory (Bronfenbrenner, 1986), Theory of Gender and Power (Connell, 1987), Family Systems Theory (Whitchurch and Constantine, 1993); Family Development Theory (Rogers and White, 1993); and Family Change Theory (Kagitcibasi, 1996).

The focus of this thesis is on the roles of the family, as a social actor, on young women's sexual decisions and the implications of this for future family-involved HIV intervention (FIHI) development. It draws on Ecological Systems Theory and Family Change Theory. They are chosen because they recognise the *multi-level influences* on young women's sexual risk behaviour and in particular offer valuable perspectives when designing and developing the *contextual and cultural* relevance and developmental appropriateness of FIHIs. In this thesis, these theories are used to provide a general sensitisation to the ecological-developmental perspectives of the importance of multiple factors at individual and social levels, and also to the cross-contextual viewpoints of how changes in a social context can shape young people's sexual decision making through the family system. A summary of the theories is presented below.

2.3.1 Ecological Systems Theory

This theory has its origins in Lewin's developmental-psychology perspectives, with the acknowledgement of the importance of family for child development and parent-child relationships. Lewin (1931) suggested that an adolescent must be understood within the "*total situation*" in which he/she grew up. Building on this perspective, Bronfenbrenner's Ecological Systems Theory (1979, 1986) posits that an adolescent's development is affected by the different settings and layers of his/her external environment. An adolescent is the centre of the model and the family is regarded as the most important setting. Four systems in the model are organised according to proximity to the adolescent, to describe the structure of the ecological environment: microsystems; mesosystems; exosystems; and macrosystems (Box 1).

Box 1: Structure of the ecological environment



Microsystem: describes an adolescent who is situated in a complex system that interconnects his/her personality, beliefs, attitudes, activities, roles and interpersonal relationships. It also relates a developing adolescent to groups or systems in which the adolescent interacts directly, such as family and peers.

Mesosystem: consists of the interaction between important groups or systems in which the adolescent interacts directly, such as parents working with his/her school.

Exosystem: consists of groups or systems in which the adolescent does not interact directly, but in which his/her behaviour is affected through the family. These contexts include parents' work and parental-support networks.

Macrosystem: has direct and indirect influences on an adolescent through a wide range of contexts and processes, including broad social beliefs and norms, cultural and regulatory.

Although Ecological Systems Theory is often criticised for its overly general approach to explaining human development and behaviour, and for lacking information about specific causal pathways (Wakefield, 1996), this framework is indeed useful for this current thesis by providing *a general framework* that contextualises young women's sexual risk within multiple systems of influence and emphasises the nested levels of influence on adolescent sexuality within their social contexts. It suggests that family is the most proximal ecological context in an adolescent's development. It supports the importance of reciprocal relationships between individuals and their environment, in particular the family and other important settings, such as schools and healthcare institutions. Furthermore, it suggests that *extra-familial environments*, such as community, affect an adolescent's behaviour through family. From this perspective, it is recommended that researchers include knowledge of individual and environmental factors, including family, community, and culture in order to develop an accurate understanding of individual risk-behaviour factors (Kotchick et al., 2001).

The ecological framework has been conceptualised and supported in previous research. For example, supporting the importance of the microsystem dimension, research has found that parent-child communication about sex can delay young people's sexual initiation and safe-sex behaviour (Dilorio et al., 2003). Intrapersonal variables, such as self-concept or self-esteem, were found to be associated with adolescent's health outcomes, such as anxiety (Grills and Ollendick, 2002) and sexual onset (Longmore et al., 2004). Several HIV interventions were designed to promote the interaction between subsystems, for example, an HIV worksite-based intervention (Schuster et al., 2008), an ecodevelopmental HIV intervention for Hispanic adolescents and families (Prado et al., 2006), and a family-based HIV intervention with community engagement (Baptiste et

al., 2007; McBride et al., 2007). The findings from a review of qualitative studies revealed the importance of macro system variables, including social and cultural factors, on young people's sexual behaviour (Marston and King, 2006).

2.3.2 Family Change Theory

Family Change Theory (Kagitcibasi, 1996) postulates that there is a link between culture, family and the self. Using a *contextual-developmental-functional* approach, Kagitcibasi suggested that, to understand an individual's development and behaviour, it must be accepted that the family is embedded in the context. Similarly, to understand family, the socio-cultural environment must be explicit in the conceptualisation. Kagitcibasi, in her longitudinal work, suggested that the family is situated as a moderator linking culture and the self and is considered as both a social and psychological factor underpinning the development of the individual. She then goes on to propose three specific family models, based on a general model of culture-family and the individual by considering different socio-economic cultural contexts. These are the model of interdependence; the model of independence; and the model of emotional interdependence.

The model of interdependence presents family in traditional societies with a culture of collectiveness. The traditional family type is the extended family commonly found in rural societies with low SES. This type of family tends to be interdependent between generations; parents expect their children to provide emotional and financial support. Son preference is the norm, because male children are believed to be a valuable source of support and a tool to maintain a family's social status. Consequently, parenting style

and family socialisation are more restrictive, teaching obedience and dependence; children are, therefore, expected to be dedicated to their parents. As a result, a "*relational self*" (p.79) is developed in families from the interdependence model.

In contrast, families in the model of independence are typically found in urban, high-SES, and Western societies with a culture of individualism. Families in this model socialise children towards independence, loyalty to self, and separation between generations. Parents do not view sons as preferable, but consider having children as an economic cost. They have less control, and parenting styles oriented more towards gradually ceding autonomy to the children. In this model, individuals develop towards the "*separated self*" (p.83).

The model of emotional interdependence shares some characteristics of the two previous models. Through social changes and economic development, families in this model are increasingly urbanised and the SES tends to move upwards. Parents socialise children towards family loyalties, but embrace self-independence. They tend to have permissive parenting styles that promote autonomy. However, families in this model still value good inter-generational relationships. The coexistence of collectiveness and individualistic cultures develops the "*autonomous-relational self*" (Kagitcibasi, 1996, p.88).

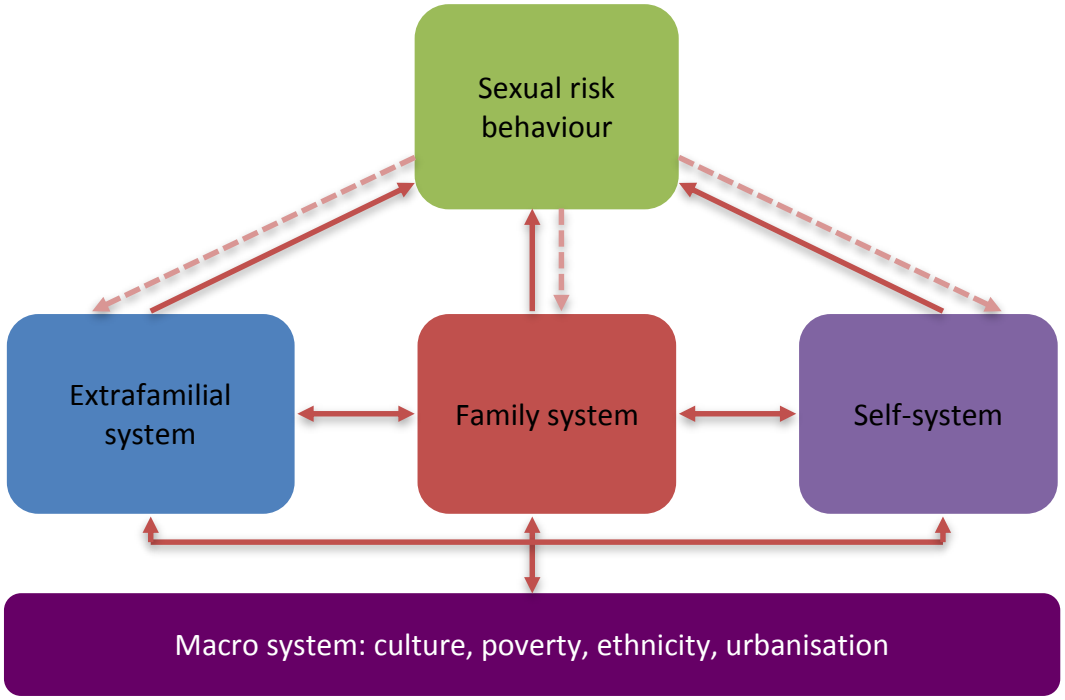
From this perspective, social change and economic development can change the way in which families socialise and interact with young people. The theory also acknowledges cross-cultural perspectives. That is, it considers different dimensions of culture as a source of variation in the individual. According to Kagitcibasi (1996), intervention

developers in developing countries need to "*be sensitive to the human relations in 'the culture of relatedness' prevalent in these societies*" (p.3). The Family Change Theory offers a viewpoint on the importance of context relevance and cultural appropriateness when designing an intervention programme for different groups which may have specific risks or different circumstances.

Figure 2.1 illustrates the conceptual framework that guides the current study. It depicts a complex relationship of multiple systems that affects young people's sexual-risk behaviour, and vice versa. According to the framework, from the Ecological System Theory, young people's sexual behaviour can be influenced not only by individual-level determinants (race, age, gender, cognitive competence, self-efficacy, distress, depression and other risk behaviours), but also by other social factors.

Figure 2.1: Theoretical and conceptual framework

(Adapted from Kotchick et al., 2001, p. 496)



The framework illustrates that influences from social systems, in particular the familial system (for example, parental monitoring, parent-child communication, family structure), together with the interplay and interaction between the systems, directly and indirectly (bold lines) impact on young people's sexual behaviour. In addition, young people's sexual behaviour may exert influence and shape relationships between the systems (dot lines) (Kotchick et al., 2001).

In addition, Family Change Theory emphasises the importance of cross-cultural perspectives. It suggests that the link between culture and self is influenced by the family system. In the macro-system, according to Family Change Theory, cultural context can be considered as the dualistic opposition of individualistic or collectivistic cultures, or the coexistence of two cultures (Kagitcibasi, 1996). From this point of view, recent social changes and economic development in Thai collective cultures could shape young Thai people's sexual behaviour through the family system and may have implications for future HIV intervention development. The framework has influenced the current study in paying particular attention to the specific risks and needs of young Thai women when designing a research approach and interpreting research findings.

This chapter discussed research studies that explored and investigated the relationships between key familial factors and young people's sexual behaviour. This chapter also discussed a conceptual framework guided by two theories: Ecological Systems Theory and Family Change Theory. The following chapter describes research methods employed in systematic reviews and qualitative research in Bangkok.

Chapter 3: Methodology

The previous chapters have outlined the existing knowledge about HIV/AIDS in Thailand, sexual risks of young Thai people, and the roles of family in shaping young Thai women's sexual behaviour. The research questions and the theoretical framework guiding this thesis were also highlighted. This chapter presents an overview of the current thesis and its methodology. The primary aim of this thesis is to explore the roles of family as a key socialising agent in terms of its impact on young women's sexual decisions, and to explore possible opportunities and potential challenges for future family-involved HIV interventions (FIHIs) for young Thai women. This chapter presents a mixed-methods approach in addressing the research question(s) and is organised as follows. The first section (Section 3.1) discusses the research philosophy. Then, the research questions, aims of the research and methods used to carry out the systematic reviews (Section 3.2) and the primary qualitative investigation (Section 3.3) are outlined.

3.1 Research philosophy

Different schools of thought offer different epistemologies and imply different ways in which we come to acquire knowledge. Positivism generally assumes that there is a *reality* to the world, whether or not we know or understand it. Positivists believe that this reality is objective, predictable and observable through scientific procedure (Denzin and Lincoln, 2005). From this point of view, scientific inquiry is an ideal approach to acquiring the truth (Tashakkori and Teddlie, 2008). However, qualitative inquiry offers

an alternative way by which to understand the world. Rather than trying to question the concept of reality, these researchers believe that they are an integral part of the world and can understand the world through their own constructs, which are also influenced by others' constructs (Giacomini, 2010; Schwandt, 2000). Falling between these two approaches, pragmatists propose that there are many credible ways of *knowing*. They do not accept the two propositions in the "paradigm war", and support the use of an integrative approach in research. Although they acknowledge the existence of an objective reality, pragmatists offer an alternative way in which we, as researchers, can adapt the ways in which we understand the world (Tashakkori and Teddlie, 2008). They acknowledge the importance of mixed-methods research that can "*offer the best opportunities for answering important research questions*" (Johnson and Onwuegbuzie, 2004, p. 16).

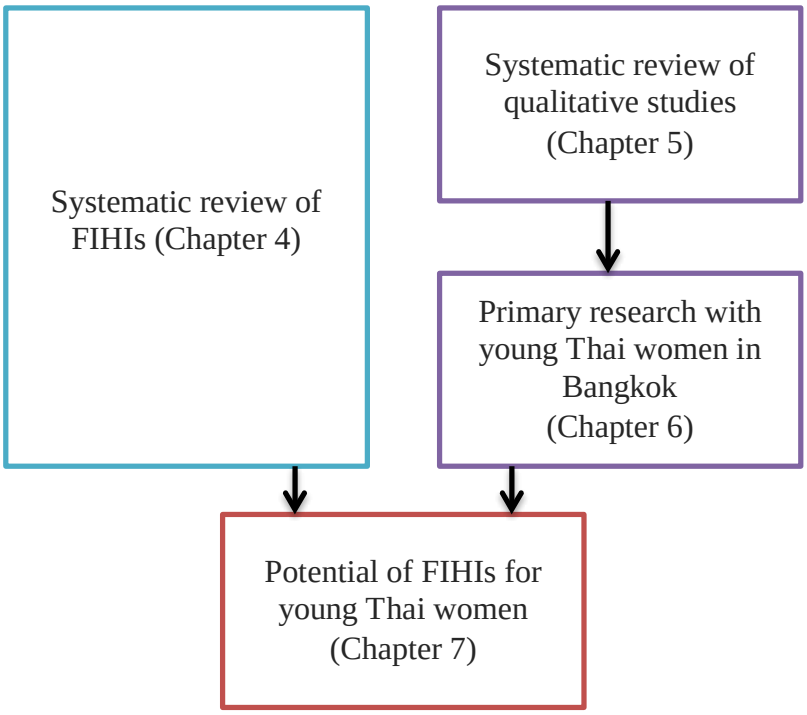
To this end, this study is informed by the pragmatism perspective. That is, there are different ways by which to gain understanding of people and reality, and decisions regarding research design depend largely on the current status of the research question, as derived from the iterative research process (Newman et al., 2003). As Greene and Caracelli (2003) noted:

> *"In theory, paradigms can matter in a mixed-methods inquiry. Social inquirers can mix not only different ways of gathering, representing and analyzing data, but also different inquiry strategies or designs along different philosophical assumptions about the social world, our knowledge of it, and our place within it". (Greene and Caracelli, 2003, p.107)*

In this thesis, a mixed method approach refers to the viewpoint that different methodologies can offer different, but unique and valuable insights into greater understanding of the phenomenon under study. By employing multiple, varied research

approaches, we can advance the ways in which we understand the world and how we come to know a social reality which is acknowledged as increasingly complex (Creswell and Clark, 2007; Greene, 2007). As discussed in Chapter 1, in order to address a complex research, a series of research projects that employed different research methods and approaches to address the overall research inquiry was carried out. The first component, a systematic review of studies that evaluated FIHIs, was undertaken between 2009 and 2012. The second component consisted of two sequential research projects. In the first research project, a systematic review of studies that explored young women's perceptions of family influences on their sexual decisions was undertaken between 2009 and 2011. The findings from the review provided a *framework* guiding initial ideas for data analysis of the primary research in Thailand in 2009 and data analysis completed in 2013. It aimed to provide a better understanding of underlying factors influencing young Thai women's sexual decisions in order to develop FIHIs that are relevant to young Thai women's needs. (See Figure 3.1)

Figure 3.1: An overall research approach of the thesis



In the next sections, the research methods employed in each study are described in greater detail.

3.2 Systematic reviews

A systematic review is an explicit, transparent, rigorous research method for combining a body of research evidence, following a set of standard stages of identifying, appraising and synthesising the relevant studies (see Figure 3.2). It aims to reduce biases in order to answer a specific review question (Gough et al., 2012).

Figure 3.2: Common stages in systematic reviews

(Adapted from Gough et al., 2012, p.8)

In this thesis, a two-stage systematic review was carried out. The first stage was a systematic knowledge map carried out between 2008 and 2009, which aimed

systematically to identify, classify and describe research evidence collected in the field. It provided a description of existing research in the areas of family and HIV, describing an overall picture of what evidence had been gathered to date, based on a set of predefined criteria. The findings of the systematic knowledge map are presented in Appendix 8. At the second stage, the studies included in the systematic knowledge map were screened for inclusion in the systematic review of FIHIs and the systematic review of studies exploring perceptions of young women regarding the role of family on their sexual decisions. In the systematic map and two systematic reviews, one reviewer, namely the author, developed search strategy, applied pre-defined inclusion/exclusion criteria, extracted data based on the coding frameworks specifically developed for the reviews, and carried out the synthesises. To improve consistency and transparency, additional four reviewers were engaged at two key stages of the review process; three at the quality assessment and one at the synthesis stage.

3.2.1 Systematic review methods

Identification of relevant studies

A search strategy was developed by the author to identify potentially relevant studies for the systematic knowledge map. Research evidence was identified from a number of bibliographic databases, covering both medical and social science disciplines. These were MEDLINE, CINAHL, EMBASE, PsycINFO, Cochrane Library, AIDSLINE, Web of Science, Sociological Abstracts, ERIC, ASSIA and Family and Society Studies Worldwide. The search was carried out without country, geography or language restrictions. The key terms of young people, HIV/AIDS and family, their synonyms and

combinations of these terms, were used in the search strategy. Two parallel searches were carried out for a systematic review of FIHIs and a systematic review of studies exploring young women's perceptions. All search results were imported to EPPI-Reviewer software (EPPI-Reviewer 4.2.1.2, Thomas et al., 2010). The reference lists of included studies were also searched (See Appendix 1 for the search strategy). Database searches were carried out in 2008 and 2009 and updated again in 2011 for the FIHI review.

Defining relevant studies: Inclusion and exclusion criteria

The studies identified through the searches were screened by one reviewer (the author) on the basis of titles and abstracts and, where there was insufficient information, of full reports. All studies that met the inclusion criteria were obtained as full reports. The inclusion and exclusion criteria were then reapplied to the full reports, and those that did not meet the inclusion criteria were excluded. Two different sets of criteria for inclusion were used to identify different sets of studies for the systematic reviews (See Table 3.1). See Appendix 2 for the exclusion criteria.

3.2.2 Characterisations of studies in the systematic knowledge map

Using the search strategies, a search of various sources yielded 9,914 citations. After excluding 2,316 duplicates, a total of 7,598 citations were screened on the basis of titles and abstracts, against the predefined exclusion criteria. A further 497 full-text reports were retrieved and screened. The 196 studies remaining after application of the inclusion/exclusion criteria were coded and classified on the basis of their key

characteristics and the context of the included studies. The coding tool was developed specifically for the map. (See Appendix 3 for the coding tool for the systematic knowledge map). After this stage, another two sets of inclusion criteria were used to identify studies for inclusion in the synthesis of two systematic reviews: systematic review of FIHIs for young people (Section 3.2.3 for research question and method) and a systematic review of studies exploring perceptions of young women on family influences on their sexual decisions (Section 3.2.4 for research question and method) Characteristics of studies included in the systematic knowledge map are presented in Appendix 8.

Table 3.1: Inclusion criteria for the systematic knowledge map

Criteria	Non-intervention studies [2]	FIHI studies
Population	A study must report data on girls or young women aged between 10 and 25 years. In cases where the age range of a study is outside the specified age group, the average age must be within these boundaries or data must be reported separately for this age range. Female participants have to be either the main population focus of the study, or in the subgroup analysis.	A study must report data on young people aged between 10 and 25 years. In cases where the age range of a study is outside the specified age group, the average age must be within these boundaries or data must be reported separately for this age range.
Topic/Intervention	A study must either investigate familial variables and sexual-risk behaviour OR explore young women's perceptions of the influence of family roles on their sexual-risk behaviour.	A study must evaluate FIHI[3] targeting young people. There is no restriction of studies on the basis of any particular comparators. To ensure that evidence was collected rigorously and in order to minimise bias, only randomised controlled trials, quasi-randomised controlled trials and experiments, and non-randomised studies with a comparison group were included.
Date	A study must be published after 1980. This was when the first HIV case was discovered	
Type of publication	Only empirical and primary research was included; therefore, it did not cover the following types of publication: editorials, book reviews, policy documents, theoretical studies, methodological studies, reviews, systematic reviews and bibliographies.	
Language and location	Any	

[2] Non-intervention studies are defined in this review as those whose content was related to how young women perceived family influences and/or their experience of family influence, or those that quantitatively examined the relationship between familial variables and young women's sexual behaviour. Studies that contained no human participation in data collection (for example, qualitative content, discourse, media representations) were excluded.

[3] To be included in the review, FIHIs must include the following components:

- The intervention must be designed to influence HIV-related sexual behaviour and must state this clearly as a goal of the intervention and/or include HIV prevention strategies (for example, a curriculum designed to prevent HIV) in the intervention programme and;
- The intervention must be designed to involve family in the programme, for example as participants, learner-educators or facilitators. The intervention may include familial approaches that focus on parents and young people or parenting approaches that focus only on parents.

3.2.3 Systematic review of family-involved HIV interventions for young people

The systematic review aimed to synthesise the existing research evidence across setting that examined the effect of FIHIs on young people's sexual behaviour and to identify key characteristics of effective FIHIs. The review question was:

What is the impact of family-involved HIV interventions on young people's sexual-risk behaviour?

Identification of relevant studies

Updated and additional searches were carried out in 2011, checking the references of included studies, reviews and systematic reviews to identify research evidence made available since the original search carried out in 2008-2009. Authors were contacted to identify additional studies and unpublished research. Forty-four FIHI studies in the systematic knowledge map were screened using an additional set of inclusion criteria. Studies were only included for synthesis if they had reported at least one of the primary outcome measures of young people:

- Biological outcomes: HIV incidence, HIV prevalence, STI incidence, STI prevalence;
- Behavioural outcomes: abstinence, (un)protected sex practices, a number of sexual partners, condom use, or sexual initiation.

Studies that reported a summary measure of behaviour risks or young people's psycho-social, knowledge, intention, perceptions, attitudes or family outcomes without any primary outcome, were excluded from the review.

Data extraction, quality assessment and data analysis

Studies that met the inclusion criteria were data extracted and assessed for methodological quality using the coding framework, based on validated data extraction tools and quality-assessment frameworks (Deeks et al., 2003; Downs and Black, 1998; Higgins and Altman, 2008; Shepherd et al., 2010; Thomas, 2003) (see Appendix 4). The framework consists of two main parts, first aiming to extract data and second to assess quality of the included studies. The first part of the framework consists of questions aiming to extract in-depth descriptive information on study design, participant and contextual information, intervention design and implementation and outcome measures. Notes were also made of the limitations and strengths of the study and future research that would benefit the discussion.

The second part is the quality-assessment framework. In order to be confident in the findings reported in the included studies, internal validity was assessed in respect of whether the original study minimised and addressed biases and confounding (Downs and Black, 1998; Higgins and Altman, 2008). To be considered as a *low* risk of bias study, two criteria –selection and attrition bias – must be judged to be at *low* risk of bias. In other words, studies rated as having low risk of bias were those deemed to minimise selection and attrition bias and confounding by study design (for example, how participants/units were randomly assigned to groups), in the selection of study

participants (for example, having matched or restricted participants in each group), and/or the analysis of results (for example, intention-to-treat analysis or analysis of covariates) (see Appendix 4 for the quality assessment framework). When studies were judged to be at *high* risk of bias in one of the criteria (selection bias and/or attrition bias), they were considered to be *high* risk of bias studies.

One reviewer (the author) extracted data from included studies. Two of three reviewers assessed the quality of each included study independently. When there were disagreements between the reviewers, they rechecked and reread the information from the full-text reports. Any disagreements were resolved by discussion. If the problems remained unsolved, a third reviewer was consulted and made a final decision.

Data on the primary outcomes, young people's other risk behavioural outcomes (for example, substance-use risk behaviours), and familial outcomes (for example, parent-child communication) were extracted and entered into a spreadsheet. Where available, data were also extracted from supplementary papers. All relevant descriptive and outcome data were assessed for heterogeneity across studies. Statistical meta-analysis was not carried out due to heterogeneity in the intervention model, study design, data availability and study outcomes reported. Therefore, narrative synthesis was carried out (Popay et al., 2006; Rodgers et al., 2009). First, the characteristics of the included studies were described in texts and tabular form. Next, the findings from the included studies were organised by outcomes, aiming to provide an overview and pattern of the effect of FIHIs across the studies. Tables and Forest plots (carried out in EPPI-Reviewer 4.2.1.2, Thomas et al., 2010) were used to present findings. Where available, the effect size, statistical significance and/or confidence interval of primary outcomes were

calculated and reported; otherwise, the results analysed in the primary studies were reported. Reported secondary outcomes were summarised and presented. A summary table of primary outcomes was presented to explore the impact of the inclusion of *high* risk of bias studies. Finally, key characteristics of effective FIHIs were identified from low risk of bias studies that reported at least one significantly positive effect of FIHIs on sexual behaviour outcomes. The information on intervention characteristics was coded and extracted using criteria building from previous studies (Ingram et al., 2008; Rotheram-Borus et al., 2009a; Rotheram-Borus et al., 2009b; Galbraith et al., 2011). The limitations of the systematic review are outlined in Chapter 7.

3.2.4 Systematic review of studies exploring young women's perception of family influences on sexual decisions

The systematic review of studies aimed to understand young women's perceptions regarding the influence of family on their sexual decisions. In addition, it was the intention that the results derived from this review would provide a framework for the data analysis in the qualitative primary research. The question upon which the review was based was:

What are young women's perceptions concerning family roles and their sexual decisions?

Identification of studies

After the search was carried out in 2009, thirty-four studies were included in the systematic knowledge map and were screened for inclusion. To be considered in the review, a study had to employ a qualitative methodology to explore the influences of family on the sexual-risk decisions and sexual-risk behaviour of young women (aged 18-25 years), as part of the challenges they face during the process of transitional development.

Data extraction and quality assessment

The studies were data-extracted by one reviewer (the author) regarding the study aims, research designs, sampling methods, participant characteristics, data-collection and data-analysis methods, and the results and conclusions of the author(s). Only studies that reported sufficient information on main research areas – research background and contextual information, research process, results and contributions – were further assessed for quality and relevance. The main aim of the quality assessment was to understand and describe the range of quality across studies included in the review and to identify gaps in the reporting of the qualitative research. This was carried out using the 28-question checklist adopted from previous frameworks in health-related fields (CASP, 2006; Cohen and Crabtree, 2008; Dixon-Woods et al., 2004; Greenhalgh and Taylor, 1997; Mays and Pope, 2000; Popay et al., 1998; Sandelowski and Barroso, 2002; Spencer et al., 2003) (see Appendix 5). For quality-assurance purposes, two experienced researchers assessed a subset of the studies, and any difference was

resolved through discussion. The process revealed no important differences in data extracted or quality.

Synthesis

The synthesis approach in this review is applied from the meta-ethnography described by Noblit and Hare (1988), which provides an approach to constructing new knowledge and understanding through the interpretation of research findings. First, each study's results and conclusions were recorded using the standardised data-extraction form. Any concepts relevant to the influence of family on young women's sexual-risk decisions were noted. Second, the extracted information was subjected to a process of coding in terms of concepts and categorising in terms of themes, that is, the researcher assigned codes to extracted results which represented the relevant concepts (for example, parent-child communication), and then categorised the concepts into themes (for example, the dynamics of parental processes). When new concepts emerged from the data, all concepts were re-analysed and then re-coded. Third, the process of translating studies into one another involved carefully reading through the results and conclusions of each study several times, comparing and contrasting the results and conclusions within and between the studies and, where necessary, reassigning the codes or redefining the concept labels. The process was iterative, ensuring that the new conceptual understanding was grounded in the data from the primary studies. Following this process, two reviewers developed three main themes of how young women's sexual-risk decisions were affected by the family. The limitations of the systematic review are outlined in Chapter 7.

3.2.5 Reflexivity

Conducting a systematic review is a team effort. Reviewers take different roles and responsibilities at each stage of the review process, requiring an optimal balance between topic knowledge and methodological skills within a team (Oliver et al., 2012). Although four other reviewers were involved at the key stages of the review process to assure quality of the systematic reviews, the author was in fact the only main reviewer. By getting involved from the start to the end of the systematic review process, the author has acquired and developed necessary knowledge and skills, particularly at the quality assessment and synthesis stages, including designing the coding tools, assessing quality of the studies and performing the synthesises of both quantitative and qualitative evidence. For example, the quality assessment frameworks were developed specifically for both quantitative and qualitative studies. Although the author was trained during her Master degree to critically appraise research evidence, during that time the quality assessment frameworks were designed largely for experimental studies such as randomised controlled trails and less so for qualitative or mixed methods research. The author carefully reviewed and adapted the existing quality assessment frameworks and subsequently applied the adapted tool to the included studies. She gained knowledge and experience of assessing quality of research employing different methodologies. The author also gained a better understanding and developed skills for synthesising different types of data. Indeed, by completing two systematic reviews within this thesis, the author has enhanced her methodological skills that are important to her career progression. Building on the experience gained on the course of her study, the author won a research contract awarded by the UK Department for International Development,

South Asia Research Hub, as a Principal Investigator to support review teams to conduct high quality systematic reviews in international development.

As in primary research, researchers who work in systematic reviews bring their own epistemological standpoints, influencing the ways in which they make methodological and practical decisions to systematic reviews (Rees and Oliver, 2012). The author is a systematic reviewer who has been working at the Evidence for Policy and Practice Information and Co-ordinating Centre (EPPI-Centre) since 2005. The EPPI-Centre has pioneered a mixed methods approach in combining different types of research evidence to address policy relevant questions. The author acknowledged that her research experience in systematic reviewing for policy-relevant reviews at the EPPI-Centre could affect to some extent how she developed, designed and made decisions at the key stages of the systematic review process. For example, the systematic reviews were carried out as a two-stage review. The systematic knowledge map was carried out to gather research evidence that has been carried out in the field to date. The findings from the systematic knowledge map then provided a framework to identify relevant studies for the two systematic reviews. The other important aspect was the perspective about how data would be interpreted and analysed. In the systematic review of qualitative studies, the author applied interpretive and a more structured approaches in the synthesis process. The data were extracted using the standard coding tool applied to all included studies (for example, data on study focus, study methods). At the same time, the author used a line-by-line coding scheme based on young women's quotes reported in the studies and the interpretations of young women's perceptions made by authors of the primary studies. It might be the case that the author's own background, topic knowledge and theoretical standpoint could influence how she coded and interpreted data from the

studies. Several procedures had been put in place to ensure consistency and transparency of the systematic reviews. These included: constantly checking and returning to the original papers to clarify the context of each study, engaging with other review team members to assess quality of included studies and to review initial findings of systematic reviews, using the information management software to monitoring the progress of the reviews, and publishing the research findings in a peer-reviewed journal.

3.3 Qualitative primary research

Different approaches to qualitative enquiry can produce different evidence (Green and Thorogood, 2009). In-depth individual interviews can be useful in providing an in-depth, rooted understanding of an individual's personal circumstances and experiences and to generate ideas (Kitzinger, 1995; Morgan, 1996). Focus groups are suitable for idea refinement and reflection, and effectively yield relevant information on social norms within a specific population group (Ritchie and Lewis, 2008). Although focus groups offer less opportunity to gain an understanding from each individual perspective, they benefit from group dynamics that generate rich, commonly held data through the social interactions, conversations and shared experiences of individuals in the group (Hyde et al., 2005; Litosseliti, 2003; Rabiee, 2004). In addition, the focus-group process is deemed to have fewer controlling environments than one-to-one interviews, and thus would allow participants to express their views and perceptions about a particular topic or issue (Halcomb et al., 2007). Indeed, it is believed not only that a focus-group approach can obtain the views and perceptions of participants on sensitive topics, but also that a group process can elicit insights derived from social interactions between

group members, which may not be manifested in other qualitative-research methods (Wellings et al., 2000).

Focus groups have become increasingly commonly used for engaging participants in expressing their views on developing HIV interventions (Baldwin et al., 1999; Sy et al., 1998), or discussing problems, experiences and beliefs regarding other sensitive topics, such as sexual abuse (Buzi et al., 2002) and general sexual behaviour (Hoppe et al., 2004). For this thesis, focus groups were chosen not only for their potential to create a sense of empowerment that can encourage young Thai women to discuss topics that are considered to be sensitive and inappropriate, but also for their ability to generate rich, commonly shared data through a group process in a natural environment. Several qualitative studies have been carried out using focus groups with Thai adolescents on topics such as sexual-risk behaviour and sexual relations (Apakupakul, 2006; Rasamimari et al., 2008; Vuttanont et al., 2006). These studies collected data derived from young women regarding sexual behaviours such as sexual intercourse, condom use and number of sexual partners (Rasamimari et al., 2008), as well as sexual and reproductive-health knowledge and sex-education programmes (Vuttanont et al., 2006).

In this thesis, the aim of the qualitative research was to explore and understand the experiences and perceptions of young Thai women concerning family influences on their sexual decisions. It was also anticipated that the findings would shed light on the complexity of the process by which young Thai women's sexual decisions are influenced through their social contexts and interactions. The main research question guiding the qualitative study was:

How do young Thai women perceive family and other social influences that affect their sexual decisions?

3.3.1 Recruitment and participants

A total of eight focus-group studies, involving 40 young Thai women in Bangkok, were carried out in 2009 in order to explore participants' perceptions of influences on their sexual decisions. In order to include a diverse range of participants in the sample in terms of socio-economic status (SES), living arrangements (for example, living alone, with parents, friends, etc.) and whether they were in education or employment, the young women were recruited from four different sites across Bangkok: a university campus; a government office; a low-income community; and a garment factory. Although the participants recruited from these settings cannot be representative of any larger population, the settings were purposively chosen, because they could provide access to different populations and thereby reflect various constituent sub-communities of young Thai women, including those of both high and low SES, with different living arrangements, and/or those who moved from other provinces for reasons of employment and education. These key demographic factors suggested by the literature were seen as important in relation to the way young people make their sexual decisions (Ford and Kittisukasthit, 1994; Newbern et al., 2004; Rasamimari et al., 2007; Thianthai, 2004).

In addition, the groups recruited from these different settings could provide comparative data for young women of different SES (university/government groups compared with low-income community/garment factory groups), and those who moved from other provinces compared with those who had been living in Bangkok (low-income

community group versus garment-factory group). Limitations to generalisation based on this sampling approach are considered in Chapter 7.

Recruitment was done using a snowballing technique. Potential *seed* participants were identified through the author's personal contacts in each setting, and these individuals then contacted members of their peer networks and referred them to the research study. The sample was restricted to unmarried women aged 18-25, in accordance with the epidemiological characteristics of Thai women at highest risk of HIV infection (Ford and Kittisukasthit, 1994; Rasamimari et al., 2007).

The selection criteria were developed to ensure that the participants fit the characteristic profiles that are important for addressing the research questions (restrictions on age, gender, and marital status) and that they were sufficiently diverse to provide different accounts of the research topic (for example, there was no restriction on family background, sexual experience, medical history or other risk behaviours). Each discussion group consisted of participants recruited from the personal network of the respective seed contact. They were naturalistic groups, such that the constituent members worked together, attended the same classes, or lived in the same neighbourhood. In this way, interaction between participants could provide insights into the ways in which young women's sexual decision-making processes shape, and, also, are shaped by, their social contexts. Moreover, these participants were likely to share a socio-economic background, education level and employment status; therefore, group discussions could be facilitated by minimal differences in opinions and experiences (Morgan, 1993).

3.3.2 Data collection

The information sheet that outlined the research aims and procedure and contact details of the author was given to the potential participants. At least three days later, these participants were asked if they were willing to participate in the study and if they knew of anyone who would also be interested. Subsequently, the contact details of those who agreed to participate in the study were retrieved to arrange a possible time and place for the group discussions.

At the beginning of each focus-group session, the young women were given an information sheet to explain the aims and procedures of the research project and were offered an additional opportunity to ask questions. Then, each participant was asked to consent to the discussion being audiotaped. Participants also completed a brief demographic questionnaire (see Appendix 6 for the questionnaire).

A topic guide was used in each session, aiming to provide flexibility to the moderator, and to ensure that the main focus of the research was covered and explored (Patton and Patton, 2002). The session consisted of four main parts: a) introduction to the research project; b) a rapport-building exercise to explore participants' everyday lives and experience; c) in-depth discussion concerning the relationship between the family and HIV/AIDS; and d) the closure session (see Appendix 7 for the topic guide). The discussions also covered topics relating to intra-family relationships in general, HIV/AIDS knowledge and attitudes, and experiences of HIV interventions. The topic guide was piloted with two young women in order to determine the feasibility, acceptability and comprehensibility of the discussion content and questions.

Subsequently, a minor change was made to the introduction section of the topic guide in order to give a clearer explanation, in plain language. The author, who is linguistically and culturally fluent in Thai and is trained to be familiar with the discussion topics, methods and procedures, moderated the focus-group discussions. The discussions were carried out in the settings or rooms that were convenient for and familiar to the participants (for example, seminar rooms or other communal areas), in order to maximise accessibility and participation.

At the end of each discussion, the participants were given contact details of local women's healthcare services and were asked if there were statements they did not want to include in data analysis. All information and focus-group discussions were carried out in the Thai language. The duration of each discussion was 60–90 minutes. The participants were given 300 Baht (£5) for their time and co-operation.

3.3.3 Data analysis

The data derived from the sample were used to identify factors that might influence young women's sexual decisions and to understand and explain the ways in which young women develop sexual decision-making processes. The data analysis was carried out between 2011 and 2013. The findings are a result of critical approaches to the data, which involved the consideration of contextual factors, testing interpretation and reflecting the researcher's roles, attitudes and ideological standpoints (Green and Thorogood, 2009). The data-analysis approach in this research consisted of two main stages and was drawn from two analytic methods: *thematic-content analysis* and *framework analysis* (Green and Thorogood, 2009; Ritchie and Lewis, 2008).

In the first stage, the analytic approach of thematic content analysis was applied to identify and classify key influences on sexual decisions, based on young Thai women's accounts. Firstly, the audiotapes of the group discussions were carefully listened to several times. The transcriptions were read and re-read before starting the analysis process, in order to gain familiarity with the material and to identify aspects of the contexts and circumstances that were relevant to the research aims. Data from the group interviews were coded and described, based on the participants' accounts, their actions, definitions and meanings. This initial coding aimed to facilitate the application of concepts and themes to the data for further analysis. It involved careful reading of each sentence and paragraph, and deciding which code(s) were relevant.

Subsequently, the codes were categorised and organised to capture recurrent concepts and themes, based on the conceptual framework developed from the systematic review of qualitative studies. This systematic review, presented in Chapter 5, identified three broad themes related to family influences on young women. These are: *dynamics of family processes*; *parents' attitudes towards sexuality and gender*; and *internalisation of parental attitudes*. The process of reading, applying, organising and categorising was iterative, that is, when new codes emerged, concepts or themes were collapsed or added. This initial analysis was conducted in such a way that the connection between the original data and the concepts or themes remained observable. At this stage, the findings were presented so as to provide detailed descriptions of each theme and to summarise the data in a meaningful way (Miles and Huberman, 1994), and formed the basis for further analysis (Green and Thorogood, 2009).

The second stage of data analysis involved mapping and interpretation, the technique drawn from the framework-analysis approach (Green and Thorogood, 2009; Ritchie and Lewis, 2008). The process included analysing the associations between and within themes, and investigating the patterns of phenomena within subgroups (for example, SES backgrounds, migration status). The data from the initial analysis were rearranged according to theme, in order to read and re-read data from different participants under each theme and to compare and contrast codes and concepts. The final stage was to develop and provide explanations by using participants' accounts and other research evidence collected in the field, and to identify relationships between concepts (Ritchie and Lewis, 2008). In this way, the findings may provide contextual and in-depth explanations of young women's lives and experiences relevant to the research aims (Green and Thorogood, 2009).

In addition, attempts have been made to identify *disconfirming cases* to support claims and refine interpretations in the analysis (Ritchie and Lewis, 2008). Demographic data from the survey were also analysed using descriptive statistics to present information regarding the study population, including age, family structure, SES and parental details. The interview data were transcribed in Thai and then translated into English for the final report. Qualitative data-analysis software (NVIVO 8.0) was used to assist the data analysis.

3.3.4 Reflexivity

The author acknowledged the role of the researcher in collecting and analysing data. Her middle-class Bangkok and education backgrounds may have implications for the

way in which data were collected, analysed and interpreted. Data were collected initially from participants from high-SES groups (four groups from university and government offices). The similarity between the author, as a researcher, and the participants in these groups, particularly those recruited from the government office, in terms of educational and family backgrounds, appeared to facilitate discussion. They seemed confident that the author understood the reality of their lives, or, at least, of what they were saying, and they talked openly about themselves. The author tended to maintain this connection by sharing her own family experiences. This helped the young women to discuss their difficulties with family and other sensitive topics, such as sex, that would not otherwise be discussed openly with a stranger. For example, one participant talked about conflict with her mother and how difficult their relationship had been since her father passed away. She did not talk much about her relationship with her father, who was significant in her life. Then, the author shared her own painful experiences and difficulties when her parents passed away. Later on, the young woman started talking about her relationship with her father in greater detail, and others in the group started to share their family-related experiences, with emotion, but in a way that indicated that they felt comfortable.

While conducting these focus groups, it was felt by the author that being a doctoral student studying in the United Kingdom allowed these young, educated women to be more comfortable talking about their sensitive topics. They understood that the data would be used only for academic purposes. They were aware of the author's researcher status and seemed to understand their role as informants in the group interviews, and the importance of confidentiality. Several participants asked questions about the research and how they could access the findings at the end of the study.

The group discussions started with the participants from low-income communities and garment factories a few days after completing the group discussions with young women from the government office and the university groups. After completing the first group interview with the young women from the low-income community, it was clear to the author that these young women felt uncomfortable discussing their lives with the author – an *outsider*, someone not from the same social/educational background. This dissimilarity in background may have inhibited these young women in discussing their experiences. They lacked confidence, were afraid to ask questions and hesitated to talk; they only spoke when the author asked specific questions. It is perhaps likely that these young women felt unconfident using academic and technical terms, such as *research*, *doctoral* and *infectious diseases*, after the formal introduction of the study.

Later on, with another three groups, the author adapted the way in which she introduced the study and initiated the conversation. Although she could not change her role and position as an educated researcher from a middle-class family from Bangkok, at the beginning of the sessions, she talked about the research and herself in an informal way. The author discussed topics that interested the participants, such as movie stars, which allowed her and the participants to find a common ground, and allowed the participants to feel more comfortable talking about their experiences. This seemed to facilitate the group discussions. The participants started sharing their experiences and engaged in the conversation. One participant did cry during the discussion, when she talked about her loneliness in Bangkok. It was felt that perhaps the group interviews had provided the opportunity for the participants to speak openly about their feelings and experiences, topics that were rarely discussed with others.

The author acknowledged that data derived from the group discussions could be socially co-produced by participants (including the author) in the focus groups (Goffman, 1959). The participants could give narratives that were possibly self-censoring in the group context, acting and responding to the Thai cultural constraints of female roles in sexuality. By keeping this essence of the group dynamics in mind during the data-analysis process, the author acknowledged that her perspectives on, and experiences of the interactions with the young women were an integral part of the findings produced in this study.

Moreover, the author spent most of her childhood and early adulthood in Bangkok. She spent her late teens studying in the US, at a distance from her family. The experiences of two different cultures, *conservative* and *Westernised* environments, may have shaped the ways in which the author understood, interpreted and reported the data. However, before the fieldwork and focus-group interviews, as part of the methodological framework outlined earlier, the author carried out a systematic review of qualitative studies of familial influence on young women's sexual decisions. The findings from the review guided the initial analysis of the data. Data were also constantly checked and mapped against the original questions and answers. This was to ensure that the codes, themes and findings were grounded in the data.

3.3.5 Research ethics

The research has been approved by the Oxford University Research Ethics Committee. The recruitment process started when the key contact persons identified potential participants. These potential participants were then given a written information sheet

that explained the focus of the study and the nature of the group discussion process. Given that the topic and the nature of the study were sensitive, the potential participants were allowed time to consider whether to participate in the study. The author contacted the potential participants again at least three days later to verbally explain the study procedures, confidentiality, and their right to refuse or dropout from the study at anytime for whatever reason. Contact details of the author were also given in the case that they would like to discuss or have any questions relating to the research project.

At the beginning of each session, along with the verbal explanations of the research objective and procedures explained in the information sheet, the participants were assured that their identities were to be treated as confidential and data collected were to be treated as anonymous throughout the study. The language used in this process was adapted slightly for the participants from low-income community and garment factory groups. The author encouraged the potential participants to ask questions when any information wasn't clear to them. This was to ensure that all potential participants understood the nature of the study and the effect of signing the consent form. Informed consent was gained from all participants before carrying out the study. All data related to the participants, including tape recordings, transcriptions, questionnaires, field notes and computer files were kept in a secure place during the period of the research project. No personal identifiers were disclosed to others. Participants' information and their records would not be accessed or used without their consent.

Some questions in the topic guide relating to family, HIV/AIDS and sexual decisions may be considered sensitive and might have caused some discomfort and anxiety for the participants. This might be the case for some participants in the study. Several young

women showed some signs of distress when talking about their family life. For example, one young woman who moved from the other province to work in the garment factory expressed her feeling emotionally about her loneliness in Bangkok. The actions were taken promptly to ease any distress and anxiety. The author stopped the discussion and asked whether the participant would like to continue the discussion, and explaining to all participants that they were not obliged to answer the questions and that they were free to leave the study at any stage of the project. At the end of each discussion group, the author discussed the issues with the participant to determine if additional support was needed. All participants were given details of health services in the local area.

This chapter presented a research approach and research methodologies employed in the thesis. The methods and procedures of two systematic reviews were described including search strategies, inclusion and exclusion criteria, data extraction tools, quality assessment frameworks, and synthesis approaches. The research methods of focus group interviews with young Thai women were also discussed. The final section outlined some ethical issues in the focus group study in Thailand.

In the next three chapters, findings from the systematic reviews and qualitative study are presented. Chapter 4 presents the findings of the systematic review of FIHIs for young people. Chapter 5 presents the findings of the systematic review of qualitative studies that explored young women's sexual decisions. Chapter 6 presents the findings from focus-group interviews of young women in Bangkok, Thailand.

Chapter 4: Family involvement in HIV interventions for young people: a systematic review[4]

The previous chapter presented and discussed methodology and research methods employed within this thesis. Given that research evidence, outlined in the Chapter 2, generally supports the importance of family influences on young people's sexual behaviour, it is timely to explore the potential of family-involved HIV interventions (FIHIs) for young Thai women.

Unsurprisingly, based on promising evidence of the influence of family on young people's sexual behaviour, a growing body of research on FIHIs has been conducted. Three reviews have assessed the impact of interventions that involved family on young people's outcomes (Akers et al., 2011; Atienzo et al., 2011; Downing et al., 2011). Yet the scope of these reviews is varied and their findings are inconclusive. Two reviews focused on the findings from studies conducted in a Western context. One included only studies that were undertaken in the US (Akers et al., 2011); one included only those carried out in the US, the UK, Canada, New Zealand, and Western European countries (Downing et al., 2011). The other review focused mainly on education programmes (Atienzo et al., 2011).

Akers et al. (2011) reviewed US studies that evaluated the effectiveness of interventions for improving parental communication with young people about sex. To be eligible for

[4] **Bangpan, M.** (2014) **"**Effectiveness of family-involved HIV interventions on young people's sexual behaviour: a systematic review", a poster presentation, 20th International AIDS Conference, 20-25 July 2014, Melbourne, Australia.

the review, the studies had to focus on US parents of young people aged 11 to 18 years. The review identified 33 intervention programmes; 12 studies were included in the analysis. Although the findings suggested that the interventions largely improved parent-child communication about sex in several outcomes, including frequency, quality, intentions, comfort and self-efficacy, it is unclear whether the positive effect can be sustained over time. The review highlighted the challenges of analysing multiple studies that employed different communication-outcome measures and of identifying key characteristics of effective studies included in the review.

Whilst the Akers et al. (2011) study did not explore the effectiveness of the intervention on young people's sexual outcomes, the Downing et al. (2011) and Atienzo et al. (2011) studies did. However, the findings from these two reviews are inconsistent. The review by Atienzo et al. (2011) examined educational intervention studies that involved parents and aimed to change young people's sexual behaviour. Nineteen studies evaluating fifteen interventions were included in the review. The findings suggested the positive effect of the interventions on young people's sexual outcomes, including use of contraceptives and condoms. At the same time, the findings of the Downing et al. (2011) study, conducted as part of a wider review of community-based sex, relationship and alcohol education, were inconclusive. The review found that effectiveness of parent-based interventions on young people's sexual behaviour was not consistently observed across studies. There is some evidence suggesting a positive effect on parent-child communication. Yet this gain cannot be translated into an influence on young people's sexual risk behaviour. Overall, Downing et al. (2011) have suggested that future research should aim to develop non-US interventions by adapting effective

interventions and implementing rigorous longitudinal controlled studies for examining the effect of the interventions in different population groups.

This systematic review fills an important gap by synthesising existing studies across settings that examined the effect of FIHIs on young people's sexual behaviour, and by identifying key characteristics of effective FIHIs. The view about the importance of the family system and its interactions between other systems in developing a new HIV intervention was guided by the Ecological Systems Theory, contextualising the complexities of different systems within young women's ecological context, and offering a foundation for future intervention development in the Thai context.

The systematic review began in 2008 as a 'systematic knowledge map' to identify and describe research evidence on family and young people's sexual behaviour. Subsequently, a set of studies that investigated the impact of FIHIs on young people's sexual behaviour was identified and synthesised. In this chapter, the findings of the systematic review of the FIHI studies are presented. The research question for this systematic review was:

What is the impact of family-involved HIV interventions on young people's sexual-risk behaviour?

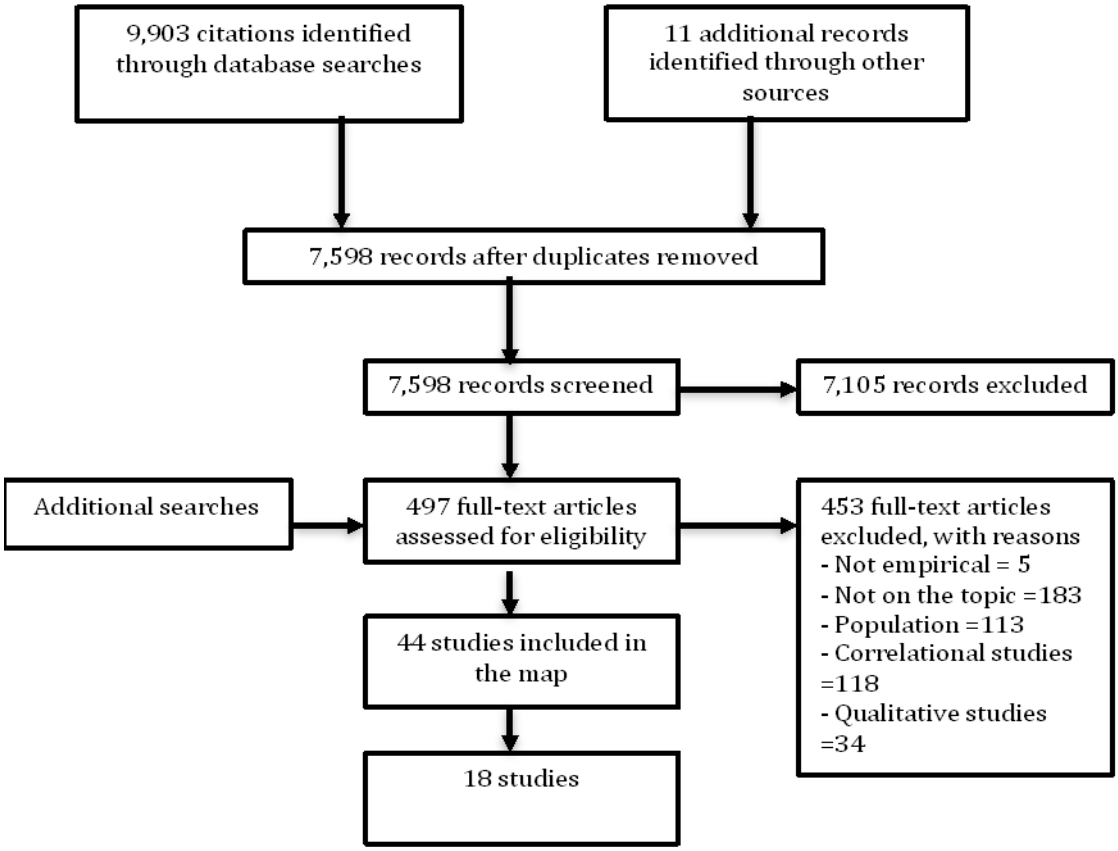
A brief explanation of how the FIHI studies were identified from the studies included in the systematic knowledge map (Section 4.1) is outlined. Specifically, Section 4.2 will (a) summarise the general characteristics of FIHIs, (b) describe characteristics of studies included in the review, and (c) present the findings across studies. The final section presents conclusions based on the findings of the FIHI studies and key characteristics of

effective FIHIs (Section 4.3). The findings of this review are discussed further, alongside the findings from qualitative research in Thailand, in Chapter 7. The research methods for the systematic review were described in Chapter 3. The limitations of the systematic review are outlined in Chapter 7.

4.1 Moving from systematic knowledge mapping to systematic reviewing of Family-involved HIV interventions for young people

As described in Chapter 3, the systematic search yielded 9,914 citations. After excluding duplicates, a total of 7,598 citations were screened on the basis of title and abstract according to the predefined exclusion criteria. Of these, 497 full-text reports were screened. Thirteen references identified from reference lists and author contacts, were retrieved and screened. Forty-four intervention studies were identified as potentially of relevance to the review (see Appendix 8 for the characteristics of the studies). Of these, 18 studies (17 programmes) were found to have reported at least one of the primary outcome measures of young people (biological or sexual behaviour outcomes) and were included for further investigation (see Figure 4.1)

Figure 4.1: Selection process of studies in the systematic review of FIHIs



4.2 Results

4.2.1 Characteristics of family-involved HIV interventions

The interventions varied greatly in their program design and implementation. Six interventions included in the review were designed for young people with parents' involvement; seven targeted parents with minimal participation from their children; five involved young people, parents and other social environments, such as peers, teachers or communities. For example, one intervention provided teacher education (Nagamatsu et al., 2011); one provided training for nurses and other staff to improve the accessibility of clinics (Cowan et al., 2010). The *Safer Choices* intervention included

activities to improve schools' and peers' resources to support parent activities and to develop a better school-environmental context for HIV prevention (Kirby et al., 2004).

Six FIHIs were school-based programmes, designed for students in grades 5 to 10. Three interventions were delivered in community settings (Dilorio et al., 2007b; Dilorio et al., 2006; Murry et al., 2007); one was delivered in the family home (Li et al., 2002); one was delivered in a healthcare setting (Guilamo-Ramos et al., 2011); and six were delivered in multiple settings, such as in family homes, schools, clinics, and/or community sites. One study did not report clearly where the intervention was delivered (Dancy et al., 2009). All interventions aimed to address one or more of the following influencing factors: a) parent-child communication; b) parenting skills, parental monitoring and/or family relationships; c) skills, knowledge, beliefs, and self-efficacy to reduce sexual risk behaviours among young people and/or parents; and d) actual sexual risk behaviours among young people (e.g. delay of sexual onset, condom use). When reported, mothers were more likely to participate in the programmes than fathers (Campero et al., 2011; Li et al., 2002; Pantin et al., 2009; Prado et al., 2007; Prado et al., 2012).

Family-involved HIV interventions identified in this review were designed to provide HIV-related education and information to parents or young people using a wide range of media and formats, including didactic, videos, workshops, groups, written manuals, one-to-one meetings, parent meetings at schools, and/or newsletters. One intervention provided condom and emergency contraception to parents of young people (Campero et al., 2011), and one provided a copy of video and written manuals at the end of the intervention (Li et al., 2002).

Trained facilitators visited the family home as part of the interventions in three interventions (Pantin et al., 2009; Prado et al., 2007; Prado et al., 2012; Stanton et al., 2004) and three interventions offered counselling to students and families (Nagamatsu et al., 2011; Pantin et al., 2009; Prado et al., 2012). Parent Support Networks (PSNs) were formed to establish a supporting environment for parents to share information and experience, and served as a platform for the programme delivery (Pantin et al., 2009; Prado et al., 2007; Prado et al., 2012).

Intervention activities and implementation were not consistently reported across studies; when information was available, the majority of the interventions was delivered through skill-training activities (e.g. activities to improve condom use skills), interactive activities, including role plays, games, group exercises, brain storming, drama/skits, modelling, rehearsals, crafts, storytelling, and essay writing. Many of the FIHIs included homework as part of the programme (see Table 4.1 for key characteristics of FIHIs).

Table 4.1 Key characteristics of family-involved HIV interventions in the review

Study/	Intervention	Setting	Target	Didactic Circular	Video	Workshop/ groups	Written manual	Booster	Home work	Gender specific	Skill training	Role play
Blake (2001)	MPM	School	YP+P	■					■		■	■
Campero (2011)	Parent education	School	P			■			■		■	■
Chen (2010)	1) FOYC + CImPACT 2) FOYC + GFI	Multi	YP+P	■	■	■		■			■	■
Cowan (2010)	Regai Dzive Shiri	Multi	YP+P+S	■		■	■					
Dancy (2009)	MDRR	NR	YP+P			■			■	■	■	■
Dilorio (2006)	Keepin' it R.E.A.L:	Community	YP+P+S	■	■	■			■	■	■	■
Dilorio (2007b)	R.E.A.L Men	Community	Fathers		■	■	■		■	■	■	■
Flay (2004)	SDC and SCI	School	YP+P+S	■		■			■		■	
Guilamo-Ramos (2011)	Family Talking together	Health	P				■	■	■	■	■	
Kirby (2004)	Safer Choices	School	YP+P+S	■		■			■			■
Li (2002)	ImPACT	Home	P		■		■				■	■
Murry (2007)	SAAF	Community	YP+P		■	■					■	■
Nagamatsu (2011)	School-based multi components	School	YP+P+S			■		■	■			■
Pantin (2009)	Familias Unidas	Multi	P+S			■					■	■
Prado (2007)	Familias Unidas + PATH	Multi	P+S		■	■					■	
Prado (2012)	Famlias Unidas	Multi	P+S			■					■	■
Stanton (2004)	ImPACT + FOK	Multi	YP+P		■	■		■	■		■	■
Weeks (1997)	Youth AIDS prevention Project	School	YP+P	■	■			■	■		■	■

MPM = Managing the Pressures Before Marriage; FOYC = Focus on Youth in The Caribbean; CImPACT = Caribbean Informed Parents and Children Together; GFI= Goal For It; MDRR = Mothers/Daughters HIV Risk Reduction; SDC = the Social Development Curriculum; SCI = the School/Community intervention; ImPACT = Informed Parents and Children Together; SAAF = Strong African American Families; PATH = Parent-preadolescent Training for HIV prevention; FOK = Focus of Kids; YP = Young People; P = Parent; S = Social; NR = Not reported

Programme delivery and implementation varied in terms of intensity and duration. A brief intervention was implemented in three studies, characterised by programmes delivered in a single session or in two sessions (Guilamo-Ramos et al., 2011; Li et al., 2002; Nagamatsu et al., 2011). Three interventions were delivered in multiple sessions over two or three years (Cowan et al., 2010; Flay et al., 2004; Kirby et al., 2004). Booster sessions were implemented in five interventions (Chen et al., 2010; Guilamo-Ramos et al., 2011; Pantin et al., 2009; Stanton et al., 2004; Weeks et al., 1997).

Although facilitator characteristics were not consistently reported across studies, the majority of the interventions were delivered by trained facilitators. Four interventions were delivered by peers (Blake et al., 2001; Cowan et al., 2010; Kirby et al., 2004; Stanton et al., 2004), two by school teachers (Kirby et al., 2004; Nagamatsu et al., 2011), two by healthcare professionals (Guilamo-Ramos et al., 2011; Nagamatsu et al., 2011), and one by mothers who had received programme training (Dancy et al., 2009). Four programmes were gender-specific; one was designed for fathers and young men (*R.E.A.L. Men* by Dilorio et al., 2007b); one for mothers and young women (Dancy et al., 2009); and two delivered to mothers and adolescents (*Keepin' it R.E.A.L.!* by Dilorio et al., 2006; *Family Talking Together* by Guilamo-Ramos et al., 2011).

Specific intervention details are presented in Appendix 9 and are listed below.

Managing the Pressures Before Marriage (MPM)

Blake et al. (2001) evaluated a school-based abstinence-only curriculum with homework assignments designed for both parents and students to reinforce and support classroom-based lessons. This programme was based on the empirically-validated

Postponing Sexual Involvement (PSI) programme and consisted of five one-hour sessions addressing risks of early sexual involvement, social and media pressures to become sexually active, communication skills and assertiveness. The programme also asked participants to complete homework assignments that were designed for parents to improve their sexual knowledge and communication skills, and that aimed to build both parents' and children's skills that were important in reducing risks of pregnancy, HIV and STIs.

Education Intervention for Parents

Campero et al. (2011) assessed an educational intervention for parents to improve parent-child communication skills. The intervention was delivered in four sessions. Parents in the intervention also received a prevention pack that contained an information pamphlet, a dose of Emergency Contraception (EC), and condoms. A 30-minute booster session was also provided after the participants completed the first follow-up assessment. In the control group, parents participated in a one-hour workshop which provided knowledge on the topics similar to those delivered to the intervention group but without interactions with adolescents or the prevention pack. The intervention aimed to improve parent-child communication and to provide knowledge and skills to parents with various interactive activities, including role plays, small-group discussions, homework assignments and pair activities.

Focus on Youth in the Caribbean (FOYC) and Caribbean Informed Parents and Children Together (CImPACT)

Chen and colleagues (2010) assessed the effects of a youth HIV intervention – FOYC plus CImPACT in the Bahamas. Both were based on interventions found previously to

be effective with US youth. FOYC, a school-based HIV intervention, was delivered weekly for 10 sessions with two boosters (at 12 and 24 months post-intervention). It aimed to provide sexual health knowledge and training and to improve decision-making, communication and listening skills. CImPACT, a parent-based HIV intervention, was delivered to only parents in one session, last approximately 20 minutes in a community setting. The CImPACT consisted of a video followed by a condom demonstration and discussion (lasted 30 minutes) aiming to improve parent-child communication, parenting skills and parental monitoring. The control group consisted of a) an attention control for young people called *Wondrous Wetlands* (WW) – a curriculum-based intervention on environmental conservative topics, in combination with b) an attention control for parent – *Goal For It* (GFI) – a brief educational video programme for parents focusing on career planning.

Regai Dzive Shiri Project

Cowan et al., (2010) evaluated a community-based HIV intervention in rural Zimbabwe. The *Regai Dzive Shiri* project, a multi-component intervention designed for young people, parents and clinic staff, aimed at changing social norms for adolescents. The 22-session, community-based component was delivered to parents and community stakeholders to improve sexual health knowledge, facilitate communication between parents and their children, and improve community support for young people's reproductive health. Curricula for in-school and out-of-school youth were designed to enhance knowledge and develop skills. In addition, training was provided to nurses and other staff working in clinics aiming to improve the accessibility of clinics for young people. The delayed intervention (comparison group) was delivered four years later.

The Mother/Daughter HIV Risk Reduction intervention (MDRR)

Dancy et al., (2009) evaluated the effectiveness of an HIV risk-reduction curriculum delivered by mothers compared with a) the same curriculum but delivered by health experts and b) a health promotion curriculum delivered by mothers. MDRR was designed to train mothers to teach their daughters HIV knowledge and risk-reduction skills. Mothers attended classes, conducted over 12 weeks, which were delivered in groups by health experts who had received training on the MDRR curriculum from project staff. Subsequently, mothers taught their daughters and other young women in a group format for six sessions weekly. The *Mother/Daughter Health Promotion* curriculum intervention (MDHP) and the *Health Expert HIV Risk Reduction* curriculum intervention (HERR) were used to compare the effectiveness of MDRR. MDHP was delivered to young women by their mothers but the content of the curriculum focused on healthy food and activity choices. The HERR curriculum delivered by health experts had the same content as the one in MDRR but had no homework assignment and no class content on sexual abstinence.

Keepin' it R.E.A.L!.

Dilorio et al. (2006) examined the effect of two interventions in *Keepin' it R.E.A.L!*. The interventions designed for mothers and their children aimed to delay initiation of sexual intercourse and to encourage condom use. Two interventions, *Social Cognitive-based intervention* (SCT) and *Life Skill program* (LSK), consisted of 7 two-hour sessions over 14 weeks. SCT consisted of parent and young people sessions. It provided HIV and reproductive health knowledge, and developed risk reduction skills for mothers and their children. Four sessions were delivered to mothers and children in one group aiming to provide HIV knowledge, develop communication skills and improve

talking about values. The other three sessions were delivered to mothers and young people separately. LSK consisted of three components: a parenting programme, a young people programme and community involvement. Mothers and young people attended five sessions together. The programme focused on stress reduction, sharing experiences and discussions around risk behaviours such as alcohol use. Community involvement component aimed to improve community responsibility and young people's future prospects. The activities included senior centre visits, community services, exposure to career opportunities and a college trip. In the control group, participants received a one-hour HIV prevention session.

Responsible, Empowered, Aware, Living (R.E.A.L) Men

Dilorio et al. (2007b) evaluated the *Responsible, Empowered, Aware, Living (R.E.A.L) Men* intervention that was designed to delay sexual initiation, encourage condom use among young men, and improve communication about sexuality between fathers and sons. Fathers attended seven weekly, two-hour sessions that provided information on parental monitoring, relationship with peers, communication with adolescents, sexual health and HIV/AIDS prevention. The intervention was delivered through lectures and other interactive activities, including videotapes, role-plays, homework assignments and games. Fathers and sons attended the workshop together only in the final session. Participants in the control group received a nutrition and exercise programme focusing on a healthy lifestyle with the same format and intensity as those in the intervention group received.

Social Development Curriculum (SDC) and School/Community Intervention (SCI)

Flay et al. (2004) evaluated two intervention programmes designed to reduce high-risk behaviours among urban African American students. SDC, a classroom-based intervention, consisted of 16-21 lessons per year from grade 5 to grade 8, aiming to improve skills to avoid high-risk behaviours, including violence, provocative behaviour, delinquency, drug use and unsafe sex behaviours. It also focused on a sense of self and purpose, history, culture and the values of African Americans. SCI consisted of the SDC curriculum with parent training workshops and community components. The programme aimed to influence youth's social domains. The parent-training component focused on parent-child communication, and reinforced the skills taught in the SDC curriculum. The control group was the *Health Enhancement Curriculum* (HEC). It offered the same number of lessons as the SDC did but focused on nutrition, physical activity, and general health care.

Family Talking Together

Guilamo-Ramos et al. (2011) evaluated a brief, parent-based intervention aiming to reduce sexual risk behaviour among Latino and African American youth. The RCT was carried out with mothers who came to a clinic with their children for an annual physical examination. The intervention consisted of four main components: a) a 30-minute, face-to-face session, b) a written manual, c) two booster sessions and d) physician endorsement. Participants in the control group received standard care. Mothers and adolescents completed the baseline assessment and follow-up interview at nine months. Mothers in the control group received standard care.

Safer Choices

Kirby et al. (2004) evaluated the effectiveness of *Safer Choices*, a multi-component, school-based, HIV, STIs and pregnancy prevention for high school students. The programme focused on a school-wide change that could influence student behaviour, and consisted of five components: school organisation, curriculum and staff development, peer resources, parent education and school-community linkage. The parent education programme provided activities for parents aiming to improve parent-child communication. Parents received three newsletters a year that provided information about the programme, information about HIV/AIDS/STIs and pregnancy, and advice on parent-child communication. Parents were also involved in planning other parent-related activities in school. The comparison schools implemented a standard five-session, classroom-based curriculum and other school activities.

Informed Parents and Children Together (ImPACT)

Li et al. (2002) examined the parental monitoring intervention – ImPACT – aiming to increase parental monitoring and parent-child communication regarding risk and protective behaviours among young African Americans. A 22-minute video was viewed by parents and/or young people at home. The video contained information regarding the importance of parental monitoring and risk and protective behaviours. It also contained a condom demonstration, negotiation techniques and main messages targeting the parents of adolescents. After viewing the video, there were activities including discussions and role-plays. A copy of the video and written manuals was given to parents. The intervention was delivered once and lasted approximately 60-90 minutes. Participants in the control condition received the GFI programme, which consisted of a 22-minute video focusing on education and career planning. After viewing the video,

parents and children were given workbooks which aimed to help them to plan and implement a long-term goal. The entire session lasted approximately 60 minutes, 20 minutes for video and 40 minutes for the workbooks. There were no discussions of parental monitoring, communication, HIV risk and prevention and skill training in the GFI programme.

Strong African American Families (SAAF)

Murry et al. (2007) evaluated the effectiveness of the SAAF programme on young African American sexual risk behaviours. It consisted of seven weekly one-hour sessions delivered at a community centre. Parents and young people received a skills-building curriculum and a family curriculum. Each meeting included separate, concurrent training sessions for parents and young people, then a session attended by young people and parent together to practise skills learned from the separate sessions. In the control group, families received three pamphlets providing information on adolescent development, stress management and exercise.

School-based education programme

Nagamatsu (2011) evaluated the effectiveness of an extended HIV intervention for students in Japan. The intervention was multi-component, and designed for students, parents and teachers. The parent education component aimed to improve self-esteem and self-protection of young people through their parents. Healthcare professionals including a midwife, a gynaecologist and school nurses, provided training for the parents. Homework assignments were given to the parents and students to improve parent-child communication. Teacher education delivered by healthcare professionals aimed to provide teachers with knowledge about development and risk prevention,

methods of education to improve self-esteem, and negotiation skills. Classroom teachers then conducted two small-group discussions with students to improve communication and negotiation skills. Students also wrote essays about the programme after the group discussion. Student group education delivered by health professionals aimed to provide knowledge about HIV and sex, and to improve self-esteem. Individual counselling was also given to students who had questions and worries about their education. Students in the control group received two group sessions delivered by healthcare professionals. In addition, information was provided to parents and teachers after the final assessment. Students in the control group were given individual counselling if they requested it.

Familias Unidas

Pantin and colleagues (2009) and Prado and colleagues (2012) evaluated the efficacy of *Familias Unidas*, a parent-centred intervention aiming to prevent substance use, unsafe sexual behaviours and externalising orders in Hispanic youth with behaviour problems (Pantin et al., 2009) and in delinquent youth (Prado et al., 2012). *Familias Unidas* in the Pantin et al. (2009) study was delivered in nine sessions, ten family visits and four boosters. In the Prado et al. (2012) study, the intervention was delivered in eight group sessions and four family visits. The intervention aimed to provide parents with knowledge and skills through PSNs, family visits and various group activities. The control families were given standard referrals to agencies that worked with youth with behaviour problems.

Familias Unidas plus Parent-Preadolescent Training for HIV Prevention (PATH)

Prado et al. (2007) evaluated the efficacy of a combination of two interventions – *Familias Unidas* plus *PATH* – aiming to prevent substance use and unsafe sexual

behaviour in Hispanic youth. The intervention was parent-centred, designed for parents (15 group sessions) with a small number of family visits (n=8) and parent-adolescent discussion circles (n=2). *Familias Unidas* aimed to prevent substance use and sexual risk behaviours through promoting family cohesion, parent-child communication and parenting skills. *PATH* was a curriculum-based intervention designed to promote young people's safe sex behaviour by training parents to become effective HIV educators. Family visits aimed to help parents to work with adolescents and practising skills learned from the group sessions. Adolescents also participated in discussion circles in group sessions delivered by trained facilitators. There were two control groups in the study: *English for Speakers of Other Languages* (ESOL) + *PATH* and *ESOL + Heart Power for Hispanic* (HEART). *ESOL* was used as an attention control for *Familias Unidas* and *HEART* was used as an attention control for *PATH*. All three groups were delivered for an average of 49 hours in Spanish (*ESOL* was also delivered in English).

ImPACT+Focus on Kids (FOK)

Stanton et al. (2004) examined whether young people who received a parental monitoring intervention – *ImPACT* – in addition to a risk reduction intervention – *FOK* – would gain additional benefits on their risk behaviour. *ImPACT* was a home-based intervention providing parental knowledge and skills on monitoring and communication through a 20-minute videotape and interactive activities. All young people also received an eight-session risk-reduction intervention that focused on decision-making, goal setting, communication and negotiation skills, and knowledge and information related to sex, abstinence, drug use and other risk behaviours. Participants who received the *ImPACT* intervention were also randomly assigned to the *FOK* booster sessions

delivered at 7, 10, 13 and 16 months after intervention. In the control group, participants received only the *FOK* intervention.

Youth AIDS Prevention Project (YAPP)

Weeks et al. (1997) examined the effectiveness of a school-based intervention program – *YAPP*. The programme aimed to promote AIDS knowledge and improve the sexual health attitudes, intentions and behaviours of students. Fifteen school districts were randomly assigned to two treatment conditions – Parent-interactive intervention and parent non-interactive intervention – and the control group. Both treatment conditions received classroom sessions and homework assignments for students and parents' meetings. The parent interactive condition received extra homework assignments that were required to work with children and additional parent meetings at schools. The control group received basic AIDS education provided by the school.

4.2.2 Characteristics of the included studies

A total of 17 FIHIs (see table 4.2 and further details in Appendix 9) were evaluated across the 18 studies. Two studies evaluated the same intervention programme (*Familias Unidas*), but one focused on delinquent youth (Prado et al., 2012) and the other on youth with behaviour problems (Pantin et al., 2009). Although the search imposed no restrictions by geographical location, the majority of the identified studies were carried out in the US (n=14). The remaining studies were carried out in Mexico (n=1), Bahamas (n=1), Japan (n=1) and Zimbabwe (n=1). All studies were designed to target young people or parents of young people aged between 10 and 17 years. All but two trials (Campero et al., 2011; Nagamatsu et al., 2011) were randomised controlled

trials (RCTs). The study by Campero et al. (2011) originally started as a clustered RCT; however, due to high attrition rate (more than 50%), the study design was adapted to a quasi-experiment trial with non-random allocation to groups. Nagamatsu et al. (2011) selected four junior public schools in Saga Prefecture randomly and then divided them into two groups, intervention and control.

Most studies aimed to assess the effect of the interventions on specific or vulnerable groups including families from ethnic minority groups (Dancy et al., 2009; Dilorio et al., 2007b; Dilorio et al., 2006; Flay et al., 2004; Li et al., 2002; Murry et al., 2007; Pantin et al., 2009; Prado et al., 2007; Prado et al., 2012; Guilamo-Ramos et al., 2011), low socio-economic status (SES) backgrounds (Dancy et al., 2009; Flay et al., 2004; Li et al., 2002; Pantin et al., 2009; Stanton et al., 2004; Weeks et al., 1997), urban areas (Dilorio et al., 2007b; Dilorio et al., 2006; Flay et al., 2004; Guilamo-Ramos et al., 2011; Li et al., 2002; Pantin et al., 2009; Stanton et al., 2004; Weeks et al., 1997), rural (Cowan et al., 2010; Dancy et al., 2009; Murry et al., 2007) or young people with behaviour problems (Pantin et al., 2009; Prado et al., 2012). One trial also targeted out-of-school youths (Cowan et al., 2010).

Control groups included standard care/provision depending on the setting (e.g. usual education programmes or normal healthcare procedure) (Blake et al., 2001; Guilamo-Ramos et al., 2011; Kirby et al., 2004; Pantin et al., 2009; Pantin et al., 2009; Prado et al., 2012; Weeks et al., 1997); workshops or education materials that provided basic health, sexual health or HIV knowledge (Campero et al., 2011; Dancy et al., 2009; Dilorio et al., 2007b; Dilorio et al., 2006; Flay et al., 2004; Murry et al., 2007; Nagamatsu et al., 2011; Stanton et al., 2004); or delayed intervention (Cowan et al.,

2010). One study offered a curriculum on natural resources and wildlife plus a video about career and school preparation to participants in the control condition (Chen et al., 2010). Participants in the control group in one study received a video about career and education planning (Li et al., 2002). Two studies had more than one control groups (Dancy et al., 2009; Prado et al., 2007).

Unit of allocation

Of the16 RCT studies, 11 employed a clustered RCT design: one was clustered by classroom (Blake et al., 2001), three by school (Chen et al., 2010; Flay et al., 2004; Kirby et al., 2004), four by community (Cowan et al., 2010; Dilorio et al., 2007b; Dilorio et al., 2006; Stanton et al., 2004), one by county (Murry et al., 2007), one by school district (Weeks et al., 1997), and one by study site (Dancy et al., 2009). The study by Cowan and colleagues (2010) was initially designed as a school-based intervention. However, due to the decline in school attendance and out-migration during the trial period, the intervention became a community-based intervention and subsequently, population-based data was used to analyse the impact of the intervention rather than data derived from participants from the original school cohorts.

Method of randomisation

Of the sixteen RCT studies, three studies employed a block randomisation design (Flay et al., 2004; Kirby et al., 2004; Murry et al., 2007); two implemented urn randomisation (Pantin et al., 2009; Prado et al., 2007); four studies randomly assigned participants using a random table number (Chen et al., 2010; Li et al., 2002; Prado et al., 2012;

Stanton et al., 2004), and one used a computer (Dilorio et al., 2006). Blake and colleagues randomly assigned classrooms by quarterly marking period within schools (Blake et al., 2001). Five did not discuss how the participants/groups were assigned to the conditions (Cowan et al., 2010; Dancy et al., 2009; Dilorio et al., 2007b; Guilamo-Ramos et al., 2011; Weeks et al., 1997).

Allocation concealment and blinding procedure

Allocation concealment and blinding are important methodological features in rigorous controlled studies. Allocation concealment can minimise the chance of allocating participants with better prognosis to a preferable treatment group, producing findings that are likely to be overestimated (Hewitt et al., 2005; Pildal et al., 2005). Although it is not always possible to implement and it is difficult to assess quality, blinding the process of group allocation to participants and other key staff (e.g. persons who deliver or assess the trial's outcomes) can potentially yield more reliable findings (Boutron et al., 2005). In this review, the majority of the studies did not state whether the participants, facilitators, project staff or those who enrolled participants, collected and analysed data were blinded to the treatment conditions. Only four studies indicated whether the randomisation process was concealed and/or the treatment conditions were unknown to the participants. Blake et al., (2001) indicated that youth leaders who delivered the intervention were aware of which classrooms received homework assignments and which did not. Dilorio et al. (2006) indicated that the participants were given information about the intervention to which the site was assigned. Blinding procedures were implemented during the data collection stage in one study (Prado et al.,

2012). Li and others (2002) indicated that young people and parents were not aware of the assignment.

Self-reported data

All but one study (Cowan et al., 2010) presented and analysed self-reported outcomes. Thirteen studies reported employing techniques to increase the accuracy and reliability of self-report data; six did so by guaranteeing confidentiality of the data to participants (Campero et al., 2011; Chen et al., 2010; Dancy et al., 2009; Flay et al., 2004; Guilamo-Ramos et al., 2011; Kirby et al., 2004), one by using a password to protect the database (Cowan et al., 2010), five by using a computer software to collect data (Li et al., 2002; Pantin et al., 2009; Prado et al., 2007; Prado et al., 2012; Stanton et al., 2004), and one by collecting data in private (Murry et al., 2007).

Adherence and fidelity

Implementation fidelity of the intervention programme as intended could influence the effectiveness of interventions programmes (O'Donnell, 2008). Research suggests some key factors that could influence the fidelity of programme implementation in a school setting, including organisational capacity, organisational support (e.g. training, supervision), programme features (e.g. manuals, implementation standards), and local planning (Gottfredson and Gottfredson, 2002).

Eight studies evaluated interventions that were developed based on an existing empirically supported intervention or from previous research (Blake et al., 2001; Chen

et al., 2010; Li et al., 2002; Murry et al., 2007; Pantin et al., 2009; Prado et al., 2007; Prado et al., 2012; Stanton et al., 2004). Empirical research carried out as part of programme development involving adolescents, parents and communities were discussed in six studies (Blake et al., 2001; Chen et al., 2010; Cowan et al., 2010; Dancy et al., 2009; Li et al., 2002; Murry et al., 2007). Other interventions were developed by government departments in the Bahamas (Chen et al., 2010), were based on primary research to develop materials and design activities (Guilamo-Ramos et al., 2011; Li et al., 2002), or were adapted to the local context and piloted before finalising the intervention design (Flay et al., 2004). Four studies did not provide information on how the intervention programme was developed (Campero et al., 2011; Dilorio et al., 2007b; Nagamatsu et al., 2011; Weeks et al., 1997).

Seven studies described strategic attempts made to improve participant responsiveness or to complete tasks and activities (Blake et al., 2001; Campero et al., 2011; Dilorio et al., 2007b; Murry et al., 2007; Pantin et al., 2009; Prado et al., 2012; Weeks et al., 1997). One study involving homework assignments to be completed together by young people and parents encouraged young people to complete the tasks with other adults or with project staff if they felt uncomfortable talking with their parents about sex (Blake et al., 2001). Campero and colleagues (2011) sent a reminder to parents before intervention started. One study provided manuals to assist with the homework assignments and adherence to the class activities (Dilorio et al., 2007b). One study provided transportation and childcare for siblings, offered a meal at each meeting, and sent a postcard weekly to encourage participation (Murry et al., 2007). Trained facilitators visited family homes before the formal intervention began to address barriers to participating in the intervention (Pantin et al., 2009; Prado et al., 2012).

Twelve studies provided training for programme facilitators and research staff in the skills needed to successfully implement the programmes (Blake et al., 2001; Campero et al., 2011; Cowan et al., 2010; Dancy et al., 2009; Dilorio et al., 2006; Flay et al., 2004; Kirby et al., 2004; Li et al., 2002; Murry et al., 2007; Pantin et al., 2009; Prado et al., 2007; Weeks et al., 1997). Programme delivery was monitored and supervised in four studies (Blake et al., 2001; Dancy et al., 2009; Dilorio et al., 2006; Flay et al., 2004). Intervention sessions were videotaped and evaluated in four studies (Dilorio et al., 2006; Murry et al., 2007; Pantin et al., 2009; Prado et al., 2012).

Moreover, eleven studies offered incentives to encourage participation and adherence to the intervention (Blake et al., 2001; Chen et al., 2010; Cowan et al., 2010; Dilorio et al., 2007b; Flay et al., 2004; Guilamo-Ramos et al., 2011; Murry et al., 2007; Pantin et al., 2009; Prado et al., 2007; Prado et al., 2012; Weeks et al., 1997). At the same time, cultural or context-specific aspects of the intervention that were considered in the programme implementation were discussed in nine studies (Chen et al., 2010; Cowan et al., 2010; Flay et al., 2004; Li et al., 2002; Murry et al., 2007; Nagamatsu et al., 2011; Pantin et al., 2009; Prado et al., 2007; Prado et al., 2012).

Clustered RCTs

Whilst randomisation is one of the most important aspects of RCTs to minimise selection bias, it may be difficult to implement due to limited resources and ethical concerns. Clustered RCTs may be preferable for practical or methodological reasons (e.g. avoiding contamination, naturally occurring groups or classrooms) (Hahn et al., 2005). However, cluster RCTs can introduce selection bias with potential for group differences at baseline through recruitment procedures. For example, with clustered

RCTs, it may be not feasible to conceal treatment allocation (Hahn et al., 2005). In this review, one clustered RCT did not report whether group equivalence at baseline was assessed (Cowan et al., 2010). Nine clustered RCTs reported significant differences between groups at baseline (Blake et al., 2001; Chen et al., 2010; Dancy et al., 2009; Dilorio et al., 2007b; Dilorio et al., 2006; Flay et al., 2004; Kirby et al., 2004; Murry et al., 2007; Weeks et al., 1997). However, all clustered RCTs in this review attempted to control for potential confounding of baseline characteristics by covariance adjustment.

Of the 11 clustered RCTs, only one did not address the issues of clustering or did not undertake statistical analysis taking the clustering effect into account to minimise the risk of a Type 1 error (Weeks et al., 1997). The majority performed multi-level analyses to address potential biases arise from clustering (Blake et al., 2001; Chen et al., 2010; Cowan et al., 2010; Dancy et al., 2009; Dilorio et al., 2006; Flay et al., 2004; Kirby et al., 2004; Stanton et al., 2004). One assessed the effect of clustering and found no evidence of bias in individual-level analyses (Murry et al., 2007). One study used a community site as the unit of analysis (Dilorio et al., 2007b).

Attrition

Attrition can pose a significant threat to internal and external validity (Harris, 1998). Internal validity could be compromised if the equivalence between groups and the randomisation composition is altered due to attrition. Generalisation may be limited when the dropouts differ from those who remain or complete a study, and results cannot be generalised based on an original sample of subjects (Karlson and Rapoff, 2009). Attrition rates were reported or could be calculated from available data in all but one

study (Cowan et al., 2010). The attrition rates at the final assessment point ranged from 4.14 % (Prado et al., 2012) to 66.9% (Campero et al., 2011). Seven studies (Campero et al., 2011; Dancy et al., 2009; Kirby et al., 2004; Li et al., 2002; Prado et al., 2007; Stanton et al., 2004; Weeks et al., 1997) reported attrition of more than 20% at one or more follow-ups. Of these, intention-to-treat (ITT) analyses were performed in four studies (Campero et al., 2011; Dancy et al., 2009; Prado et al., 2007; Weeks et al., 1997). Overall, three studies reported reasons why participants dropped out or were lost to follow-up in the studies (Campero et al., 2011; Flay et al., 2004; Kirby et al., 2004); nine reported attrition analysis including whether those who dropped out or were lost to follow-up were different from those who remained in the study (Campero et al., 2011; Dancy et al., 2009; Dilorio et al., 2006; Kirby et al., 2004; Stanton et al., 2004; Weeks et al., 1997), or whether attrition rates were different between groups (Chen et al., 2010; Prado et al., 2012; Stanton et al., 2004).

Overall quality of studies

All studies have been assessed for *risk of bias* using the coding framework developed from the existing tools (Downs and Black, 1998; Higgins and Altman, 2008) (see Appendix 4 for the coding framework). Of eighteen studies, eleven were considered to be at *low* risk of bias, whilst the remaining seven studies were rated to be at *high* risk of bias (Table 4.2). Studies rated as having *low* risk of bias were those deemed to minimise selection and attrition bias and confounding by study design, in the selection of study participants, and/or the analysis of results.

Table 4.2: Key characteristics of included studies

Study/	Country	Population	Design	Control group	Follow up	Attrition*	ITT	Risk of bias
Blake (2001)	US	8th Grade, Middle class, Sub urban	C-RCT	Standard care	7 mo.	9.8%	No	High
Campero (2011)	Mexico	10th grade (M= 15.2 years)	NCT	Basic education	6 mo.	66.9% (A)	Yes	High
Chen (2010)	Bahamas	Grade 6 (M= 10.5 years)	C-RCT	WW+GFI	6,12, 18, 24, 36 mo.	18.3%	No	Low
Cowan (2010)	Zimbabwe	In and out school youth, Rural	C-RCT	Delayed	3-y years	N/S	Yes	High
Dancy (2009)	US	Young women aged 11-14 (M =12.4)	C-RCT	MDHP; HERR	Post and 6 mo.	23.5%	Yes	Low
Dilorio (2006)	US	11-14 years (M = 12.1-12.4), AA, Urban	C-RCT	Basic education	4, 12, 24 mo.	7.2% (SCT), 9.1% (LSK)	Yes	Low
Dilorio (2007b)	US	Boys, 11-14 years (M=12.8), AA, Urban	C-RCT	Basic education	3, 6, 12 mo.	20%	Yes	Low
Flay (2004)	US	5th to 8th grade, AA, Urban, Low SES	C-RCT	Basic education	12,24,36 mo.	N/S	N/S	High
Guilamo-Ramos (2011)	US	11-14 years (M=12.9), AA, and Latino American, Urban	RCT	Standard care	9 mo.	5.4%	No	Low
Kirby (2004)	US	9th grade	C-RCT	Standard care	7, 19, 31 mo.	21%	No	Low
Li (2002)	US	12-16 years, AA, Urban, Low SES	RCT	GFI	2, 6, 12 mo.	24%	No	Low
Murry (2007)	US	11 years (M= 11.2), AA, Rural, Low SES	C-RCT	Basic education	7, 29 mo.	14.5%	No	Low
Nagamatsu (2011)	Japan	13-14 years	NCT	Basic education	3 mo.	12.3%	No	High
Pantin (2009)	US	Young people (M = 13.8), Hispanic, Urban, Low SES, problem behaviours	RCT	Standard care	6, 18, 30 mo.	14.6%-16.3%	Yes	Low
Prado (2007)	US	8th student (M=13.4 years), Hispanic, 60% immigrant family	RCT	1) ESOL+HEART 2) ESOL+PATH	6, 12, 24, 36 mo.	16.6%-23%	Yes	Low
Prado (2012)	US	12-17 years, Hispanic, Delinquent youth	RCT	Standard care	6 mo.	4.14%	N/S	Low
Stanton (2004)	US	13-16 years old (Median = 14 years old), low SES, Urban	C-RCT	FOK only	6, 12, 18, 24 mo.	40%	No	High
Weeks (1997)	US	7th and 8th grades (M=12.6 years), Urban, Low SES	C-RCT	Standard care	1-2 academic years	50.9%-60.2%	Yes	High

* At longest assessment; (A) = Adolescents; AA = African American; N/S = Not stated; ITT = Intention to Treat; ESOL = English for Speakers of Other Languages; HEART = Heart Power for Hispanics; GFI = Goal For It; MDHP = The mother/Daughter Health Promotion curriculum; HERR = Health Expert HIV Risk Reduction curriculum; WW = Wondrous Wetland; PATH: Parent-preadolescent Training for HIV intervention; FOK = Focus of Kids; SES = Socio-economic Status; C-RCT = Clustered Randomised Controlled Trial; NCT =Non Random Controlled Trial

4.2.3 Impact of family-involved HIV interventions on biological and sexual behaviour outcomes

HIV and Herpes Simplex Virus-2 (HSV-2) prevalence

No *low* risk of bias study reported the effect of the FIHIs on biological outcomes (HIV prevalence, HSV-2 prevalence). Only one *high* risk of bias study reported prevalence of biological outcomes (Cowan et al., 2010). The study found no significant effect of the FIHI on HIV prevalence (adjusted OR= 1.20, 95% CI= 0.66, 2.18 for boys; adjusted OR =1.15, 95% CI=0.81, 1.64, for girls) or HSV-2 prevalence (adjusted OR= 1.23, 95%CI= 0.69, 2.18 for boys: adjusted OR =1.24, 95% CI= 0.93, 1.65, for girls).

Self-reported STIs

Two *low* risk of bias studies found no significant effect of FIHIs on self-reported STIs compared with standard care by community services (Prado et al., 2012), or compared with other active interventions (Prado et al., 2007) (see Table 4.3). One *high* risk of bias study also found no significant effect of FIHIs on self-reported STIs (OR = 1.00; CI 95% = 0.855, 1.173) (Cowan et al., 2010) (see Figure H in Appendix 10 for the Forest Plot).

Table 4.3: FIHI studies reporting self-reported STI incidence

Effects of the interventions are expressed as odds ratios and 95% CI

Studies	Control	Follow-up	No. at analysis (intervention/ control)	Effect of intervention	95% CI
Low risk of bias studies					
Prado 2007	Other active interventions	36 mo	80/85[a] 80/81[b]	0.09 0.34	(0.01, 1.67) (0.01, 8.41)
Prado, 2012	Standard care	6 mo	110/113	0.68	(0.11, 4.14)
High risk of bias studies					
Cowan 2010	Delayed	4 years[c]	2255/2263	1.00	(0.86, 1.17)

[a] *Familias Unidas +PATH vs. ESOL + HEART (attention control for Familias Unidas+ PATH)*
[b] *Familias Unidas + PATH vs. ESOL+PATH (control for dosage and participants' contact with Familias Unidas)*
[c] *After baseline assessment*

Pregnancy

No *low* risk of bias study reported the effect of the FIHIs on pregnancy outcomes. The findings from *two* high risk of bias studies were inconclusive. One *high* risk of bias study found no significant difference between the *Regai Dzive Shiri* intervention and the control group (OR = 0.98, CI, 95% = 0.85, 1.13) (Cowan et al., 2010). Another *high* risk of bias study assessed self-reported pregnancy (or "got a girl pregnant" reported by males) and found a significant difference between young people in the risk reduction and parental involvement intervention (*FOK + ImPACT*) versus the risk reduction intervention (*FOK*) only group (OR = 0.53, CI, 95% = 0.31-0.91) (Stanton et al., 2004) (see Figure I in Appendix 10 for the Forest Plot).

Sexual initiation

Five *low* risk of bias studies reported the incidence of sexual initiation (ever had sex). One study found a significant short-term effect[5] in delaying sexual initiation among young people in the family-involved HIV groups compared to those in control groups (OR=0.24, 95% CI=0.11, 0.55) (Guilamo-Ramos et al., 2011). However, another four *low* risk of bias and three *high* risk of bias studies found no significant effect of the interventions in delaying sexual initiation, assessed at both short-term and long-term follow-ups (Blake et al., 2001; Chen et al., 2010; Cowan et al., 2010; Dilorio et al., 2007b; Dilorio et al., 2006; Kirby et al., 2004; Weeks et al., 1997). One *high* risk of bias study found a significant effect of the FIHIs compared to the control group in delaying sexual initiation at short-term assessment (OR = 0.58, 95% CI = 0.38,0.89) (see Table 4.4 and Figure J in Appendix 10 for the Forest Plot).

Table 4.4: Effect of FIHI studies on sexual initiation

Effects of intervention are expressed as odds ratios and 95% CI

Studies	Control	Follow-up	No. at analysis	Effects of intervention	95% CI
Sexual initiation (ever had sex)					
Low risk of bias studies					
Chen (2010)	Active intervention	12 mo.	399/432[a]	1.24[c]	(0.57,2.69)
			381/432[b]	0.86[c]	(0.38,1.94)
		18 mo.	369/416[a]	1.40[c]	(0.82,2.40)
			365/416[b]	1.14[c]	(0.66, 2.00)
		24 mo.	389/417[a]	1.33	(0.97, 1.81)
			366/417[b]	1.00	(0.73, 1.39)

[5] In this review, short-term refers to outcomes measured at less than 12 months. Long-term refers to outcomes measured at 12 months or more.

Studies	Control	Follow-up	No. at analysis	Effect of intervention	95% CI
Guilamo-Ramos (2011)	Standard care	9 mo.	124/126	0.24	(0.11, 0.55)
Kirby (2004)	Standard care	7 mo. [d]	2565	1.13	(0.71, 1.82)
		19 mo. [d]	-	0.83	(0.52, 1.33)
		31 mo. [d]	2029	0.83	(0.54, 1.27)
Dilorio (2007b)	Nutrition and exercise programme	3 mo.	121/119	0.69	(0.38, 1.29)
		6 mo.	121/119	0.73	(0.42, 1.29)
		12 mo.	121/119	1.05	(0.61,1.81)
Dilorio (2006)	Active intervention	4 mo.	178/180 [e]	0.67	(0.37, 1.22)
			191/180 [f]	0.62	(0.34, 1.13)
		12 mo.	174/183 [e]	0.69	(0.34, 1.20)
			187/183 [f]	0.81	(0.48, 1.38)
		24 mo.	170/175 [e]	0.95	(0.58, 1.54)
			180/175 [f]	1.02	(0.64, 1.64)
High risk of bias studies					
Blake (2001)	Standard care	Post-intervention	190/161	0.69	(0.29, 1.64)
Campero (2011)	Active intervention	6 mo.	320/651	0.58	(0.38, 0.89)
Cowan (2010)	Delayed intervention	4 years [d]	2255/2263	1.02	(0.90, 1.14)
Weeks (1997)	Standard care	2 academic years [d]	274/458[g]	1.01	(0.75, 1.37)
			348/458[h]	1.15	(0.86, 1.52)

[a] *Young people HIV intervention plus a parental monitoring/communication/HIV education intervention vs. control (FOYC+CImPACT vs. WW+GFI)*
[b] *Young people HIV intervention plus a parental goal-setting intervention vs. control (FOYC+GFI vs. WW+GFI)*
[c] *Adjusted for age, gender, and baseline differences*
[d] *After baseline assessment*
[e] *Life Skills programme (LSK): mothers and daughters met 7 times over a 14-week period*
[f] *Social cognitive-based intervention (SCT): 2-hour session, mothers and children attended 4 sessions together*
[g] *Parent non-interactive intervention vs. control;* [h]*Parent-interactive intervention vs. control*

Recent sexual intercourse

Three *low* risk of bias studies reported on recent sexual intercourse and found no significant effect of the FIHIs on recent sexual intercourse episodes compared to other active interventions (Dancy et al., 2009) and compared to standard care (Li et al., 2002; Pantin et al., 2009).

Three *high* risk of bias studies found no significant effect of the FIHIs on recent sexual intercourse (Blake et al., 2001; Flay et al., 2004; Nagamatsu et al., 2011). Only one *high* risk of bias study found that at the six-month assessment, young people in families that received an HIV risk-reduction intervention together with parental monitoring and communication intervention (*FOK + ImPACT*) reported a significantly lower rate of recent sexual intercourse compared with those whose families received only the *FOK* intervention (0.37 vs. 0.43, p=0.05). However, at 24-month follow up, the study found no significant effect of the FIHIs on young people's recent sexual intercourse (Stanton et al., 2004) (see Table 4.5).

Table 4.5: FIHI studies reporting incidence of recent sexual intercourse

Effects of intervention are expressed as odds ratios and 95% CI, unless stated otherwise

Studies	Control	Follow-up	No. at analysis	Effect of intervention	95% CI, unless stated otherwise
Low risk of bias studies					
Pantin (2009)	Standard care	6, 18, 30 mo.	109/104	0.05 [a]	p =0.86[b]
Dancy (2009)	Active intervention	Post intervention	403	-0.56[c]	NS [d]

Studies	Control	Follow-up	No. at analysis	Effect of intervention	95% CI, unless stated otherwise
		6 mo.	412	-0.46 [c]	NS [d]
Li (2002)	Active intervention	12 mo.	90/89 [e]	0.96	(0.49, 1.88)
High risk of bias studies					
Stanton (2004)	Active intervention	6 mo. [f]	367/241	0.37 vs. 0.43 [g]	p =0.05
		12 mo. [f]	337/243	0.36 vs. 0.35 [g]	NS [d]
		24 mo.	295/199	0.96	(0.63,1.48)
Flay (2004)	Active intervention	3 years	366/372 [h]	0.96	(0.71, 1.29)
			366/417 [i]	0.87	(0.66, 1.18)
Blake (2001)	Standard care	Post-intervention	190/161	0.71	(0.24, 2.18)
Nagamatsu (2011)	Delayed intervention	3 mo.	143/259	0.90	(0.16, 4.99)

[a] *Effect size= d, based on growth curve modelling*
[b] *b=-0.03, z=-0.17*
[c] *Mean difference between groups, yes or don't know or refuse to answer=1, no=0*
[d] *Based on t-tests analysis, p values were not reported*
[e] *Estimated from a total of 179 parent-child dyads, 50% control and 50% intervention dyads*
[f] *Mean and p values were adjusted for baseline scores*
[g] *FOK+ImPACT vs. FOK only (attention control group for parents)*
[h] *School/community intervention (SCI) vs. Health enhancement curriculum (HEC)*
[i] *School/community intervention (SCI) vs. Social development curriculum (SDC)*

Frequency of sexual intercourse

Three *low* risk of bias studies reported on the frequency of sexual intercourse among young people (Chen et al., 2010; Guilamo-Ramos et al., 2011; Kirby et al., 2004). One study found a significant difference at short-term assessment (at 9-month follow up) in the frequency of sexual intercourse in the past 30 days (rated on a scale from 1= never to 4 = once a week or more) for young people in the parent-based sexual risk reduction (M= 1.08) compared with standard care (M=1.53), p=0.05 (Guilamo-Ramos et al.,

2011). However, two studies found no significant benefit of the FIHIs on the frequency of sexual intercourse in the previous three months compared with standard care (Kirby et al., 2004) and in the previous six months compared with active intervention (Chen et al., 2010). One *high* risk of bias study found no significant benefit of the FIHIs (Weeks et al., 1997)

Table 4.6: FIHI studies reporting frequency of sexual intercourse

Effects of intervention are expressed as odds ratios and 95% CI, unless stated otherwise.

[a] *Mean scores, t-test (262) =4.06*

Studies	Control	Follow-up	No. at analysis	Effect of intervention	95% CI, unless stated otherwise
Low risk of bias studies					
Guilamo-Ramos (2011)	Standard care	9 mo.	264	1.08 vs. 1.53 [a]	p=0.05
Kirby (2004)	Standard care	7 mo.	965	1.16[b]	p=0.35
		19 mo.	-	0.96[b]	p= 0.76
		31 mo.	1371	0.81[b]	p= 0.12
Chen (2010)	Active intervention	6 mo.	417/405/460 [c]	0.02 vs. 0.02 vs. 0.02 [d]	NS
High risk of bias study					
Weeks (1997)	Standard care	1 academic year	491/600/751 [e]	Not at all= 79.5%/78.5%/77.7%; Less than once a week= 8.5%/12.5%/10.1%; Once a week or more= 12.0%/9.0%/12.2%	NS [f]
		2 academic years	274/348/458 [e]	Not at all= 81.8%/83.7%/83.3%; Less than once a week= 6.2%/7.9%/7.6%; Once a week or more= 12%/8.4%/9.1%)	NS [g]

[b] *Ratio of adjusted mean used to estimate overall effects for Poison or negative binomial models*
[c] *FOYC + CImPACT vs. FOYC+GFI vs. WW+ GFI*
[d] *Mean frequency examined using the general linear modelling controlling for age, sex and corresponding baseline variables*
[e] *Parent non-interactive intervention/parent interactive intervention/control (standard care)*
[f] *Time (7th year vs. 8th year) * Treatment (non-parent interactive and parent interactive interventions vs. control)*
[g] *Time (7th year vs. 9th year) * Treatment (non-parent interactive and parent interactive interventions vs. control)*

Condom use

Seven *low* risk of bias studies reported the effect of the FIHIs on self-reported condom use (Chen et al., 2010; Dilorio et al., 2007b; Dilorio et al., 2006; Kirby et al., 2004; Pantin et al., 2009; Prado et al., 2007; Prado et al., 2012). All seven studies found significant benefits of the FIHIs on one or two self-reported condom use measures. Two studies found a significantly higher rate of self-reported condom use at last sex assessed at 24 months (X^2=6.89, p<0.05) (Dilorio et al., 2006), and at 31 months follow-up (OR= 1.68; CI 95% = 1.03-2.74) (Kirby et al., 2004). One study found that at short-term follow-up, young people in the *Familias Unidas* were less likely to report inconsistent condom use compared with those in the standard care (RR = 0.61; CI 95% = 0.39, 0.87) (Prado et al., 2012). One study found that sexually experienced young people in the FIHI group reported significantly higher frequency of condom use from 6 months to 30 months after baseline assessment compared with those who received standard care (p<0.03) (Pantin et al., 2009). One study found that young people in the FIHI group (*FOYC+CImPACT*) reported a significantly higher rate of consistent condom use (always use a condom) than young people who received another active intervention (*WW+ GFI*) at 36 months follow-up (OR =1.69; CI 95% = 1.05, 2.73), but not at 12, 18, or 24 months (Chen et al., 2010). In addition, Dilorio and colleagues (2006) reported a

significant interaction effect between intervention groups and four assessment points (baseline, 4, 12, and 24 months) on the rate of condom use in the past 30 days ($p = 0.02$) and in the past 6-12 months ($p = 0.01$) – with young people in the (multi-component, community involvement) LSK intervention reporting a higher condom use rate over time, whilst young people in SCT and control groups maintained the same level of condom use rate (Dilorio et al., 2006).

Five *low* risk of bias studies assessed the lack of condom use by sexually experienced young people (Chen et al., 2010; Dilorio et al., 2007b; Kirby et al., 2004; Prado et al., 2007; Prado et al., 2012). Three studies found that young people in the FIHI groups reported a significantly lower rate of sex without condom compared with young people in the standard care group ($p = 0.05$ at 31-month follow up) (Kirby et al., 2004), basic health knowledge group (23% vs. 57%, $p < 0.05$ at 12-months follow up) (Dilorio et al., 2007b) and another active intervention ($X^2 = 3.87$. $p < 0.05$, at 36-months follow-up) (Prado et al., 2007). Two studies found no significant benefit of the FIHIs on unprotected sex at short-term follow-ups (Chen et al., 2010; Prado et al., 2012); however, these studies reported the significant benefits of the FIHIs on other condom use outcomes. Three *high* risk of bias studies found no significant effect of the interventions on condom use at last sex when compared with standard care (Weeks et al., 1997), a risk-reduction intervention (Stanton et al., 2004) or a delayed intervention (Cowan et al., 2010) (see Table 4.7).

Table 4.7: FIHI studies reporting condom use and unprotected sex outcomes

Effects of intervention are expressed as odds ratios and 95% CI, unless stated otherwise.

Studies	Control	Follow-up	No. at analysis	Effect of intervention	95% CI, unless stated otherwise
Low risk of bias studies					
Condom use at last sex					
Dilorio (2006)	Active intervention	24 mo.	-	96 (0.6) vs. 100 (1.8) vs. 85 (-2.5)[a]	X^2=6.89, p<0.05
Kirby (2004)	Standard care	7 mo.	1018	1.91	(1.13, 3.24)
		19 mo.	-	1.51	(0.74, 3.09)
		31 mo.	549	1.68	(1.03, 2.74)
Used condom in the previous 30 days, 3 months and 6-12 months					
Dilorio (2006)	Active intervention	4, 12, 24 mo.	-	-	30 days: p= 0.02[b]; 3 months: p = 0.05[b]; 6-12 months: p = 0.01[b]
Consistent condom use					
Chen 2010	Active intervention	12 mo.	-	2.33 1.40	(0.79, 6.88)[c] (0.40, 4.92)[d]
		18 mo.	-	1.35 1.70	(0.48, 3.77)[c] (0.58, 4.96)[d]
		24 mo.	-	1.69 1.77	(0.83, 3.45)[c] (0.82, 3.83)[d]
		36 mo.	-	1.69 1.15	(1.05, 2.73)[c] (0.68, 1.94)[d]
Inconsistent condom use					
Prado 2012	Standard care	6 mo.	114	0.61[f]	(0.39, 0.87)
Condom use at first sex					
Kirby (2004)	Standard care	7 mo.[g]	285	0.68	(0.27, 1.74)
		19 mo.[g]	-	1.23	(0.66, 2.31)

Studies	Control	Follow-up	No. at analysis	Effect of intervention	95% CI, unless stated otherwise
		31 mo.[g]	733	1.44	(0.85, 2.45)
Frequency of condom use					
Pantin (2009)	Standard care	6 to 30 mo.	-	0.30[h]	p <0.03
Did not use condom at last sex					
Prado (2007)	Active intervention	36 mo.	26/27[i]	$X^2 = 3.87$	p < 0.05
Prado (2012)	Standard care	6 mo.	43/53	0.57	(0.24, 1.37)
Unprotected sex, adjusted means frequency					
Chen 2010	Active intervention	6 mo.	-	0.03 vs. 0.02 vs. 0.02 [j]	NS
Intercourse without a condom in the last 3 mo., ratio of adjusted means					
Kirby 2004	Standard care	7 mo.[g]	963	0.50	p =0.03
		19 mo.[g]	-	0.69	p= 0.14
		31 mo.[g]	1371	0.63	p=0.05
Ever had sexual intercourse without a condom					
Dilorio 2007b	Nutrition and exercise programme	3 mo.	-	23% vs48%	p =0.06 [k]
		6 mo.	-	32% vs. 57%	p = 0.02 [k]
		12 mo.	-	23% vs. 57%	p =0.04[k]
High risk of bias studies					
Unprotected sexual intercourse in the last 6 months					
Stanton 2004	Active intervention	6 mo.	367/241	0.15 vs. 0.29 [l]	0.005
		12 mo.	337/243	0.28 vs. 0.26 [l]	NS
Condom use at last sex					
Weeks (1997)	Standard care	2 academic years	120/198[m]	0.78	(0.42, 1.44)
			163/198[n]	1.00	(0.55, 1.82)
Stanton (2004)	Active intervention	24 mo.	54/75[o]	1.23	(0.55, 2.74)

Studies	Control	Follow-up	No. at analysis	Effect of intervention	95% CI, unless stated otherwise
Did not use condom at last sex					
Cowan (2010)	Delayed intervention	4 years[g]	2244/2253	1.02	(0.89, 1.16)

[a] *SCT vs. LSK vs. control, percentage (adjusted residual for the cell)*
[b] *Report only significance level of 3 (groups)*4 (times) repeated measures analysis of variance F test*
[c] *FOYC+CImPACT vs. WW+ GFI*
[d] *FOYC+ GFI vs. WW+ GFI*
[f] *Relative Risk*
[g] *After baseline assessment*
[h] *Growth curve analysis, b= -0.32, z=-2.29*
[I] *Familias Unidas + PATH vs. ESOL+PATH (control condition to Familias Unidas)*
[J] *FOYC+CImPACT vs. FOYC+GFI vs. WW+GFI; Mean frequency examined using the general linear modelling controlling for age, sex and corresponding baseline variables*
[k] *X^2 statistic for proportions*
[l] *means and p values were adjusted for baseline scores*
[m] *Parent non-interactive intervention vs. control (standard care)*
[n] *parent interactive intervention vs. control (standard care)*
[o] *FOK+ImPACT vs. FOK only*

Sexual partners

Two *low* risk of bias studies assessed the number of sex partner outcomes (Kirby et al., 2004; Prado et al., 2012). One study found a significant difference in the number of sexual partners in the previous three months between young people in the *Familias Unidas* intervention and those in standard care at short-term follow-up (Incidence Rate Ratio = 0.35, 95% CI = 0.28, 0.44) (Prado et al., 2012). However, the other study found that the FIHI had no significant effect on the number of young people's sexual partners in the previous three months (Kirby et al., 2004). One *high* risk of bias study found no significant effect on the number of partners (Cowan et al., 2010) (see Table 4.8).

Table 4.8: FIHI studies reporting sexual partner outcomes

Effects of intervention are expressed as odds ratios and 95% CI, unless stated otherwise.

Studies	Control	Follow-up	No. at analysis	Effect of intervention	95% CI, unless stated otherwise
Low risk of bias studies					
Number of sexual partners in the past 3 months					
Kirby (2004)	Standard care	7 mo.	998	0.91[a]	p =0.57
		19 mo.	-	0.93[a]	p =0.61
		31 mo.	1371	1.02[a]	p = 0.89
Prado (2012)	Standard care	6 mo.	114	0.35[b]	(0.28,0.44)
High risk of bias studies					
Two or more lifetime partner					
Cowan (2010)	Delayed intervention	4 years	1255/1263	1.12	(0.95, 1.32)
Two or more partners in last 12 months					
Cowan (2010)	Delayed intervention	4 years	1775/1891	0.95	(0.75, 1.21)

[a] *Ratio of adjusted mean*
[b] *Incidence Rate Ratio (IRR)*

Contraceptive use

Only one *low* risk of bias study reported contraceptive use outcomes and found that young people in the FIHI group were more likely to use contraceptives at last sex than those in the control group at short-term (OR=1.62, 95% CI= 1.05, 2.50) and long-term follow-ups (OR= 1.76, 95% CI =1.01, 3.07) (Kirby et al., 2004). One *high* risk of bias studies found no significant benefit of the FIHI on the use of pregnancy prevention when compared with delayed intervention (OR = 0.94, 95% CI = 0.79, 1,11) (Cowan et al., 2010). One *high risk* of bias study found that young people in a parental-monitoring intervention group were more likely to use birth control at last sex than those in a risk

reduction intervention group (*FOK only*) (OR 1.59, 95% CI = 1.04-2.43) (Stanton et al., 2004).

Overall sexual behaviour

One *low* risk of bias study found no significant effect of the FIHI compared with other active interventions on overall sexual behaviour risk (e.g. combining the sexual intercourse, condom use, or sexual partner questions) (Murry et al., 2007). One *high* risk of bias study supported the finding of no significant benefit (Stanton et al., 2004).

4.2.4 Impact of family-involved HIV interventions on non-sexual behaviour outcomes

Cigarette use

One *low* risk of bias study found a significant benefit on cigarette use outcomes. Young people in the FIHI group (*Familias Unidas + PATH*) were less likely to start smoking ($X^2 = 6.79$, $p<0.04$), or to smoke cigarettes in the previous three months when compared with those in the other active interventions ($p < 0.01$) (Prado et al., 2007). The findings from three *high* risk of bias studies were inconclusive (Campero et al., 2011; Nagamatsu et al., 2011; Stanton et al., 2004).

Alcohol use

One *low* risk of bias study found no significant effect of the FIHI (*Familias Unidas + PATH*) on young people's alcohol use initiation and the use of alcohol in the last 3

months when compared to young people in the other active interventions (Prado et al., 2007). The findings from five *high* risk of bias studies were inconclusive (Blake et al., 2001; Campero et al., 2011; Nagamatsu et al., 2011; Stanton et al., 2004; Weeks et al., 1997).

Illicit drug and substance uses

Two *low* risk of bias studies reported the impact of the FIHIs on illicit drug and substance use outcomes. Prado et al. (2007) found that over the period from baseline assessment to 30 and 36 month assessments, young people who were in the FIHI group (*Familias Unidas + PATH*) were less likely to engage in illicit drug use in the previous 90 days compared to those in the other active intervention (*ESOL+PATH*) (z=1.07,d=0.28, p=0.05). However, in the same study, the authors found no significant benefit of the intervention on the initiation of illicit drug use. Pantin et al. (2009) found a significant effect of the FIHI on young people's substance use in the previous 30 days compared to the standard care (b=0.53, z=2.42, p<0.02; d=0.25). The findings from the other three *high* risk of bias studies were inconclusive (Campero et al., 2011; Flay et al., 2004; Stanton et al., 2004).

Healthcare seeking behaviour

One *low* risk of bias study found no significant impact of the intervention (Kirby et al., 2004), as did one *high* risk of bias study (Cowan et al., 2010).

Other risk behaviours

Four *low* risk of bias studies reported other risk behavioural outcomes (Dilorio et al., 2007b; Dilorio et al., 2006; Kirby et al., 2004; Pantin et al., 2009). One study found a short-term significant benefit of the FIHI on young people's intimate behaviour (measured based on eight items which assessed the progression of sexual behaviour) compared to the nutrition and exercise intervention (p=0.05) (Dilorio et al., 2007b). However, Dilorio et al (2006) found no significant difference between the FIHI group and the control group on young people's intimate sexual behaviour (Dilorio et al., 2006). The other two *low* risk of bias studies found no significant effect of the interventions on other risk behavioural outcomes, including externalising disorder (Pantin et al., 2009) and use of alcohol and other drugs before sex (Kirby et al., 2004). The findings from the other *high* risk of bias studies on the effect of FIHIs were inconclusive (Campero et al., 2011; Flay et al., 2004; Stanton et al., 2004). See Table B in Appendix 10 for further detail of the findings of FIHIs on other risk behavioural outcomes.

4.2.5 Impact of family-involved HIV interventions on family outcomes

Seven *low* risk of bias studies assessed familial outcomes, including family functioning, parent-child communication and parental monitoring. Another five *high* risk of bias studies reported on familial outcomes (see Table C in Appendix 10 for further detail).

Family functioning

Three *low* risks of bias studies reported on family functioning (Pantin et al., 2009; Prado et al., 2007; Prado et al., 2012). All three studies found significant benefits of the FIHIs on family functioning reported by parents in the interventions. Pantin et al. (2009) measured family functioning, which included five parent-reported indicators: parent involvement; positive parenting; family support, parent-child communication and parental monitoring. The findings showed that parents in *Familias Unidas* reporting significantly greater improvements in family functioning compared with the community control condition ($F(1, 211)=17.5$, $p<0.001$).

Prado et al. (2012) also assessed the impact of the *Familias Unidas* intervention on family functioning using three indicators: positive parenting, parent-child communication and parental monitoring. The study found that family functioning was significantly different between the *Familias Unidas* and the community practice condition at six months post-baseline follow-up (Adjusted Mean Difference =0.29; 95% CI= 0.08, 0.50).

Finally, Prado et al. (2007) evaluated the effect of the FIHI on parent reports of family functioning using four indicators: parental involvement; positive parenting, family support and parent-child communication. The study found that there were significant differences in family functioning between the intervention (*Familias Unidas*+PATH) and the control groups (*ESOL+PATH* and *ESOL+HEART*). Although, subsequently, these three studies carried out post hoc analyses to explore specific components of

family functioning measures (e.g. parent-child communication, parental monitoring), the findings from these exploratory analyses were not reported in this review.

Parent-child communication

Four *low* risk of bias studies reported parent-child communication outcomes. One study found a significant improvement in parent-child communication about sex reported by young people in the families who received the FIHI compared to those who were in the control group, at 7 months and 19 months follow-ups (Kirby et al., 2004). Another study showed that parents from the FIHI group reported more discussions on sexual-related topics than those from the control group, at 3 month and 12 month follow-ups (Dilorio et al., 2007b). The other two *low* risk of bias studies found no significant impact on parent-child communication outcomes: open communication (Li et al., 2002), problem communication (Li et al., 2002), comfort talking with parents and parent-child communication (Dilorio et al., 2006). The findings from the *high* risk studies were inconclusive (Blake et al., 2001; Campero et al., 2011; Nagamatsu et al., 2011; Stanton et al., 2004; Weeks et al., 1997).

Parental monitoring

One *low* risk of bias study reported on parental monitoring and found no significant impact of the FIHI at short-term follow-ups (Li et al., 2002). The findings from one *high* risk of bias study were inconclusive (Stanton et al., 2004).

4.3 Conclusion about the effectiveness of family-involved HIV interventions

This systematic review has shown that on average, there is growing and reliable evidence to support the conclusion that involving families in HIV interventions can improve self-reported condom and contraceptive use outcomes. When excluding *high* risk of bias studies, the overall findings found consistent effects of the FIHIs in improving safe sex practices in young people. A summary of the effectiveness of the FIHIs on primary outcomes can be found in Table 4.8.

However, there is evidence indicating that the FIHIs have *no* impact in reducing recent sexual intercourse, self-reported STIs or overall sexual risk behaviour. Moreover, the findings from the review have indicated that in the long term, the FIHIs are unlikely to have an impact on sexual initiation, frequency of sexual intercourse and the number of sexual partners.

At present, there is insufficient good-quality evidence to indicate whether involving families in HIV interventions had any impact on HIV/STI prevalence or self-reported pregnancy. Therefore, future rigorous FIHI research to investigate these sexual behaviour outcomes is a priority.

Table 4.9: Summary of intervention effects on primary outcomes (at longest assessment, unless stated otherwise)

Study/outcome	HIV/ HSV-2	Self-reported STIs	Self-reported Pregnancy	Sexual initiation	Recent sexual intercourse	Frequency of sexual intercourse	Condom use^*	Sexual partners*	Contraceptive use	Overall sexual behaviour
Low risk of bias										
Chen (2010)				□		□	□✚			
Dancy (2009)					□					
Dilorio (2006)				□			✚			
Dilorio (2007b)				□			✚			
Guilamo-Ramos (2011)				✚		✚				
Kirby (2004)				□		□	□✚✚	□	✚	
Li (2002)					□					
Murry (2007)										□
Pantin (2009)					□		✚			
Prado (2007)		□					✚			
Prado (2012)		□					□✚	✚		
High risk of bias										
Blake (2001)				□	□					
Campero (2011)				✚						
Cowan (2010)	□	□	□	□			□	□□	□	
Flay (2004)					□					
Nagamatsu (2011)					□					
Stanton (2004)			✚	□	□		□□		✚	□
Weeks (1997)						□	□			

□ No significant difference between intervention and control groups

✚ Outcomes favoured the intervention group

^ All condom use outcomes-self reported (condom use at last sex, consistent condom use, condom use in the part 30 days, 1 months and 6-12 months, inconsistent condom use, condom use at first sex, frequency of condom use, did not use condom at last sex, unprotected sex, intercourse without a condom in the last 3 and 6 months, ever had sexual intercourse without a condom)

* Outcomes had more than one measure reported in the study

For other behavioural outcomes, the findings from this review have shown that FIHIs are unlikely to have an impact on young people's healthcare seeking behaviour or alcohol use. The findings on cigarette and drug use, intimate sexual behaviour and other risk behaviours are inconclusive.

Regarding family outcomes, there is some evidence to support the benefit of FIHIs on family functioning, but this effect was observed only when the outcome was measured by using multiple indicators (e.g. combining parent-child communication, parental monitoring, parental involvement and parental support). When these indicators were assessed separately, the findings on parent-child communication were inconclusive and the FIHIs were unlikely to have an effect on parental monitoring.

The following section outlines key characteristics of seven effective FIHIs (in eight *low* risk of bias studies) in shaping young people's sexual behaviours (Chen et al., 2010; Dilorio et al., 2007b; Dilorio et al., 2006; Guilamo-Ramos et al., 2011; Kirby et al., 2004; Pantin et al., 2009; Prado et al., 2007; Prado et al., 2012).

4.3.1 Characteristics of effective family-involved HIV interventions in improving young people's sexual behaviour

Programme characteristics

All seven effective FIHIs involved a comprehensive, multi-component programme. They recognised that young people were situated within many settings and systems. All

were designed simultaneously to target the individual self, family and/or extra-familial systems.

First, the majority of the effective FIHIs shared the programme goals that *aimed to shape young people's risk behaviour*. They were designed to help young people to control their sexual behaviour, to exercise their sexual agency, and to expect consequences for their sexual decisions (Chen et al., 2010; Dilorio et al., 2007b; Dilorio et al., 2006; Kirby et al., 2004; Pantin et al., 2009; Prado et al., 2007; Prado et al., 2012). For example, *FOYC*, a component of the intervention designed for the Bahamian youth (*FOYC+CImPACT*), targeted young people's decision making through two important personal mechanisms: threat-appraisal and coping-appraisal pathways. *FOYC* emphasised the risk behaviour of young people and helped them to understand why they might feel invincible or invulnerable, a state of mind that could put them at risk. *FOYC* also aimed to improve self-efficacy in refusing sex or unprotected sex (Chen et al., 2010).

The effective FIHIs were also likely to provide young people with sexual health and HIV knowledge (Chen et al., 2010; Dilorio et al., 2006; Guilamo-Ramos et al., 2011; Prado et al., 2007). Young people in the *Keepin' it R.E.A.L.!* programme received information about HIV transmission and people living with HIV (Dilorio et al., 2006). In *FOYC*, protective knowledge, other aspects of sex, methods of contraception and general knowledge about HIV and other STIs were delivered in the sessions for young people (Chen et al., 2010). In addition, the majority of the successful FIHIs were designed to address young people's multiple risk behaviours (Chen et al., 2010; Dilorio et al., 2006; Pantin et al., 2009; Prado et al., 2007; Prado et al., 2012). For example, *Familias Unidas* was designed to prevent young people's risk behaviours, including

drug and cigarette use. Finally, the majority of the effective FIHIs were designed to build and improve skills that were necessary for young people to make responsible decisions and practise safe sex (Chen et al., 2010; Dilorio et al., 2006; Kirby et al., 2004; Pantin et al., 2009; Prado et al., 2007; Prado et al., 2012). For example, *FOYC+CImPACT* and *Keepin' it R.E.A.L.!* taught young people negotiation, decision-making and communication skills (Chen et al., 2010; Dilorio et al., 2006). In *Safer Choices*, the intervention taught skills useful in refusing sex and how to talk about use of condoms and other contraceptives (Kirby et al., 2004).

All successful FIHIs were designed to *target the family*. In particular, all programmes supported parents in communicating with their children about sex. They aimed to enhance parents' communication skills and addressed barriers to effective parent-child communication on sensitive topics. For example, *FOYC+CImPACT* taught parents how they could effectively communicate with their children (Chen et al., 2010). In sessions for mothers, participants in *Keepin' it R.E.A.L.!* discussed difficult topics in relation to adolescents, aiming to foster discussion within the family and provide mothers with strategies to overcome barriers to discussing sex with their children (Dilorio et al., 2006). *Familias Unidas* developed group discussions that allowed parents to address their communication needs (Pantin et al., 2009; Prado et al., 2007; Prado et al., 2012).

At the same time, all effective FIHIs provided essential sexual health and HIV/AIDS knowledge and necessary skills to parents. For example, in *Families Talking Together*, mothers were given booklets containing key information about adolescents' sexual-risk factors (Guilamo-Ramos et al., 2011). Fathers in the *R.E.A.L. Men* programme participated in practising correct condom use (Dilorio et al., 2007b). *Familias Unidas*

taught parents social skills such as affective awareness and conflict management to build self-confidence in taking their responsibilities and decisions about their children (Pantin et al., 2009; Prado et al., 2007; Prado et al., 2012). In addition, the majority of the successful FIHIs provided knowledge about children's development, helping parents to understand their children's physical and emotional development, and circumstances (e.g. peer pressure) around their children (Chen et al., 2010; Dilorio et al., 2006; Guilamo-Ramos et al., 2011; Pantin et al., 2009; Prado et al., 2007; Prado et al., 2012).

The majority of the effective FIHIs were designed to support parent-child relationships (Chen et al., 2010; Dilorio et al., 2006; Guilamo-Ramos et al., 2011; Pantin et al., 2009; Prado et al., 2007; Prado et al., 2012). For example, the *Keepin' it R.E.A.L.!* sessions were delivered to both parents and adolescents, facilitating discussion of difficult topics, teaching parents how to support their adolescents' safe sex behaviour (Dilorio et al., 2006). Four interventions were designed activities such as homework for the family to complete and spend time together (Dilorio et al., 2007b; Dilorio et al., 2006; Guilamo-Ramos et al., 2011; Kirby et al., 2004). The majority of the successful FIHIs emphasised the importance of parents' awareness of where their children were, what they were doing and with whom (Chen et al., 2010; Dilorio et al., 2007b; Pantin et al., 2009; Prado et al., 2007; Prado et al., 2012). The *Familias Unidas* intervention aimed to provide strategies and knowledge to parents on how to use parenting-control strategies appropriately. Parents were taught to recognise the influences of peers and how to use available resources to develop strategies to monitor their children's peers (Pantin et al., 2009; Prado et al., 2007; Prado et al., 2012).

Finally, all effective FIHIs aimed to target or influence *extra-familial environments*, including school, peer, community, culture and/or social norms. For example, the *Safer Choices* intervention was a school-based, multi-component, HIV, STIs and pregnancy intervention that included a) a school organisation component, b) a curriculum component, c) a peer-education component, d) a parent-education component and e) community-linkage activities (Kirby et al., 2004). *Safer Choices* was expected to affect young people's risk behaviours through the school environment, while the young people were also exposed to other activities involving peers, parents and community. *Keepin' it R.E.A.L.!,* addressed peer influences by providing a discussion forum for young people to share positive and negative peer experience (Dilorio et al., 2006). *Familias Unidas* aimed to assist parents in enhancing social competence and monitoring their children's peers by building relationships with peers' parents and by participating in their children's activities with peers. It also aimed to increase parental involvement in school, enhancing parent-school interactions. Parents were encouraged to set up meetings with their children's class teachers to exchange information about the children's academic progress, and to set goals and plans for their children's academic development (Pantin et al., 2009; Prado et al., 2007; Prado et al., 2012).

The successful FIHIs engaged with a wider community and carefully addressed social norms and cultural issues that could directly and indirectly affect young people and families. For example, *Keepin' it R.E.A.L.!* developed community interaction by bringing mothers together to share experiences and assist one another in problem solving. Young people in the intervention also visited senior centres, to promote community involvement (Dilorio et al., 2006). In *Familias Unidas*, Parent Social Networks (PSNs) were set up to build social support and help immigrant mothers to

adapt to American society. The intervention also incorporated gender-specific aspects of Latinos' values and norms and integrated them into all aspects of the intervention (Pantin et al., 2009; Prado et al., 2007; Prado et al., 2012). The *Families Talking Together* intervention was delivered in a healthcare clinic where mothers met their child's physician to provide a brief endorsement of the programme to mothers (Guilamo-Ramos et al., 2011). *FOYC+CImPACT* addressed cultural sensitivity by considering programme content, scenarios and activities to reflect Bahamian social structure and culture (Chen et al., 2010). *Safer Choices* reinforced social norms to encourage responsible behaviour (Kirby et al., 2004).

How were the effective FIHIs delivered?

The successful FIHIs were likely to convey information and deliver sessions in short-term group sessions (Dilorio et al., 2007b; Dilorio et al., 2006; Pantin et al., 2009; Prado et al., 2007; Prado et al., 2012). They had between seven and fifteen sessions and each session lasted approximately two hours. One intervention was a brief, one-to-one session, delivered once lasting approximately 30 minutes (Guilamo-Ramos et al., 2011). When the successful interventions were delivered for more than a year, they were classroom-based, using a standardised curriculum (Chen et al., 2010; Kirby et al., 2004). In addition, other strategies to deliver the main messages, including video and written materials, were identified as a common element in the effective interventions (Chen et al., 2010; Dilorio et al., 2007b; Dilorio et al., 2006; Guilamo-Ramos et al., 2011; Kirby et al., 2004; Prado et al., 2012). For example, *Families Talking Together* provided a written manual that aimed to improve parent-child communication and parenting strategies (Guilamo-Ramos et al., 2011). Video was used to provide sexual-

health knowledge, foster discussion and show how to discuss sensitive topics with children (Chen et al., 2010; Dilorio et al., 2007b; Dilorio et al., 2006; Prado et al., 2012).

Moreover, the majority of the effective FIHIs were designed to provide a space for the interactions between parents and children. In particular, homework assignments appeared to be a common strategy for enhancing parent-child relationships and encouraging parent-child communication. Other strategies included parents and adolescents attending sessions together (Dilorio et al., 2007b; Dilorio et al., 2006), or participating in discussion circles (Pantin et al., 2009; Prado et al., 2007; Prado et al., 2012).

The effective FIHIs often aimed to provide skill-based training activities, such as condom-use skill training young people (Chen et al., 2010; Dilorio et al., 2007b; Dilorio et al., 2006) or parenting-skill training for parents (Pantin et al., 2009; Prado et al., 2007; Prado et al., 2012). Often, these skill-training activities were delivered through *edutainment*, interactive activities such as demonstration, role-plays, games and modelling (Chen et al., 2010; Dilorio et al., 2007b; Dilorio et al., 2006; Kirby et al., 2004; Pantin et al., 2009; Prado et al., 2007; Prado et al., 2012). In other cases, interactive activities aimed to reinforce the intervention messages and encourage behavioural changes. For example, *Safer Choices* engaged the participants through drama production and role-model storytelling to reinforce positive behaviours (Kirby et al., 2004). *Keepin' it R.E.A.L.!* aimed to build group cohesion using role-play and stress-reduction exercises (Dilorio et al., 2006). These participatory activities aimed to

enable participants to actively learn new knowledge and gain new skills, rather than passive listening in classroom.

How were the effective FIHIs implemented and managed?

The findings suggest that several strategies were commonly used to manage and implement the effective FIHIs. First, the majority of the effective FIHIs employed different techniques to recruit potential participants who represented the target population. (Chen et al., 2010; Dilorio et al., 2006; Guilamo-Ramos et al., 2011; Pantin et al., 2009). For example, *Keeping' it R.E.A.L.!* used different strategies to reach potential participants, including telephone, word of mouth, posters and face-to-face recruiters, with the aim that these potential participants were aware of the project and were given opportunities to participate in the research (Dilorio et al., 2006). In the *Familias Unidas* project, school counsellors at each school were asked to identify potential participants who had behaviour problems, before contacting their parents about the study (Pantin et al., 2009).

The majority of the effective FIHIs carefully selected staff for the programme. They were likely to recruit staff with appropriate backgrounds or experiences (Chen et al., 2010; Dilorio et al., 2006; Guilamo-Ramos et al., 2011; Pantin et al., 2009; Prado et al., 2007; Prado et al., 2012). For example, the facilitators in *Keepin' it R.E.A.L.!* were required to have experience of teaching sexual health skills. *Familias Unidas* was delivered by Hispanic facilitators with a minimum two years' experience of working with Hispanic families (Prado et al., 2012). In *Families Talking Together*, the staff spoke both Spanish and English (Guilamo-Ramos et al., 2011). *FOYC+CImPACT*

required the staff to be the same race/ethnicity/gender as the participants (Chen et al., 2010).

Moreover, the effective FIHIs often provided necessary training and on-going support to staff and facilitators (Dilorio et al., 2006; Kirby et al., 2004; Pantin et al., 2009; Prado et al., 2007; Prado et al., 2012). The training and support aimed to ensure that the staff adhered to the intervention guide and covered the requirements of the programme. For example, *Safer Choices* staff was given a manual and received training on techniques used in the programme every two weeks during the programme implementation (Kirby et al., 2004). In the *Familias Unidas* and *PATH* programmes, the facilitators received training for group moderation and they had to be qualified for delivering the respective intervention modules (Prado et al., 2007).

The effective FIHIs also used strategies to encourage participation. Financial incentives were commonly offered to participants to encourage them to complete follow-up assessments (Dilorio et al., 2007b; Guilamo-Ramos et al., 2011; Pantin et al., 2009; Prado et al., 2007; Prado et al., 2012). Home visits were implemented to increase the likelihood of participation by understanding the family's perceived barriers to participation in the intervention (Pantin et al., 2009; Prado et al., 2007; Prado et al., 2012). Location and time were carefully selected for privacy or the convenience of the participants (Chen et al., 2010).

The intervention programme and content of the effective FIHIs were culturally sensitive and suitable for participants (Chen et al., 2010; Dilorio et al., 2006; Pantin et al., 2009; Prado et al., 2007; Prado et al., 2012). *CImPACT* sessions delivered to Bahamian youth

used a video filmed in the Bahamas, while the curriculum in the FOYC component was carefully designed to be consistent with the policy and philosophy of education policy in the country (Chen et al., 2010). Similarly, video content and group activities in *Familias Unidas* interventions were adapted to address traditional Hispanic values and the cultural taboos regarding the discussion of sexual topics (Pantin et al., 2009; Prado et al., 2007; Prado et al., 2012).

Finally, the successful FIHIs were likely to have a plan for evaluation and monitoring implementation (Dilorio et al., 2006; Kirby et al., 2004; Pantin et al., 2009; Prado et al., 2007; Prado et al., 2012). Strategies used included regular meetings with facilitators, and evaluations were scheduled for the end of each intervention session (Dilorio et al., 2006), videotaped session or programme delivery, to assess and monitor the integrity of the interventions (Pantin et al., 2009; Prado et al., 2007; Prado et al., 2012).

In summary, this chapter has synthesised the findings of existing research evidence concerning the effect of FIHIs on young people's sexual behaviour. The results suggest that involving the family in HIV interventions may have positive influences on young people's condom and contraceptive use practices. However, the majority of the FIHIs identified in this review were delivered to young people from ethnic-minority groups in the US. Therefore, these FIHIs may be not successful in other settings. Given that intensive time and resources are required to develop new intervention programmes (Poulsen et al., 2010b), understanding the key characteristics of the effective FIHIs described in this chapter can be a useful guideline for future HIV interventions adapted for young Thai women.

In the next two chapters, two sequential research projects are carried out in order to identify challenges in developing future HIV interventions for young Thai women. Chapter 5 describes the findings from a systematic review of studies focusing on young women's perceptions of family relating to their sexual decisions, providing an initial framework for data analysis of the primary research in Bangkok. Subsequently, Chapter 6 reports the results of focus group interviews with young Thai women.

Chapter 5: Systematic review of studies exploring young women's perceptions of family roles and sexual decisions[6]

The findings from the systematic review of family-involved HIV interventions (FIHIs) in Chapter 4 suggested potential benefits of FIHIs in improving young people's safe sex practices. Several key characteristics of effective FIHIs have been identified. In the next two chapters, the findings of two sequential research projects carried out between June 2009 and May 2013 are discussed.

This chapter presents the findings of the first research project, a systematic review that aims to systematically identify and critically analyse studies that explored perceptions of young women concerning family influences on their sexual decisions across contexts. The overarching findings derived from this systematic review aim to provide a framework for the data analysis of the second research project--a qualitative investigation in Thailand (Chapter 6).

The review question of the systematic review of qualitative studies was:

What are young women's perceptions concerning family roles and their sexual decisions?

[6] The chapter is published as: Mukdarut Bangpan and Don Operario (2012): Understanding the role of family on sexual-risk decisions of young women: A systematic review, *AIDS Care*: *Psychological and Socio-medical Aspects of AIDS/HIV,* 24:9, 1163-1172.

As discussed in Chapter 2, existing evidence supports the role of the family as one of the most proximal factors to young people's knowledge, attitudes, self-efficacy and subsequent sexual-risk behaviour. Previous research has shown that the family influences young women's sexual-risk behaviour through various processes, such as parental monitoring, parent-child communication and parent-child relationships (Hutchinson and Cooney, 1998; Nagamatsu et al., 2008; Regnerus and Luchies, 2006). Although the associations of these familial factors with young women's sexual-risk behaviour are widely acknowledged, relatively little is understood about the underlying factors that explain the sexual-decision process during the vulnerable period when a young woman is leaving adolescence and entering adulthood. It is crucial and timely to understand the context of sexual decision-making and the social influences that have an effect upon young women's sexual decisions, in order to develop appropriate HIV interventions for young women.

Qualitative research can optimise the opportunity for rich, in-depth and dynamic information on these factors, and can help the design of intervention programmes. Indeed, there is a need to integrate the findings of qualitative studies in order to inform policy making, addressing questions not only about *what works* and *how much* (addressed in quantitative studies) but also *why, what barriers are there, how so* and *for whom* (Harden et al., 2004; Oliver et al., 2007). This type of knowledge is essential, in particular for complex, multifaceted decision-making. In fact, in recent years, a number of systematic reviews of qualitative studies have been carried out to provide insight and build knowledge, and have been used as a method of integrating diverse types of research evidence (for example, Attree, 2005; Barroso and Powell-Cope, 2000; Campbell et al., 2003; Granger et al., 2009; Mills et al., 2005; Munro et al., 2007;

Parsons et al., 2007; Sandelowski and Barroso, 2003b; Strech et al., 2008; Tong et al., 2008; Walter et al., 2004).

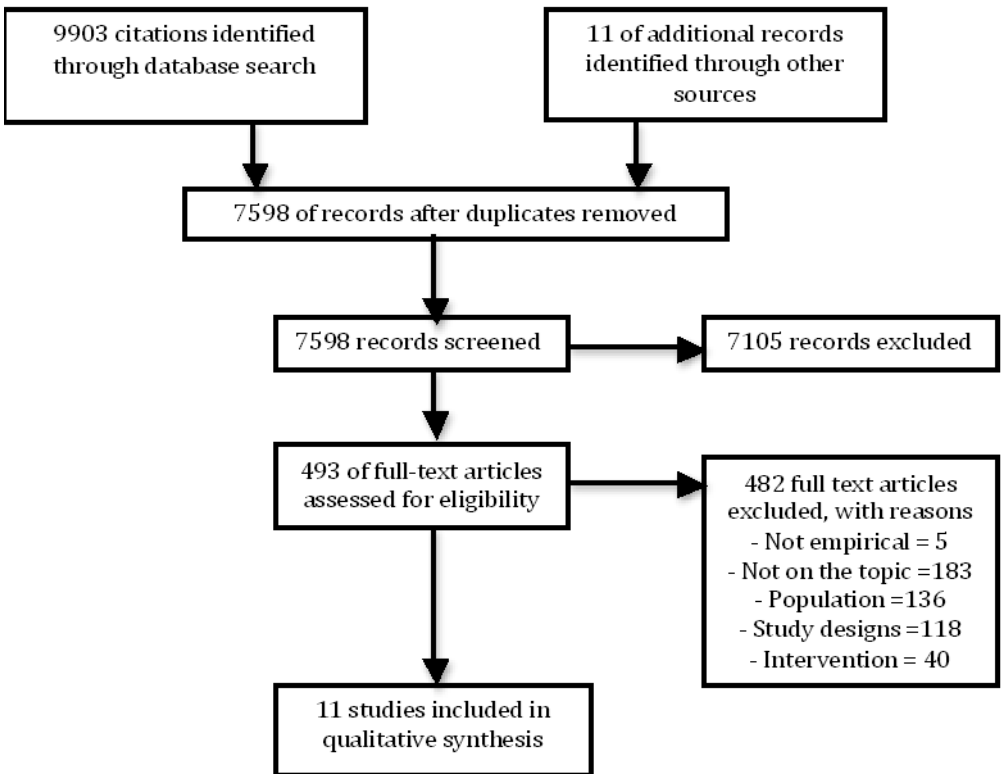
In this systematic review, perspectives from Ecological Systems Theory (Bronfenbrenner, 1979; Bronfenbrenner, 1986) and Family Change Theory (Kagitcibasi, 1996) were adopted to understand and analyse the studies included in the review. That is, young women's sexual behaviour must be understood in the context of their family circumstances. Other environmental factors including cultural influences, may indirectly and directly impact on the sexual-risk decisions. To date, there is no systematic review of qualitative studies that aims to understand the role of the family in influencing sexual risk behaviour among young women across contexts. One review (Miller et al., 2001) provided a comprehensive investigation of family influences, but only concerning adolescent pregnancy risk. Others, such as those conducted by Sarkadi et al. (2008) and Wright (2009) focused specifically on the effects of father-child involvement on various children's outcomes.

In the next section, the process of identifying qualitative studies for this systematic review is presented (Section 5.1). Section 5.2 summarises the general characteristics of the included studies. Section 5.3 outlines the data-extraction and quality appraising processes of the included studies and presents the findings across studies. The final section presents conclusions and the framework based on the findings of the systematic review (Section 5.4). The research methods are outlined in Chapter 3. The limitations of the systematic review are discussed in Chapter 7.

5.1 Moving from systematic knowledge mapping to systematic reviewing of studies exploring young women's perceptions of roles of family and sexual decisions

As described in Chapter 3, the systematic search yielded 9,914 citations. After excluding duplicates, a total of 7,598 citations were screened on the basis of title and abstract according to the pre-defined exclusion criteria. Of these, 493 were screened for inclusion on the basis of the full text. A total of 34 qualitative studies were identified as potentially of relevance to the review (see Appendix 8 for the characteristics of the studies). Of these 34 studies included in the systematic knowledge map, 11 studies were found to have used qualitative methodology to include young women aged 18-25 and reported their perceptions of family influences on their sexual decisions, and were subsequently included in the review (see Figure 5.1).

Figure 5.1: Flow of screening process for qualitative studies



5.2 Description of included studies

The majority of the 11 studies (n=6) were published between 2000 and 2005. Ten studies were conducted in a Western context: Australia (n=1); Canada (n=2); the UK (n=2); and the US (n=5). However, of these ten studies, three included young women from non-Western backgrounds. One study was carried out in Thailand. The studies ranged considerably in scope and aim. Three were concerned with transition to a new environment. Two explored the cultural values of immigrant families. Four examined young women's views on family processes, including parent-child communication and family relationships. One study investigated socio-cultural influences on young people's sexual development and one aimed to understand how young women who used hormonal contraception made decisions on condom use. Most studies used in-depth and/or focus group interviews. The characteristics of all the studies are presented in Table 5.1.

Table 5.1: Main characteristics of the 11 studies in the systematic review

Studies	Sample details	Setting	Data collection	Aims and objectives
(1) Averett (2008)	18-22 y, 14 young women only, upper-middle SES	USA	Written narratives and interviews	To examine perceptions of the impact of parenting on their sexual agency
(2) Bakopanos (2001)	21-25y, 20 young women and 17 young men, Greek Australian	Australia	In-depth interviews	To examine the changing nature of family values and expectation in relation to sexuality, gender roles and health
(3) Bowling (2000)	20-24 y, 17 young women only, undergraduate	USA	Focus groups	To explore what specific dynamics interact with parental influences to influence adolescent female sexual decision making

Studies	Sample details	Setting	Data collection	Aims and objectives
(4) Farrow (2003)	18-24 y, 138 young women only, college students	UK	Open- ended questionnaires	To understand how female university students' sexual behaviour changed in the transitional stage of leaving home for university
(5) Hennink (1999)	18-30 y, 10 young women only, Asian women	UK	In-depth interviews	To develop an understanding of social and sexual relationships and the extent to which their behaviours were influenced by cultural traditions
(6) Hertzog (2008)	18-21 y, 37 young women only, college students	USA	Focus groups and in-depth interviews	To explore the existing cultural rules or norms related to college women's sexual decision
(7) Manderson (2002)	14-25 y, 40 young women, Filipino Australian	Australia	Focus groups and interviews	To describe young women's own ideas about sex, contraception and cultural conflict
(8) Morrison (2004)	16-25 y, adults and young people, urban	Thailand	Interviews, focus groups, participant observation	To understand specific conditions and forces that shape young people's sexual behaviour and risk of HIV
(9) Peterson (2007)	18-21 y, 15 young women only, African American	USA	Focus groups	To explore the relationship between self-esteem, socio-demographic factors, father-daughter relationships and sexual risk taking
(10) Roye (2001)	15-21 y, 39 female who used hormonal contraception, inner city	USA	In-depth interviews	To gain understanding of the factors that led inner-city adolescents who used hormonal contraceptives to use condoms
(11) Shoveller (2004)	18-24 y, young adults, rural and urban	Canada	In-depth, semi-structured interviews	To examine how social context shaped experiences and perceptions pertaining to sexual behaviour

5.3 Findings

5.3.1 Data extraction and quality assessment

Nine of the eleven studies were judged for methodological quality, all of which appear to be coherent in their research goals, methods, findings, and conclusions (Averett et al., 2008; Bakopanos and Gifford, 2001; Bowling and Werner-Wilson, 2000; Farrow and Arnold, 2003; Hertzog, 2008; Morrison, 2004; Peterson, 2007; Roye and Seals, 2001; Shoveller et al., 2004). Complete quality assessment of two studies was not possible because both failed to provide sufficient information regarding methods of data analysis (Hennink et al., 1999; Manderson et al., 2002). The majority of the studies described and discussed data analysis methods (n=9); locations and contexts of the studies (n=6); generalisability (n=6) and gaps in literature (n=6) (see Table 5.2).

Table 5.2: Comprehensiveness of reporting, quality and relevance of the 11 studies

Criteria/Studies*	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**	**(9)**	**(10)**	**(11)**
Research background and contextual information											
Were research question(s) clearly stated?	✓										
Were research aims and objectives clearly reported?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Was previous knowledge and existing research described?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Was a conceptual framework or theoretical background discussed?	✓					✓				✓	
Were ethical issues taken				✓					✓	✓	✓

Criteria/Studies*	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
into consideration?											
Research process											
Were the ways in which the researcher and the research process shaped the collected data described?				✓							
Were descriptions of study locations/areas reported, and how and why they were chosen?	✓	✓			✓		✓	✓			✓
Was a description of the population of interest reported? And how sample selection relates to the population of interest?					✓		✓				✓
Was the sample size reported?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Was a descriptions of the sample included in the study?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Was sampling method described?	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓
Was any information reported on how and by whom participants were identified?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Were inclusion and/or exclusion criteria for selecting participants reported?				✓	✓	✓	✓			✓	✓
Were reasons described for non-participation among the sample approached?											
Was the data-collection method clearly described, by whom, and the procedure?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Criteria/Studies*	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Was audio or video recording used in the study?	✓	✓	✓		✓	✓			✓	✓	✓
Were any descriptions given or discussed of the data collected (depth, richness)?	✓		✓								✓
Was the method of data analysis reported?	✓	✓	✓	✓		✓		✓	✓	✓	✓
Was there any discussion of data-management software?	✓					✓	✓				✓
Was there any discussion of form of original data?	✓	✓				✓		✓		✓	✓
Was there any discussion of descriptive analytic methods used and how analytic concepts were constructed?	✓	✓				✓		✓	✓	✓	✓
Were negative cases taken into consideration?	✓										
Results											
Was there any discussion of the links between aims, data, results and conclusions?											✓
Were results verified? And how were they described?	✓		✓			✓			✓		
Contributions											
Were any limitations of the study discussed?			✓	✓					✓		✓
Were gaps in the body of research discussed?	✓		✓	✓	✓				✓		✓
Was there discussion of what could be transferred to other settings or a wider population?		✓	✓				✓	✓	✓		✓

Criteria/Studies*	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Was there any discussion of how understanding was extended by the research?	✓	✓	✓	✓	✓	✓			✓	✓	✓
Quality	Y	Y	Y	Y	n/a	Y	n/a	Y	Y	Y	Y
Relevance	H	H	H	H	H	H	H	L	H	L	L

** A key to the study numbers can be found in Table 5.1; n/a = not applicable*

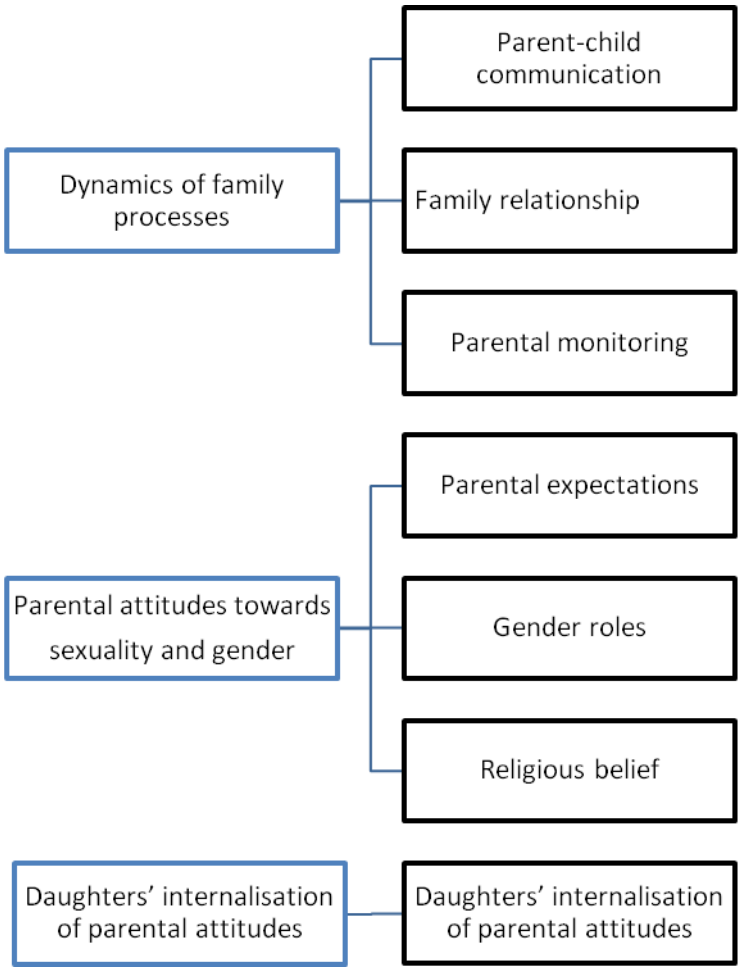
5.4 Synthesis results

Overall, seven major concepts relating to sexual decisions and sexual risk behaviour emerged from the included studies. These were: parent-child communication; family relationships; parental monitoring; parental expectations; parental attitude towards gender roles; religious beliefs; and daughters' internalisation of parental attitudes. These concepts were further categorised into three overarching themes: the dynamics of family processes; parental attitudes towards sexuality and gender; and daughters' internalisation of parental attitudes (see Table 5.3 and Figure 5.2). Examples of data extractions and the grouping of each concept are presented in Appendix 11. In the next section, each concept is described and presented with relevant quotations from young women extracted from the studies

Table 5.3: Major concepts of the 11 studies included in the review

Studies	Dynamics of family process			Parental attitudes towards sexuality and gender			Daughters' internalisation of parental attitudes
	Parent-child communication	Family relationship	Parental monitoring	Parental expectations	Gender roles	Religious beliefs	
Averett et al. (2008)	●	●		●	●		
Bakopanos and Gifford (2001)	●				●		●
Bowling and Werner-Wilson (2000)	●	●		●		●	●
Farrow and Arnold (2003)			●				
Hennink et al. (1999)	●		●	●	●		●
Hertzog (2008)	●					●	
Manderson et al. (2002)	●	●	●	●	●		
Morrison (2004)			●	●			
Peterson (2007)	●	●					
Roye and Seals (2001)	●						
Shoveller et al. (2004)	●	●		●		●	●

Figure 5.2: The framework derived from the systematic review of qualitative studies



5.4.1 Dynamics of family processes

The dynamic and interactive nature of family processes may include such factors as: family communication; family relationships; family functioning; family conflict; regulation of behaviour among family members; and adaptation to change among family members (Barber and Olsen, 1997; Dilorio et al. 2007a; Miller and Pasta, 2000). In this systematic review, three main concepts relating to family processes and their influence on young women's sexual behaviours have emerged: parent-child communication; family relationships; and parental monitoring.

Concept one: Parent-child communication

Sex was rarely discussed in the family and often viewed as a taboo subject (Bowling and Werner-Wilson, 2000; Manderson et al., 2002; Shoveller et al., 2004). When sexual communication did occur in the family, young women indicated that parents largely discussed negative aspects of sex, often with the message that "*sex to be feared*" (Averett et al., 2008, p.335), or endorsed a singular message regarding the necessity of abstinence to avoid the dangers of sex.

> *"When I was little, it was more of waiting until marriage. And my mom and dad, they were very open about it. They bought us books when we were little about development and everything, and, as we got older, other books. By the time we started dating and got into our teens, they tried to focus on abstinence still, but then they started to talk about safe sex and condoms and birth control and everything." (Hertzog, 2008, p.316)*

In addition, young women were confused by the mixed messages they received from their parents. They felt that their parents sometimes encouraged them to be independent and to feel confident, while promoting traditional gender roles and emphasising that the woman is not supposed to be a sexual person in general (Averett et al., 2008). Other topics, such as emotional experiences; the pleasurable aspects of sex: sexual drive; self-esteem and independence were described by young women in the studies as aspects of their sexuality that they would like to discuss with their parents (Averett et al., 2008; Bowling and Werner-Wilson, 2000; Hertzog, 2008). For example:

> *"Dads should teach daughters to be independent, because my dad taught me to be independent. Some girls rely on that relationship with a guy and they think of themselves in terms of, I am so-and-so and I have a boyfriend, and I think that if fathers don't encourage that kind of thing and encourage independent thinking, then daughters won't define themselves in terms of their boyfriend." (Bowling and Werner-Wilson, 2000, p.17)*

> *"They could have talked more about sex drive and not just about the act of sex and what will go wrong, but more on the emotions." (Averett et al., 2008, p.335)*

> *"Well, my mom's always said, 'Abstain until marriage.' And that's really good advice that I follow, but I also think that what they don't tell you, like everything between there... There's a really big grey area that, you know, includes oral and everything else, that, you know, no one ever talks about. It does just always abstain, you know. But, what about the grey area? So, that was never addressed, which it should have been. [Jaclyn agrees.] They just say, 'abstain', you know. And they don't talk about everything in between and what's going too far. Like I think that should have been addressed at my house, but it was not." (Hertzog, 2008, p.317-318)*

Findings suggest that parental communication styles can have an impact on young women's sexual attitudes, self-esteem and sexual behaviour (Bowling and Werner-Wilson, 2000; Peterson, 2007; Roye and Seals, 2001; Shoveller et al., 2004). Young women would like to have *open*, *direct*, and *receptive* communication about sexual matters with their parents. One young woman explained, "*Parents should be friends to their kids; and that way they can open up to them and tell them more, instead of just going out there and being sneaky*" (Roye and Seals, 2001, p.83). Young women perceived that parents may feel *uncomfortable* or *embarrassed* when talking about sexuality and often used indirect approaches, such as hinting or giving an example, to communicate on sexual issues.

> *"…My mom would always say, 'don't go and get yourself pregnant.' But it's like she was always hinting at it. Never talking about it directly…" (Shoveller et al., 2004, p.480)*

Often, young women felt afraid or guilty about discussing sexual topics with their parents, as they perceived that their parents would not accept or would disapprove of their sexual activity. They chose not to discuss sexual issues with their parents (Bakopanos and Gifford, 2001; Bowling and Werner-Wilson, 2000; Hennink et al., 1999; Hertzog, 2008; Manderson et al., 2002). For example:

> *"They'd kill me. My mum would be really shocked, it would be like, you'd gone to university to study, not to get off with boys and things like that, she would not approve at all, so there was no way I was going to tell her." (Hennink et al., 1999, p.886-887)*

> *"Parents were the last to know. Anna said that she wouldn't be able to ask her parents about STIs because 'they would freak out'… " (Manderson et al., 2002, p.386)*

Concept two: Family relationships

The quality and context of family relationships - including spending time together, providing verbal and emotional support - were seen as factors that encouraged young women to discuss their sexual activities. Young women who felt connected and closed to their parents were more likely to partake in responsible sexual behaviour (Averett et al., 2008; Bowling and Werner-Wilson, 2000; Manderson et al., 2002; Peterson, 2007; Shoveller et al., 2004). Moreover, young women who spent more time and were actively involved with their fathers described having greater self-esteem and motivation to delay their sexual engagement (Bowling and Werner-Wilson, 2000; Peterson, 2007). The father-daughter relationships helped them to get over the need for sexual relationships:

> *"I didn't seek acceptance from other guys, because I got it all from dad. I got just as much attention as I needed. And I don't feel like I needed to go seeking acceptance from guys … But I think if my dad wasn't a part of my life, I would have been a lot more interested in boys." (Bowling and Werner-Wilson, 2000, p.14)*

> *"My dad saying to be careful has a lot to do with my sexuality. His caring influenced the choice I made." (Peterson, 2007, p.339)*

By contrast, fathers described as "*not being there*" (Bowling and Werner-Wilson, 2000, p.13) when needed had a more negative influence on their daughters' sexual decisions. These women described the emotional and physical absence of their fathers in negative terms, such as *pain*, *rejected*, and *regret* (Peterson, 2007). Indeed, a desire for male companionship during this important developmental stage of young women's lives may play an important role in their sexual decisions. In one study, a young woman described

her relationship with her father and how that affected their communication regarding sex. She explained:

> *"I have a strange relationship with my father. He has yet to say the word 'boy' to me. Like, he has never referred to the opposite sex. We don't talk any more. [Sex] was definitely taboo; it was not touched upon at all." (Shoveller et al., 2004, p.480)*

It appears that the feelings of being supported and loved by their parents enabled young women to resist pressure from peers and their environment, and to consider the possible negative consequences of sexual activity, making responsible sexual decisions (Averett et al., 2008; Manderson et al., 2002). As one young woman reflected on this:

> *"If I do get myself in a bad situation that they would still support me, which I think is very important, it's not like they are gonna disown me." (Averett et al., 2008, p.338)*

The influence of family relationships on sexual behaviour was also reflected in the ways in which parents served as role models for their daughters in terms of their emerging notions of relationships and sexuality. Young women suggested that witnessing family members' behaviour affected their own sexual attitudes and behaviour (Bowling and Werner-Wilson, 2000; Shoveller et al., 2004). A lack of a positive male role model affected not only young women's sexual relationships but also the way in which they interacted with men generally (Bowling and Werner-Wilson, 2000). One young woman in one study explained that her sister's sexual behaviour had an influence on her own sexual decisions:

> *"That my [older] sister believed that you can sleep with a whole bunch of people affected my [sexual] practices. I believe that, no, you shouldn't sleep with a whole bunch of people. And because I heard how people talk about her, I didn't want people to talk about me like that. So, [her behaviour] affected me quite a bit." (Shoveller et al., 2004, p.482)*

Concept three: Parental monitoring

Previous research indicated that parental monitoring plays an important role in protecting young girls from early involvement in sexual activities (Baker et al., 1999; Crosby et al., 2002b). For young women emerging into adulthood, transitioning from home to new environments, for example, for education or employment, can profoundly affect their lives, relationships with families and sexual decisions. Young women in the included studies described challenges associated with adjusting to new environments and adopting new adult responsibilities, while avoiding conflicts with the values and norms of their parents (Farrow and Arnold, 2003; Hennink et al., 1999; Manderson et al., 2002; Morrison, 2004). In particular, young women from families that held conservative sexual values experienced a significant change in their social environments when parental influences were weakening. Moving away from home, these young women experienced a lesser degree of physical monitoring, felt a new sense of freedom and encountered pressure from a new peer group to engage in sexual relationships (Hennink et al., 1999; Manderson et al., 2002; Morrison, 2004). One study investigating the influences of social and cultural factors on young Asian women in Britain suggested that transitioning from home to university was a period when young women could sense new freedom and had less supervision and monitoring from parents, which allowed them to engage in sexual activities:

> *"…'cause I can come home with who I want, if I wanted to bring somebody back for the night and do whatever, I've got nothing stopping me. Before, it was, like, where are we going to go, what are we going to do, somebody might see me, now I just get a cab and come home and just sit in my flat and do whatever I want, there's no problem that somebody's going to come knocking at my door, or my aunt's going to walk in…" (Hennink et al., 1999, p. 884)*

One study reported that young Thai women moved away from parents and had "*no one to control them, so sometimes they could do this and this with other people. There was no big brother watching them*" (Morrison, 2004, p.336). Manderson (2002) described the experience of young Filipino women in Australia, illustrating that the young women who lived at home felt restrictions on "*their mobility, personal behaviours and sexual activity*" (p.383).

5.4.2 Parental attitudes towards sexuality and gender

Three additional major concepts that described how parental attitudes towards sexuality and gender affected the sexual behaviour of their daughters emerged from the studies. These included parental expectations, parents' attitudes towards gender roles and parents' religious beliefs.

Concept four: Parental expectations

Young women indicated that their behaviours were a reflection of their parents' expectations about sexuality and gender roles (Averett et al., 2008; Bowling and Werner-Wilson, 2000; Hennink et al., 1999; Manderson et al., 2002; Morrison, 2004; Shoveller et al., 2004). For example, one young woman interviewed by Averett et al. (2008) commented on her parents' expectation that she remain sexually abstinent, and the judgement that accompanied a failure to fulfil their expectation:

> *"Just I guess to like really make sure I don't become something [my parents] don't want me to become. I guess a slut, provocative, a hoochie." (Averett et al., 2008, p.337)*

The findings also suggested that parental expectations were related to community values and regulations. That is, the women perceived that if they broke the community's rules, their parents and family's reputation would be damaged:

> *"Well, my family imposed the so-called 'culture of the community'; it seems that it's not just your immediate family that you sort of have to obey or whose rules you have to abide by, but the whole community, and it seemed that if we were going to go out and somebody saw us, in the rest of community in which we lived it would be worse for my family." (Hennink et al., 1999, p.884-885)*

Obedience and respect are expected from young women by their parents (Shoveller et al., 2004). Daughters are believed to have a duty to care for family and not to disappoint their parents' expectation (Averett et al., 2008; Manderson et al., 2002; Morrison, 2004). Young women perceived that their parents had supported them throughout their lives and that they should give them respect and accept their expectations regarding sexual behaviour (Bowling and Werner-Wilson, 2000; Hennink et al., 1999). Young women from immigrant families with conservative sexual values tended to make their sexual decisions conform to parents' sexual values (Hennink et al., 1999; Manderson et al., 2002):

> *"A lot of my friends will more readily sleep with people than me or my other Asian friends will and that's quite a big difference, it's just probably 'cause we know we're not meant to, well our parents wouldn't like it, so that you do hold back 'cause you do think about it a lot more…" (Hennink et al., 1999, p.886)*

Young women may avoid revealing or discussing sexual activities perceived as inappropriate with their parents. For example, one young woman described the feeling:

> *"…Christina contracted an STI and told her parents and 'they hit the roof' cause they thought it could never happen to their daughter. Young women feel that they cannot talk to their parents because of their parents' disapproval and shame." (Manderson et al., 2002, p.386)*

Concept five: Parental attitudes towards gender roles

Young women often perceived their parents to hold double standards in terms of their children's sexuality. Daughters' sexual activity was prohibited, while sons' sexuality activity was acceptable (Averett et al., 2008; Bakopanos and Gifford, 2001; Hennink et al., 1999; Manderson et al., 2002).

> *"There is a double standard because he [brother] gets to do way more. They are more concerned about me because of the fact that a girl can get pregnant. It is not focused on my brother. It is more focused one me." (Averett et al., 2008, p.337)*

One study described a young woman's frustration with her parents' restrictive attitude towards her personal behaviour and sexuality in comparison with their attitude towards those of her brother:

> *"She felt her life would have been much easier if she were a boy, as her brother 'gets away with everything'." (Manderson et al., 2002, p.383)*

Beliefs regarding the appropriate sexual behaviour of women were evident in parents from conservative cultural backgrounds. Clear and consistent parental attitudes towards the consequences of sexual activity affected how young women saw themselves in terms of their sexual roles and their obligation to fulfil their parents' expectations (Bakopanos and Gifford, 2001; Manderson et al., 2002). Studies carried out on Greek, Asian and Filipino families suggested that parents held strong beliefs regarding gender role norms from their cultures and communities (Bakopanos and Gifford, 2001; Hennink et al., 1999; Manderson et al., 2002). Young women described the way their parents expressed conservative attitudes concerning the sexual roles and behaviour of women in society:

> *"I think a lot of Greek women, um … like their, like their partners to be stronger than them … to be more dominant in the relationship, and that's just the way*

> *they've been brought up with their parents, that the male one is the more dominant of the two. And so that could be the case … in terms of their sexual practices … that the woman is more submissive and the male is the more dominant one … so that the female can give in …. Yeah, and because I think it stems from the way we've been brought up that the female is the more submissive one." (Bakopanos and Gifford, 2001, p.367)*

It appears that young women from immigrant families may have been in the process of adapting to the gender role norms of the host culture. Young Greek women needed to tune in to "*the strong positive values they hold about their gender roles within the family, while at the same time embracing a set of more flexible gender identities, especially in relation to sexual relationships and life aspirations*" (Bakopanos and Gifford, 2001, p.364). Young Filipino women in Australia also faced challenges to adapt to new sexual values while influenced by other socialised agents, including family (Manderson et al., 2002).

Concept six: Religious beliefs

Parents' moral and religious beliefs can influence young women's sexual decision. Young women described how religious beliefs affected their decisions to delay their sexual engagement:

> *"It was her Christian beliefs that primarily influenced her to wait for so long." (Bowling and Werner-Wilson, 2000, p.13)*

> *"I grew up in a Catholic family, so we have our values. Basically, I was taught that it is for when you are married. They pretty much … I don't know, they expect that from us. Just how we've been raised. I feel strongly about that. I think that's how they raised me, with strong Catholic values." (Hertzog, 2008, p.317)*

Young women expressed frustration with the tension between the religious beliefs imparted by their parents and the emergence of their own sexuality. They described

trying to balance their sexual decisions with religious influences in a way that was personally acceptable. One young woman described this tension:

> *" ...If sex is a sign of our love and we are not abusing it and we are not hurting anyone else and being safe about it and taking the necessary precautions (i.e., being on the pill), then I don't see it as morally wrong. But on the other hand, I still have the 'Catholic guilt' in the back of my mind. It's there. I acknowledge it, but what can I do?" (Shoveller et al., 2004, p.483)*

5.4.3 Daughters' internalisation of parental attitudes

Concept seven: Daughters' internalisation of parental attitudes

Young women described how they internalised emotions and feelings towards sexual behaviour based on their parents' influence (Bakopanos and Gifford, 2001; Bowling and Werner-Wilson, 2000; Hennink et al., 1999; Shoveller et al., 2004). Negative internalised emotions – such as fear, guilt, shame – towards sexuality influenced young women's decision to abstain from sex, regardless of their backgrounds. A study of young Asian women reported that they decided to keep away from sexual activities because they feared being caught by their parents and other relatives, or felt anxiety about rejection from the community (Hennink et al., 1999).

> *"There was no way I would have got into something like that at home … because I would be scared that it would come back to my parents and there was no way I was risking that, I don't want my parents to find out anything at all … now they're more liberal anyway, but I still wouldn't tell them if I had a relationship ….there's no way I could do it at home." (Hennink et al., 1999, p.884)*

Young women indicated that engaging in sexual activities would lead to feelings of *guilt* and *shame*, which can be a barrier to sexual communication in the family (Bakopanos and Gifford, 2001; Hennink et al., 1999). As one young women explained: " *...I think because of that, they're less likely to say "let's use a condom' … or because*

of the guilt, they're probably less likely to educate themselves" (Bakopanos and Gifford, 2001, p. 158). Positive feelings were less frequently mentioned as determinants of sexual behaviour, although some studies indicated that daughters who internalised feelings of *respect* or *support* were likely to have a stronger foundation for their sexual behaviours. The idea of respect for parental values was perceived as a way for children to acknowledge parental support (Bowling and Werner-Wilson, 2000; Hennink et al., 1999).

> *"I think everything revolves around your parents. What your parents want you to do, you know what you do has to respect your parents' views … we do get our own say, but it does revolve around your parents…" (Hennink et al., 1999, p.889)*

5.5 Conclusions

The main purpose of this systematic review is to systematically identify and critically analyse qualitative studies that explored perceptions of young women regarding family roles and their sexual-risk decisions. Three broad themes were developed from seven major concepts, namely, (i) dynamics of family processes; (ii) parental attitudes towards sexuality and gender; and (iii) daughters' internalisation of parental attitudes (see Figure 5.2). The findings from the review provide and suggest scope for future research into the development of HIV interventions.

First, parent-child sexual communication and young women's safe-sex practices could be improved and encouraged by open, direct, and receptive communicating styles covering a wide range of sexual topics. The findings of the importance of parent-child sexual communication are consistent with other research. The recent systematic review of US-based interventions to improve parental communication about sex has showed the

improvements in several family communication outcomes (Akers et al. 2011). The review by Dilorio et al. (2003) showed that communication styles are an important factor in young people's sexual outcomes and their influence on sexual behaviour is more likely to be positive if young people feel that their parents are comfortable discussing sexual topics (Dilorio et al., 2003). When young women perceive that their mothers use indirect communication styles, daughters are less likely to initiate sexual discussions (Sneed et al., 2001; Usher-Seriki et al., 2008). In fact, mothers who use indirect approaches to communicate about sexual issues with their daughters, including innuendo or avoidance, have weaker and potentially negative influences on their daughters' behaviour (Nwoga, 2000). It is imperative that future HIV interventions should be designed to provide knowledge and develop the skills needed for parents to communicate about sex to young women.

The findings from this review also highlight the importance of the quality of family relationships. Young people might increase their sexual disclosure to parents if they perceived there to be warmth and support from their families (Somers and Vollmar, 2006). Moreover, the studies show that parents in general and fathers in particular who spend time with their daughters can encourage healthier sexual attitudes and behaviour. Future HIV interventions may include and adapt approaches that aim to improve parenting skills and relationships between parents and children. For example, findings from the study of a family HIV intervention programme proved to be effective in encouraging parent-child communication on sexual topics, strengthening parent-child relationships and improving parental monitoring (Baptiste et al., 2009). This intervention provided sex and HIV education and skills development activities delivered

to parents and young people. The interactive activities included workbook and home assignments which aimed to improve parent-child relationships and communication.

However, while previous studies suggested that parental monitoring is an important factor in preventing adolescent girls engaging in sexual activities (Li et al., 2000; Yang et al., 2007), the qualitative studies included in this review indicate that this is not necessarily the case. One possible explanation for this counterintuitive finding is that parental monitoring may have different influences on young women during different stages of childhood and adolescence. The young women in the studies included in this review were at a developmental period of transition and emerging adulthood, in which they were moving away from home for the first time, and experiencing new roles and responsibilities with less social and parental control (White et al., 2006). These young women acknowledged that, although they faced challenges owing to moving away from home and adjusting to a new environment, at the same time they enjoyed a new sense of freedom that allowed them to explore and engage in sexual activities. Concurrently to this development among young women, parents witnessed a weakened ability to monitor or control their daughters' sexual activities. In particular, young women from conservative cultural backgrounds experienced a greater sense of freedom, but also more pressure from a new peer group. Future interventions would benefit not only from providing relevant information on the transitional development of their children to parents, but also from preparing young women for a new environment.

The importance of internalised feelings, such as fear, guilt or shame about sexuality, can help to answer specific questions, for example, why young women tended to avoid discussing sexual issues with their parents. Young women may feel anxiety and fear

about discussing sex with parents and of violating family and community norms around sexuality. Feelings such as shame and guilt are developed through family processes and are often important for shaping individuals' behaviours to conform to traditional standards and social expectations (Abell and Gecas, 1997). Similarly, Svensson (2004) has suggested that there is a relationship between parent-child relationships and delinquency, which was mediated by feelings of shame. Indeed, Richard et al. (1995) suggested that anticipated negative feelings, such as guilt, shame or fear, could affect sexual behaviour in young people. The challenge now is to design HIV interventions that consider the importance of young women's internalisations and are tailored for each context.

Finally, culture can have a significant role on young women's sexual-risk decisions; for example, young women from conservative cultures may choose to remain abstinent to conform to parental expectations and gender-norm beliefs and to avoid family conflict. HIV interventions that are tailored to cultural sensitivity can be beneficial in maximising intervention effectiveness (Lescano et al., 2009). Moreover, family and community members could be involved in the design of interventions to promote appropriateness and relevance.

Overall, this chapter presented the findings of the systematic review that synthesised research studies that explored the perceptions of young women on family influences and their sexual decisions. The study identified three broad themes that are used as a framework for data analysis in the second research project. The next chapter presents the findings of the second research project, a qualitative primary research in Bangkok. The study aims to gain a better understanding of the role of family and young Thai

women's sexual decisions that would benefit future development of FIHIs for young Thai women.

Chapter 6: Family, social influences and sexual decisions: Perceptions of young Thai women in Bangkok[7]

The findings from the systematic review of qualitative studies presented in Chapter 5 provided a broad category of family influences derived from studies across contexts. Three main themes were categorised based on seven major concepts of parent-child communication, family relationships, parental monitoring, parental expectations, parental attitude towards gender roles, religious beliefs, and daughters' internalisation of parental attitudes. Subsequently, the framework was used to guide initial ideas during the first stage of data analysis of the current study, a qualitative study in Thailand.

This chapter presents the findings from the focus group discussions with young Thai women in Bangkok. The main purpose of this study is to explore and understand the experiences and perceptions of young Thai women concerning family influences on their sexual decisions. More specifically, the research aims to understand the ways in which young women develop sexual decision-making processes and the factors that influence their sexual decisions from their own perspectives. The research question for this study was:

How do young Thai women perceive family and other social influences that affect their sexual decisions?

[7] - The chapter is published as: Mukdarut Bangpan & Don Operario (2014): 'The family is only one part…' Understanding the role of family in young Thai women's sexual decision making [Online], *Culture Sexual and Health.* ***DOI:****10.1080/13691058.2014.886723*
- The initial findings were presented at the poster oral discussion session at the XIX International AIDS Conference, July 22nd-27th 2012, Washington DC, US.

As discussed in Chapter 2, although much previous research in Thailand has supported the importance of family in young Thai women's sexual-risk behaviours, there is limited evidence on the subjective perceptions of the family's role in sexual decisions of young adult Thai women who are likely to be sexually active. Therefore, this primary research addresses a research gap by aiming to understand the individual and contextual influences that play part in young people's sexual decision process during the vulnerable period when they are leaving adolescence and entering adulthood. The findings from this study are crucial for the development of HIV interventions for young Thai women who are at risk.

In the following sections, the findings from the analysis of the focus group discussions are presented. Firstly, descriptive characteristics of the participants in the eight focus groups are provided (Section 6.1). Next, the findings from the focus group interviews are discussed (Section 6.2). In each theme, the young women's narratives are given. Familial and social influences derived from other research studies are also drawn and presented alongside the study results. Although the main aim of this qualitative investigation was to explore *commonly held* perceptions and beliefs of young Thai women in Bangkok, when distinct results emerged from the interviews with participants of different socioeconomic status (SES) backgrounds or migration status, these were presented and highlighted accordingly. The last section in this chapter presents conclusions and discussion (Section 6.3). The research methods employed in this qualitative investigation are discussed in Chapter 3. The limitations of the study are discussed in Chapter 7.

6.1 Characteristics of the focus-group participants

A total of eight focus groups (n = 40) were conducted. Four to six young women aged 18-25 (mean age = 21.73) participated in each focus group. Four groups consisted of participants recruited from the university campus (n = 10) and government offices (n = 10). All of these 20 young women were well educated, completing at least a higher education degree (Bachelor's level or higher), and were either employed or studying at the time of participation. The majority had moved to Bangkok from other provinces (n = 14). They came from a range of family backgrounds: some had parents that had only completed elementary education, whereas others had parents with Master's or doctoral degrees; some had parents that were divorced/separated (n = 6), and others had parents who were married or living together (n = 12) or widowed (n = 2). Ten of these young women were living with one or both parents, four were living with friends, three with siblings, one with a boyfriend, and two were living alone.

The other four focus groups consisted of participants recruited from the low-income community (n = 11) and the garment factory (n = 9). These young women were largely from working-class backgrounds. The majority of the young women (n = 14) had only completed high-school level education or below, and six had a college/university diploma. All but one young woman had mothers educated at higher than high school level; 15 of these young women had mothers who had only completed an elementary-level education. One young woman did not know their parents' education backgrounds. All participants recruited from the garment factory had moved to Bangkok from other provinces for work. However, most young migrant women were from a stable family relationship; only one young migrant woman having parents who were separated. One

young migrant woman lived with her parents, two lived with friends, five with boyfriends/partners, and one lived alone. In contrast, participants recruited from the low-income community were from less stable families; six young women having parents who were married/living together. Only five young women were still living with at least one of their parents, four with grandparents, and two with boyfriends. All but one young woman recruited from the low-income community was born in Bangkok and had been living there since childhood (See Table 6.1).

Throughout the chapter, as appropriate, the terms *middle-class*, *high SES* and *educated* are used to refer to young women recruited from the university and government offices; the terms *working-class*, from *less-privileged backgrounds* or *low-SES* are used to refer to young women recruited from the low-income community and the garment factory; the term *low-income community* is used to refer to those recruited from the low-income community; and the term *young migrant women* is used to refer specifically to those recruited from the garment factory. The classification of SES group is not in any way an objective measure. Most young women recruited from the university were from working-class family backgrounds, but this first generation of university students has become *a new middle class*, reflecting the recent economic development and urbanisation in the country. The author intended to use these classes to illustrate the different views and experiences of young women and did not aim to generalise the findings to the whole population.

Table 6.1: Main characteristics of young women in the focus groups

Characteristics	Total (n=40)	Government (n=10)	University (n=10)	Low-income communities (n=11)	Garment factory (n=9)
Age					
18-20	11	-	-	7	4
21-25	29	10	10	4	5
Highest education					
Elementary	2	-	-	1	1
High school	12	-	-	6	6
Diploma	4	-	-	3	1
Bachelor's degree or higher	22	10	10	1	1
Occupational status					
Employed	19	6	-	5	8
Students	16	3	9	3	1
Both working and studying	3	1	1	1	-
Unemployed	2	-	-	2	-
Living arrangement					
With both parents	9	3	2	3	1
With only mother or only father	7	2	3	2	-
With siblings	3	2	1	-	-
With grandparents	4	-	-	4	-
With friends	6	2	2	-	2
With boyfriend	7	-	1	2	4
Alone	3	1	1	-	1
Other living arrangement	1	-	-	-	1
Mother's/father's highest education level					
Elementary	23/19	2/1	6/5	6/5	9/8
High school	8/9	-/2	4/3	4/4	-/-
Diploma	2/3	2/2	-/-	-/1	-/-
Bachelor's degree or higher	5/7	5/5	-/2	-/-	-/-
Do not know	2/2	1/-	-/-	1/1	-/1

Characteristics	Total (n=40)	Government (n=10)	University (n=10)	Low-income communities (n=11)	Garment factory (n=9)
Parental marriage status					
Married	24	6	5	5	8
Divorced	3	1	1	1	-
Separated	9	2	2	4	1
Widowed	2	1	1	-	-
Living together	2	-	1	1	-

6.2 Results

Theme 1: "Family is only one part…": Sense of self and social influences

A recurring theme that emerged across the focus groups was that young women considered themselves to be *in control* of their decision-making processes. While young women generally suggested that the changing environment of Bangkok put them in difficult and challenging situations, they also expressed a *sense of self* – the perception that they could make their own decisions and had control in their lives. The concept of *sense of self* is suggested as a factor in encouraging health behaviour changes (Longmore et al., 2003; Strecher et al., 1986). The young women in this sample expressed their belief that, although their environment played a part in their decisions, the most influential determinant of their decision-making was *self*.

> *A1: I think it is me. The most important factor is myself. I choose to make my decisions. It is also true that I am influenced by social environments, such as friends. If we have good/bad friends, we tend to follow them. Also, it depends where you live, your social networks. You can see how they live their lives. If you see they can earn money quickly by doing that [selling sex]. Do you want to do the same? I also think that if you have good family backgrounds, you are safer than those whose parent can't support financially. But, the most important is yourself.*

A2: I think the main factor is myself. Other influences like environments, yes of course, but they are not the main factor. Friends also can influence but we can change friends. I am not serious about it [friends]. Family relationship is another factor but it is not the main factor.

Q: Do you know why you think you are the most important factor?

A3: I think I feel guilty a little bit. When I am starting doing something bad, I think of my parents. It, like for me, myself is the most important factor. It is my confidence. I am confident that I will not make a mistake because my parents will be disappointed. I think of my family and myself. I love myself. I can see the consequences easily. I have been doing very well. So, I won't let something bad happen to me.

A4: I think because I see things a lot. I know what is going on. My experiences help me not to do it.

A5: I am proud of myself. Like I am educated in the University. I have a future. My success is not far from here. So, I think I have been successful and why I want to destroy it. I think about this and I don't want to destroy my life. It has not been easy to get to this point.

(Government office group 1)

Indeed, young women expressed sexual agency through a sense of self. Throughout the discussions, the discourse of these young women revealed that they believed that they were in control of their lives and made their own choices, and only a few accepted that family played a defining role in their decisions about sexuality.

A1: I don't think [my parents] have influence on my decisions
Q: Why?

A1: Because it depends on you. It is your thoughts and your choices.

Q: They warned you to be careful.

A2: Yes, they told me don't "make a mistake" [get pregnant].

Q: So, do they have influences?

A2: It depends on me, whether I would follow their warnings. If I really want to do it, there is no way they will have an influence on me, but I know I should not [get pregnant].

A3: [Family has] very little [influence]. This is because in general I am not interested [in sex]. I mean, I do not show my feelings. Even when I am with my

boyfriend alone with something inappropriate showing on mass media [television], I get out. Family doesn't have influence on my sexual behaviour. It's me, but I would think about how not to get pregnant or to use protection, these are the first priorities.

A4: [Parents have] no influence on my sexual decisions. It is all about the two people.

A5: They do not interfere, definitely.

Q: So what are the things that do influence your decision?

A5: Me, myself, because of the fear of negative consequences.

(Low-income community group 2)

A: Sometimes, family doesn't have an influence; it depends on them and how well they [young women] behave. Family is only one part. Their social networks, when they feel lonely they want to hang out with friends. So if they are with their friends and networks, then they have to follow them.

(Garment factory group 1)

However, it appears that young women's sexual decisions were *relational*. That is, they made their decisions within the context of a relationship with significant other persons in their lives and based on what they learnt from family and social contexts. Young women considered their relationships with others as a part of the decision-making process. They related others' feelings and their relationships with others when making decisions. Young women clearly expressed their feelings towards their parents with regard to their sexual activities. In line with Family Change Theory (Kagitcibasi, 1996), these internalised feelings reflected Thai traditional family values of interdependence between generations. Young women indicated that the concept of เกรงใจ *kreng-jai* motivated them to be careful about their behaviour and to consider the negative consequences of engaging in sexual activity. เกรงใจ *Kreng-jai* is an example of Thai cultural emphasis on the importance of social harmony, described by Klausner (1993) as the tendency "*to be considerate, to feel reluctant to impose upon another person, to take*

another person's feelings (and ego) into account, or to take every measure not to cause discomfort or inconvenience for another person" (p.199). This principle of เกรงใจ *kreng-jai* is clearly articulated in a discussion among participants, for example:

> *A1: I think [my family] have influence on me, because sometimes I think about them...think about how they would think or how they are … fear of them, both fear and เกรงใจ (kreng jai). I am afraid of doing something and how [my family] would be. It is very important to think before I do something.*
>
> *Q: Who in your family did you think of, specifically?*
>
> *A1: All of them, my grandfather and grandmother. I am afraid that they would worry about me. If I do something and then they worry about me – I would not be happy. I think about them, เกรงใจ (kreng jai), and worry about them.*
>
> *A2: I think they have influence, because I have a feeling of fear and เกรงใจ (kreng jai) for them.*
>
> *A3: Yes, they have [influences].*
>
> *Q: And do you talk [about sex] with your mother?*
>
> *A3: No, I am afraid that she would not like it.*
> *A4: I think in my case they have influence. If we live together, I would feel เกรงใจ (Kreng jai) for them.*
>
> *(Low-income community group 1)*

It also appeared that family reputation and family ties would be perceived as at risk if the young women attempted to discuss sex with their parents. They felt that parents had conservative sexual-behaviour norms, and they feared the consequences of advocating or communicating about sex with them. For instance, one young migrant woman mentioned that she did not want her mother to worry, so she did not talk to her mother about her relationships and use of contraceptives. She indicated that the decision to use condoms depended on her and her partner, because her parents did not know about her sexual relationship. Many working-class young women expressed concern regarding the

way their parents would react if they started talking about sex. One young woman explained how her father thought about communicating about sex:

> *Q: So, how about AIDS and sexual activities?*
>
> *A5: No, they don't talk.*
>
> *Q: You know why?*
>
> *A5: I talk sometimes, but my father doesn't talk about this. He doesn't like it, or something like this. He won't listen and he uses curse words.*
>
> *Q: They think it is not good talking about this?*
>
> *A5: It's a bad thing, about body parts below the stomach, he will curse, he doesn't like it.*
>
> *(Garment factory group 1)*

The young women believed that it was their duty to maintain their relationship with family. They felt that they held responsibilities as daughters for taking care of the family. They also expressed positive feelings of *love* and *gratitude* to their parents for their contributions and sacrifice. This feeling about parents is linked to the Thai cultural concept of บุญคุณ *bun-khun* (gratitude), whereby Thai people believe that children must listen and have a duty to repay what their parents have provided for them (Knutson et al., 2003). Several young women tried to avoid engaging in socially disapproved sexual activities that could have damaged the family's social status in the community and destroyed the relationship with their parents. The young women mentioned that their family could ขายหน้า *kaai nah* (lose face) – losing *power*, *status* or *credit* in the community – if they had engaged in socially disapproved sexual activity, become pregnant, or even infected with HIV. The concept of losing face is associated with conflict-avoidance, as one of the main values in Thai culture is based on *"collectivism and non-confrontation"* (Kitiyadisai, 2005, p. 17). Cash and Anusuchatku (1993) found

that the consequences of *losing face* and *losing relationships* could prevent young migrant workers from practising safe sex. Participants reflected on this issue:

> *A1: Yes, it is very important. We needed to รักษาหน้า "save face" because I did not want them to be disappointed in me.*
>
> *A2: It think it could have some influence, because before I did something, I would be thinking about their หน้า "face" first and then me.*
>
> *A3: I would think of my parents' face. If I did make a mistake, get pregnant, then that's it; as a result, my family have massive influence on my sexual decisions.*
>
> *(Low-income community group 2)*
>
> *A1: I would not do it because it's always in my mind and knowing about my mother, she will be the same. If I go against them it would be bad กรรม (karma) so I chose to listen to them…*
>
> *A2: I think they have a lot of influence on me because of my family before I did something I would think of them.*
>
> *Q: Before you did something?*
>
> *A2: Yes, everything, something, like when I was going to do things I just saw their faces. They raised me and trained me to be strong and to make the right decisions….*
>
> *(Government office group 2)*

Overall, there can be little doubt that self-belief plays a significant part in young women's decisions. Yet, the participants also revealed intricate decision-making processes that involved family and other social influences. Research has suggested that contextual factors, including a more open social context, regulated environments and positive family relationships, could allow young people to gain experience safely and develop a sense of self (Barber and Olsen, 1997). Indeed, young women in this sample revealed that their sense of self was constructed within a rich social context. They chose to exercise sexual agency and made decisions by relating themselves to different socialising agents within Thai sexual norms. Family and social influences construct but

do not constrict young women's sense of self, which, in turn, influences their sexual decision-making processes. The following themes describe how young Thai women perceived the influences of family and how they related themselves to the family within a wider social context that shaped their sexual decision-making process.

Theme 2: "I got confused, because they don't talk about this at home": Parent-child communication about sex

Elsewhere, the family has been recognised as a key source of HIV information and family members, especially parents, can play a vital role as primary sex educators (Dilorio et al., 2007a). However, it appeared that young women in the focus groups rarely discussed sexuality in general and, in particular, rarely discussed HIV and AIDS at home. Across the groups, young women indicated that they received sexual-health and HIV-related information from school or the mass media. Although young women in the focus groups demonstrated a good level of basic knowledge of sexual risks and preventive methods, they, particularly those with low SES, still lacked a sophisticated understanding of HIV/AIDS risks. They expressed uncertainty about HIV transmission. They were *unsure* about whether HIV could be transmitted through personal contact, such as sharing meals. A discussion amongst the garment factory workers demonstrates some uncertainty about HIV transmission:

> *A1: [HIV] can be transmitted through sexual intercourse, through blood, through open wounds. Sharing stuff can be a risk of HIV?*
>
> *A2: Through blood. It can be transmitted through saliva?*
>
> *A3: How about getting a wound in the mouth and sharing a meal, is it possible to get infected from that?*
>
> *(Garment factory group 1)*

Other myths included the belief that females were protected from HIV infection or could live longer than males because women *"get rid of bad blood every month"* through menstruation. There were few exceptions; some young women who were studying at university also showed an uncertainty of HIV- related knowledge. For example, one young woman explained that she would feel uncomfortable eating food cooked by HIV-infected people because she was unsure of whether it was safe.

Conversations between young women, from low SES backgrounds and their parents were generally restricted to mundane aspects of everyday life, rather than intimate matters such as relationship and sex. They explained that their parents concerned more with *how to earn money* than *men.* In other word, low-SES parents may be more focused on day-to-day struggles with less attention to their daughters' courtship.

Although the young women from less-privileged backgrounds generally felt happy at home, regardless of their living arrangements, they admitted that there were *barriers* to communication about sex at home. Dominant narratives of blame for the lack of communication about sex at home were often placed on parents. Although most young women from low-SES backgrounds were educated at least to high-school level, the majority of their parents finished only elementary school. They perceived that their parents were not confident talking about sex and were unable to provide useful biological and technical information about sex and HIV prevention. When asked whether they talked to their parents about sex and HIV, they explained:

> *A1: If not watching news, they won't talk about it at all.*
>
> *A2: Our mothers have only little education, as their generation finished at Por 4, 5, 6 (Grade 4, 5, 6), so they can't say anything.*

A3: Not at all, because they know nothing, so I don't know what to talk about. [My parents] don't know what condoms are; they only know AIDS is a disease.

Q: They don't know about condoms?

A3: They don't know what they are for. I got confused, because they don't talk about this at home.

(Garment factory group 1)

In a Thai context, perceptions of *who is at HIV/AIDS risk* are associated with the previous national HIV/AIDS campaigns, such as "100% condom use"; that is, the risk is mostly associated with those who engage in sex work or use drugs. Findings from the study by Thianthai (2004) have shown that young Thai women from the upper class do not consider themselves at risk from HIV/AIDS. Unlike those from low-SES backgrounds, more educated young women from affluent backgrounds believed that they did not discuss sex at home because their parents did not perceive them to be in *at risk* groups. One young woman from the university group admitted, *"They [parents] did not talk about it at all because they are confident that I am not [at risk]."* The other young woman from the government office group explained that parents would not warn them about the risk because they knew that *"We are not at risk, we were not using drugs".* They indicated that they occasionally received indirect messages about "*not getting pregnant*", but there was no discussion about HIV/AIDS at home. In addition, these young educated women believed that many parents considered that it was not their responsibility to provide information about sex to their children. Parents thought that it was not necessary to discuss sex, because their daughters *"must know about this, because it is common sense"*. As young women explained:

A: We do not talk about [sex]. My parents think, like I said, that I am not at risk. So we do not talk about sex. They do not worry about this. They sometimes ask about my boyfriend…

(University group 1)

A: We don't talk in our family, because they think that we should know from school or the media. It may also be because they don't know much about it and think that we should know more about it, like, in our generation we should know about it.

(Government office group 1)

Intimate talk with their parents appeared to be important to young women in sharing their personal life, negotiating control, and asserting independence. One young woman was frustrated that, although she had started talking with her mother about her boyfriend, her mother did not ask for more details about the boyfriend or show any interest in talking about her relationships:

A: I talk to mum. [I] tell her every time when I am starting seeing someone. [I] tell her that I have got a boyfriend. She [mum] just replies like "I see' and that is it. She doesn't ask more about it, like how things go so far. She doesn't think about that. So…

Q: So she won't ask first?

A: No, she won't. Like I said, I have a boyfriend and that is it. Mum has never asked more, what, where, how. But I think if I tell her that I have a sexual relationship with him, she will discuss it, like 'Take care of yourself' and 'Be careful about getting pregnant and infected.' But I have never started talking about this first. She doesn't ask me first.

(University group 2)

Parent-child communication in general, and in particular about sex, is a complex process. It not only involves dyadic messages delivered through interaction between parents and children, but also involves the context in which the communication takes place (Jaccard et al., 2002). In a Thai context, traditional sexual norms could play an important part in influencing parent-child communication about sex. Sexual topics are considered taboo (Tangmunkongvorakul et al., 2005). One participant described the difficulty of Thai parents in communicating with their daughter about sexual issues:

A1: Thai culture doesn't talk about sex. Thai families do not talk about sex and there is no teaching about sex. Parents would feel embarrassment and don't know how to teach their children. It is not the same as ฝรั่ง (Farang — Westerners) when a daughter is having a period. ฝรั่ง (Farang) parents would talk about this and buy pills for their daughter. They have condoms at home. The daughter is not afraid to ask for a condom from her father. One of my friends lives abroad; her parents don't talk about sex, even though they are not living in Thailand. In Thai culture, we do not talk about sex, because we think it is taboo. That is why our families do not talk about sex.

(University group 1)

Communications researchers have shown how Thai parents tend to follow Thai traditional norms, whereby communication style is indirect and covert (Knutson et al., 2003). Across the focus groups, the young women revealed that their parents talked to them indirectly regarding sexual issues. As the parents felt uncomfortable talking about sex, they talked to daughters indirectly, by giving hints and examples from someone they knew. Middle-class young women admitted that their parents talked to them indirectly about sex, but they seemed to understand what their parents wanted to communicate, as one explained, *"They [parents] talk indirectly, but the main point is that, if you don't take care of yourself, you will get something [pregnant]. They talk like this, but it is enough for me to know that they don't want me to have a baby and other diseases…"* (University group 2). In general, when parent-daughter communication about sex did occur, the main messages young women received from their parents were largely about pregnancy. The positive aspects of sexuality and HIV-prevention methods were rarely discussed by parents. As young women from the low-income community described, "not to get pregnant" was the main concern when they discussed with their parents about sex.

A1: …talk about my boyfriend and [my mother] tell me to use protection and finish your studies. They are mostly concerned about me getting pregnant.

A2: Mine, they warn me to be careful, concern that I would get pregnant, saying, 'Don't do that!' because they are worried that they will have to take care of the baby.

A3: They talk to me mainly about not getting pregnant.

(Low-income community group 2)

In addition to receiving only specific and limited messages about sexuality, it seems that young women felt unhappy that their parents did not talk to them directly about sex. They expressed a desire to get advice, as well as open and supportive conversations with their parents. As young women discussed:

A1: They don't talk about AIDS. Often they say something, like teasing, I am not sure. I think they should know what I need to do.

Q: So they don't talk to you about AIDS?

A1: No, they don't; like when we were watching television together, they would tell me, "Look at this for your example." That's it, nothing more.

A2: Me, we don't talk about [sex]. I learnt about this by myself, to protect myself. If [my grandmother wanted] to teach me, when something was shown on television, just then she would mention it. They don't start talking about [sex] unless it is on television.

Q: How about AIDS?

A2: No, they don't talk about it unless the neighbours talk about it and then she would mention this to me, like giving an example. She would say the next door [neighbour or] someone got [AIDS]; they did not protect themselves, so they got infected.

A3: I would like both my dad and my mum to talk about this like a family. Talk to us sometimes, like teenage talk. Saying, like, how are you? To talk like we were friends, so I can talk to them about everything. If my mum asks me about [sex], I have to tell them, but I want them to talk with me openly, not just blame me, like talk open and direct about it.
(Low-income community group 1)

Moreover, young women perceived that their parents held different attitudes towards sexuality for sons than for daughters, which subsequently influenced the way in which the parents discussed sex with their daughters. In traditional Thai culture, acceptable feminine behaviour is characterised by politeness, obedience, innocence, sexual abstinence and sexual passiveness (Tangmunkongvorakul et al., 2005). By contrast,

parents expect sons to be strong, courageous, assertive and confident, and sexual experiences were seen as important to the development and maturation of young men (Thianthai, 2004). Therefore, parents allow sons to engage freely in sexual activities and even endorse their promiscuity (Ford and Kittisukasthit, 1994). During the focus group discussions, one young woman recounted that her parents openly warned her brother to be careful and to "*protect yourself*" when having sex, but said nothing to her. The participants received the message that men can do anything sexually, but women must avoid premarital sexual activity. The concept of รักนวลสงวนตัว (*rak nuan sa-njuan tua)* – feeling pride in being a virgin and being reserved with the opposite sex and not being alone with men – was typically conveyed by parents to their daughters:

> *A1: …. My father and mother always told me that I am a woman, so I need to be careful and think a little bit, because it would destroy my reputation. I need to observe รักนวลสงวนตัว (rak nuan sa-njuan tua) and I am still too young to think about this kind of stuff.*
>
> *Q: So, do you listen to them?*
>
> *A1: Yes. I do.*
>
> *(Government group 1)*
>
> *A1: [My parents] mostly talked to my brother, because he likes to flirt around. They said don't do this too much, something like this, don't have too many girlfriends.*
>
> *A2: They talked only with my brother. He got many girlfriends and had sex. They would say, "protect yourself", something like that, but I just have one [boyfriend].*
>
> *(Low-income community group 1)*

Other social institutions, such as peer groups and the mass media, also appear to have an influence on young women's lives. Across the groups, participants perceived young Thai women as having to cope with the influences of peers or mass media. They perceived that, although many parents had a good relationship with, and provided

support to their daughters, young women could not resist external influences; they followed their friends and wanted to be *in trend*. For example,

> *A: I think they follow the trend, follow friends, because in big cities I think there are many distractions. Lot of distractions, but, if you know how to live in the city, you will know to behave. Some people come from other provinces and, like, never seen this kind of thing before. Some, like my friend, she is very nice and disciplined. When she moved to the city to study and met some men, then she's gone. Now she is in bad shape. She got several pregnancies and had abortions…*
>
> *(University group 1)*
>
> *A: I think it is partly from mass media.*
>
> *Q: How? Can you explain?*
>
> *A: Like from the TV series. It shows things in that way [dangerous] and maybe things have changed.*
>
> *Q: So how do they [young women] react?*
>
> *A: Yes. Like, [young women] go out at night and dress too open. Then, there is a chance to get something [rape]. I got my friend in Chaiyaphom, who runs a massage parlour. She has never asked me to do it. Because I think she loves me, she tells me everything. She has never asked me to use drugs. She does use drugs, but never asked me. I won't do it.*
>
> *(Garment factory group 1)*

Young women often talked about their friends' experiences of unwanted pregnancy, alcohol and drug abuse and selling sex for money, influenced by peer networks. This can be a particular concern when the role of family in supporting and providing young Thai women with essential knowledge for appropriate sexual behaviour is limited and other reference groups have become more salient in exerting influences on their sexual decisions.

Theme 3: "My mother is so kind. My father doesn't talk": Parent-child relationships

Previous research has suggested that family relationships play a major role in young people's development and sexual risk (Crosby et al., 2001; Hutchinson et al., 2003; Miller, 2002). Across the focus groups, young women discussed their relationships with family extensively and openly throughout the discussion. They believed that strong relationships built trust that could provide them with opportunities to initiate intimate talk with their parents. Young women indicated that, if they had a good relationship with parents, they would discuss sex-related topics with them. As one young woman explained, *"If the family is connected and there is a good relationship between the mother, father and children, it will be easier and feel comfortable to talk and discuss [sex]…*" In contrast, some admitted that they did not have a close relationship with parents, so they did not feel comfortable to discuss about sex or other sensitive topics with parents. As one young women explained, *"…about family relationships, it is like I don't feel close to my dad and mum or my siblings in the way that I can tell them everything…"* (Government office group 2).

Martin's (1996) study of identity development of children and adolescents found that the mother-daughter relationship played a critical role in a daughter's development of sense of self. After interviewing 55 young girls and boys, she found that girls whose mothers talked to them directly and provided support and confidence were able to develop a sense of self and sexual agency. She also described girls' relationships with their fathers. She explained that middle-class girls connected to fathers *"through ideal love"* (p. 98), while working-class girls distanced themselves from fathers and pictured them as *"innocuous or authoritarian"* (p. 100).

The findings from this study support the importance of family relationships and, in particular, mother-daughter relationships for the development of young women's sense of self. Across the groups, young women explained that their mothers were *supportive* and *receptive* when they discussed their lives and boyfriends. They felt that their mothers could provide *constructive* advice, enabling them to be more confident in making their decisions. In contrast, there were several young women who thought that their fathers were *quiet*, and admitted that they were reluctant to talk to them on these sensitive sexual topics. The participants also felt that their fathers could not provide the support and advice they needed. As one young woman explained:

> *A1: No, I don't talk with my father. [My father] doesn't say anything, it's up to me, whatever I want to study, what I am doing, [he doesn't] say [anything] or force me to do anything.*
>
> *Q: For example, if you want to go out at night, can you do that?*
>
> *A1: No, I can't go out at night, can't go outside.*
>
> *Q: Are they strict?*
>
> *A1: My mother is so kind. My father doesn't talk, very quiet. When I wanted to discuss, then he said, "Make you own decision. You are grown up," but my mum would help me, give me advice, which one is good or is not. Then she asked me to think again. I think they both are kind to me.*
>
> *(Factory worker group 1)*

However, there were some exceptions. Some educated young women expressed their love for their fathers, and regarded their fathers as important figures in their lives, a role model, or the person with whom they wanted to discuss their personal problems. As one young woman said about her father, '*My mum is so picky and so strict. When my dad was alive, he was very kind and if there was anything, everyone would go to talk with dad. Dad raised us like we were [his] friends…*'(Government office group 2).

As a result of data analysis, a common theme emerged that these educated young women who were better connected with their fathers, appeared to have no relationship with, or experienced a difficult time with their mothers. One young woman had stayed with her father since she was six months old and only learned later that her mother left after her parents' divorce. In other contexts, in the absence of maternal support, fathers can play a critical role in young women's development and sexual behaviour (Guilamo-Ramos et al., 2012; Regnerus and Luchies, 2006). However, to what the extent the relationship between fathers and daughters does influence young Thai women's sexuality needs to be further explored.

Theme 4: A different and changing society: Contextual and social influences

In addition to family influences, the findings show that shifting Thai norms also played a part in the development of sexual autonomy and sense of self in young women. Young Thai women have seen and contributed to the outcomes of significant social development and changes towards a modern society with permissive sexual attitudes. However, they continue to hold traditional attitudes towards parents, maintaining relationships with family by being obedient and respectful. In line with the model of emotional interdependence (Kagitcibasi, 1996), recent social changes and development in Thailand, specifically in urban areas such as Bangkok, create a complex situation for young Thai women, as they must adapt their attitudes, feelings and perception of sexuality to the coexistence of traditional and modern norms.

Although young women in the focus groups expressed self-efficacy and confidence as discussed in the previous theme, their decision-making was also influenced by peer and

contextual factors, notably the context of modern Bangkok and the shifting of values toward materialism. At the same time, young women felt that the conservative normative attitudes towards sex influenced their decision to delay sexual engagement. They acknowledged that they needed to be careful, because people around them were watching and judging them:

> *A: It's me; I am strong. Like, when I got a boyfriend, even after we were together for a while, I still didn't allow him to hold my hand … It's because of things like our culture, too. So I think it depends on you. If I do not trust them, I definitely won't engage in sexual intercourse.*
>
> *(University group 2)*

While young women perceived that Thai norms towards sex were conservative, they also acknowledged the challenges faced by young Thai women in responding to the changes in social norms and lifestyles in the increasingly globalised Thai society. Young women from privileged backgrounds believed that societal changes could bring about new values and beliefs about sexuality. This possible belief encouraging young women to act similarly to those seen in Western societies – moving towards *openness*, *individualist* and *risk taking*. Young women from the government office discussed the issue:

> *A1: ...for other women, they are younger than me. They got married and have children. Some don't even get married. They just live together….*
>
> *A2: the same as [A1], it depends on social networks. If you are studying, then you work, get married. It follows steps.*
>
> *A3: …They just don't care how their family would react or lose face. They don't think [about family], they just stay together with no big ceremony. Like from other provinces, if it [living together] doesn't work, they just go different ways.*
>
> *A4: …these days, we are not dependent on men. My friends, they are talking about study, work, and security in life. Some agree that living together [is ok], no obligation, or they are not thinking about family life. [I feel] that young women have more freedom and think less about family life.*
>
> *(Government office group 2)*

Moreover, these educated young women believed that the changes in sexual-behaviour norms could put young Thai women at risk. They explained that young Thai women have increasingly accepted casual sexual relationships. The concepts of a "*one-night stand"* relationship or "*having multiple partners"* have become more acceptable among young Thai women. As one university student explained, *"From my opinion, I think young Thai women are at risk, because of a change in society. The change in society is that it is more opened up. Like, teenagers like to go out. At the moment, one night stand is very popular…*"

While young women of low SES agreed that Thai sexual-behaviour norms had changed and opened up more about sex, they were also concerned that young Thai women were in *a different and changing society*—a society increasingly characterised by *materialism*, motivated by money and *luxurious lifestyles*. This desire for material possessions was both internalised and driven by a perceived need for approval from peers and others in their social networks.

> *A1: What I see in most of them is materialism. In the past, [Thai women] were conservative, tending to preserve their purity. Nowadays, they are more open. They don't care about sex; don't care about their partners' sexual history. [Young Thai women] want to dress up, not listen to anyone; they just want to have a boyfriend. You can see now, they do not even finish Mor 3 (grade 9) before they have a boyfriend. You can see easily, they are too young. They are motivated by greed and friends who tell them about this and that.*
>
> .
>
> *Q: What do you think about being materialist? Why do you think they are?*
>
> *A1: [Young Thai women] see others who have a mobile phone with camera, and they want one. When their parents don't have enough money to give them, they don't listen. They think that if their parents don't have money, they will work at a karaoke café to make money, something like that. They would say, "If my friend has a computer, I will have to have one." …*
>
> *(Garment factory group 1)*

In addition, middle-class young women were concerned that those who migrated from other provinces to Bangkok would *struggle* to adjust to the different and changing environment of Bangkok. The new migrants were particularly vulnerable because they might not be able to protect themselves from *dangerous* aspects of modern society. As one participant stated *"They can't take care of themselves as good as those from Bangkok."* (University group 1).

Although the young migrant workers admitted that Bangkok was different from where they were from, they did not see themselves as at risk per se. Instead, they felt *disconnected* from the family and described the more subtle costs associated with migration. For example, during the course of group discussions, young migrant workers emotionally described their *unhappiness* at being away from family. One explained that they *"missed home and don't want to come [to Bangkok]…"*, but that, for financial reasons, they had to find a job. In addition, they thought that young women from their hometowns lacked aspirations and perceived that the most viable option for young women outside Bangkok was to have a family instead of a career. As one young woman, who had recently moved to Bangkok, explained:

> *A: Some don't want to work, but from what I see [I] don't know any of my friends who are working*
>
> *Q: So what are they doing?*
>
> *A: When they finished [school], the latest one [she] got married and went back to her home, working in the farm. The other one is still studying in university, just studying, not working. Another one is also studying in university, but not finished, then got married.*
>
> *(Garment factory group 1)*

6.3 Conclusion

In this chapter, data from focus group discussions were analysed to uncover and attempt to understand the perceptions of young Thai women in Bangkok concerning their sexual decisions. This study explores how family and social factors influence the way in which young Thai women develop and exercise a sense of self, which plays an important part in young women's sexual decision-making processes. Results from this study suggest that the sexual decisions of young Thai women are complex and take place in relation to a wide range of personal, familial, social and cultural influences. The findings identified several challenges of future HIV interventions for young Thai women who are currently at increased risk of HIV infection.

First, although the young women in the study expressed a strong sense of self, their sexual decisions were not purely individualistic, but, rather, relational. They voiced their experiences and sexual-decision-making processes vis-à-vis their relationships with family and connections with others, particularly in the context of Thai social norms. Participants are influenced by traditional Thai cultural concepts, such as ขายหน้า *kai-nah* (losing face), บุญคูณ *bun-khun* (gratitude), กรรม *karma* and เกรงใจ *kreng-jai*, reflecting values of collectivism, social harmony, respect for hierarchy and interdependence of the generations (Knutson et al., 2003). Young women related their need and desire to follow family values, maintain family relationships, avoid conflicts and perform a required duty, while at the same time acknowledging that their sexual decision-making was in their personal control.

However, there appears to be a tension between young Thai women's modern sexual attitudes, self-confidence and desire to be independent versus the strong influences of traditionally conservative Thai norms that promote more conservative standards of sexual behaviour. Young Thai women in the study, in particular those who had moved to Bangkok from other provinces, struggled to adapt to the different and changing lifestyles in Westernised Bangkok society. Thai culture imposes strict rules on families to socialise daughters to follow appropriate, socially accepted feminine sexual behaviours (Vuttanont et al., 2006). The young women were directly and indirectly taught to be socially submissive, obedient and loyal to their parents. At the same time, they struggled to fit into a Westernised society that allowed sexual decisions to be made independently. They were distracted by friends and the mass media and motivated by the modern trend of materialism.

In a study that explored the attitudes of young Chinese people in Westernised Chinese cities, in order to understand whether their traditional sexual mores had given way to permissiveness, Chang (2005) supported the notion that traditional family values were still embedded in young people's sexual decisions, even though they lived in modernised societies. However, these young people had to understand the boundaries between individualistic values and traditional family beliefs in order to avoid the negative consequences associated with migration and modernisation. Therefore, it is important that young Thai women are able to balance the influences from traditional familial sexual values and the changing social environment, so as to avoid possible negative health impacts.

Second, one-way to support young women in developing their sense of self is through parent-child communication (Weinman et al. 2008). However, young Thai women rarely discussed sex with parents beyond prohibitions of pregnancy. Participations from low SES described multiple barriers to parent-child communication about sex, due in part to their parents' inadequate parental knowledge, perceived invulnerability of their daughters to HIV, and inability to communicate on many technical aspects of HIV/AIDS-related issues with their children. Young Thai women desired a more open, direct and supportive communicating style. However, Thai parents may feel embarrassed and uncomfortable in discussing sexual topics, such as condom use or HIV/STI prevention. Consequently, they may try to find indirect ways in which to convey sensitive messages. Unfortunately, this conflicted with the desire expressed by young Thai women for intimate and direct discussion of the issues with their parents. These findings reflect the challenges that parents, in particular fathers, may have to serve a role as a sex educator whilst encountering the changes in the parent-child relationship during puberty (Kirkman et al., 2002). Young women in particular from low SES appreciated the relationships they had with their fathers but felt uncomfortable talking about sensitive topics with them. The study in Northeast Thailand suggested that fathers had a less prominent role than mothers in communication with their children because mothers had a stronger relationship with their children (Sridawruang et al., 2010b).

The findings from this study also echo the struggle of parents to gain trust and initiate intimate discussion with their children whilst retaining power and control. In the study, they argued that Giddens's concept of *pure relationship* – mutual disclosure, commitment, and intimacy (Giddens, 1991) – is undermined by an imbalance of power

between parents and children. They suggested that parents and children might have different views and goals of communication. Whilst parents aimed to gain information, delivered traditional messages and exercised power, children increasingly developed a sense of self, asserted their independence, and ultimately made their own decisions (Solomon et al., 2002).

In addition, young women felt that parents expected their daughters to follow the rules and customs established by conservative Thai norms. Parents sent the double-standard sexual message that men had more freedom to act and engage in sexual activities than women. For women, premarital sexual activity that leads to pregnancy was viewed as strictly unacceptable. Socially disapproved behaviours, such as having sexual relations before marriage, discussing sex openly and being alone with male counterparts, were undesirable. Consequently, many young women perceived that open discussion of sex would be inappropriate. Tangmunkongvarakul et al. (2005) have suggested that these double-standard messages could put young women at risk as they feared discussing sex with their parents and were unlikely to get support from others, including seeking healthcare, for their sexual health needs.

These findings of barriers to parent-child communication are similar to those of other studies in Thai and other settings. Vuttanont et al. (2006) have supported the view that Thai parents do not always have the relevant knowledge and confidence to educate their children, and that Thai conservative sexual values generally dictate what and how parents communicate with their children. Another study by Rasamimari et al. (2008) of mothers and their adolescent daughters in Bangkok has shown that Thai mothers feel uncomfortable talking to their daughters about sex. These mothers expressed a need for

intervention programmes that provide essential knowledge and skills and would prepare them for and support them through effective communication about sex. Others have found that daughters were more likely to discuss sex with mothers than fathers, because they felt that mothers were more receptive and accepted their opinions about sex (Feldman and Rosenthal, 2000; Podhisita et al., 2001).

Third, the findings also suggested that young Thai women still lacked the sexual-health knowledge required for making responsible sexual decisions. School sex education alone simply is not enough to provide sophisticated, relevant HIV-prevention knowledge that can lead to condom use in young Thai people (Thato et al., 2008). Limited discussion with parents about sex led many participants to find alternative sources of knowledge, or spaces, such as friends and mass media, where they could comfortably talk about their sexual issues. Mass media and friends were frequently described by the young women as sources of HIV information, providing useful knowledge in the absence of essential support from their parents. Although mass media and social networks could provide some of the required HIV knowledge, these have to be closely controlled and monitored to avoid miscommunication and false information that might result in undesired repercussions.

Fourth, the findings from the focus groups suggested the importance of family relationships in terms of the way that young Thai women appreciate positive connections with parents, in particular with mothers. Their sense of self and confidence is internalised in relation to, and influenced by, family relationships and family support.

Finally, the findings from focus groups illustrated that families from different backgrounds (for example, low SES versus high SES) have different circumstances and needs. Young migrant women were particularly vulnerable to sexual health risks. Their parents, with limited sexual health and HIV knowledge, were under financial stress that made communication about sex with their daughters less relevant. Young migrant women may need extra physical and emotional support, which would help them to integrate into a new environment and get access to appropriate sexual-health advice.

Overall, the findings of the focus groups, supported by Ecological Systems Theory (Bronfenbrenner, 1986) and Family Change Theory (Kagitcibasi, 1996), suggest that it is important that HIV interventions are multi-level, multi-component, designed to provide essential HIV/AIDS knowledge, develop young Thai women's sense of self, and empower them to express sexual agency, which can enable them to make responsible sexual decision within familial and social boundaries. A number of family-involved HIV interventions (FIHIs) have been shown to be effective in changing young people's sexual-risk behaviour (Chapter 4). Although the majority of these interventions are designed for young people in the US context, some programmes have been adapted and proven effective outside of the US – e.g. Focus on Youth in the Caribbean plus a parent-involved intervention (CImPACT), successfully adapted for use with Bahamian youth (Chen et al., 2010). In the light of epidemiological trends, a challenge now is to design, adapt and deliver effective and culturally appropriate interventions for young Thai women.

The next chapter presents discussion based on the findings from the systematic review of FIHIs and focus group interviews with young Thai women. It aims to explore the

potential of future FIHIs for young Thai women. Strengths and limitations of the research projects carried out within this thesis are also outlined. The final section presents recommendations for policy and practice.

Chapter 7 Discussion and recommendations

We need to look for ways to let our children know that condoms are a part of daily life, just like salt and pepper. Prevention is the most effective cure.

M.Viraviadaya, Thai AIDS activist and politician, Prince Mahidol Award recipient

This thesis aims to explore the roles of the family in young women's sexual decisions, and to identify specifically the challenges to and opportunities for future development of family-involved HIV interventions (FIHIs) for young Thai women. It offers a new contribution to the HIV prevention and sexual health education literature, by synthesising and adding evidence about the ways in which families and social systems interact and influence young women's sexual decisions. The findings produced from the mixed methodological approaches converge to identify the potential effectiveness of FIHIs tailored to young Thai women, constituting an important step in addressing the public health problems of HIV/AIDS infections in Thailand.

A combination of two complementary research components, *systematic reviews* and *qualitative primary research*, was employed in this thesis to provide a more complete picture for designing future FIHIs for young Thai women. The systematic review of all FIHI studies conducted worldwide was carried out between 2009 and 2012 to assess the potential benefits of FIHIs for young people across different social contexts and to identify key characteristics of the effective FIHIs (Chapter 4). In order to gain a deeper understanding of young Thai women's perspectives on family influences on their sexual decisions, two sequential research projects were carried out. The first research project is

a systematic review of studies across international contexts that explored perceptions of young women concerning family influences on their sexual decisions. It was carried out between 2009 and 2011. The second research project is qualitative primary research. It was carried out between 2011 to 2013 in Thailand to explore young Thai women's perceptions of family influences on their sexual decisions. The findings from the qualitative investigation complemented the findings from the systematic review of the FIHI studies, which together bring attention to potential opportunities and possible challenges in future FIHIs development for young Thai women.

In this concluding chapter, which builds on the findings of systematic reviews and the qualitative study, the opportunities for and challenges of future FIHIs for young Thai women are outlined (Section 7.1). Following the narrative review of findings, this chapter presents the limitations of the research projects employed in this thesis (Section 7.2). Finally, this chapter closes with recommendations for research, policy and practice aiming to reduce risk for HIV and other sexual risk outcomes in young Thai women (Section 7.3).

7.1 Potential of FIHIs in a Thai context: Opportunities and challenges

The findings from the systematic review of the existing FIHI studies suggested that involving the family in HIV interventions can have positive effects in improving young people's condom use practices. Given that condom use among young Thai people was generally low and inconsistent (Thato et al., 2003), the results of the systematic review suggest potential benefits of implementing FIHIs for young Thai women. However, findings from the qualitative analysis suggested that it is challenging to design and

implement a new FIHI successfully in a Thai context, given limited resources and conservative Thai sexual values.

In recent years, it has become widely accepted that new interventions to prevent HIV in young people must be carefully developed and appropriately adapted, by incorporating *key characteristics* of previously validated effective interventions and considering new elements to enhance cultural relevance for the new target populations (Ingram et al., 2008; Galbraith et al., 2011; Lightfoot and Milburn, 2012; Rotheram-Borus et al., 2009a; Rotheram-Borus et al., 2009b). Recent research has suggested that delivering FIHIs to young people is feasible. Rosati and colleagues (2012) reported findings from a process evaluation of the *Thai Family Matters* project, a family-based intervention for young people aiming to address risk and protective factors for substance use that has been culturally adapted from the evidence-based *Family Matters* in the US.[8] Using a post-test-only design, the study reported parents' satisfaction with the programme materials and demonstrated that culturally adapted, evidence- and family-based interventions can be successfully delivered to young people in a Thai context. There are also reports of successful cases of culturally adapted evidence-based interventions in other settings, including the Collaborative HIV prevention and Adolescent Mental Health Project (CHAMP) in US and South African settings, which aimed to influence sexual risk factors at multiple levels (Sperber et al., 2008).

Findings from the systematic review of FIHIs (Chapter 4) suggested that the effective FIHIs shared several important characteristics. Overall, the effective FIHIs were designed to be comprehensive, multi-component interventions, aiming concurrently to

[8] http://www.ipsr.mahidol.ac.th/ipsr/Research/ThaiFamily/Default.htm

target individual, familial and environmental factors. These effective FIHIs aimed to support young people in developing a sense of self and in controlling their sexual behaviour, to equip them with the necessary sexual-health knowledge and skills, and to address a broader range of risk behaviours (for example, drug use). At the family level, the effective FIHIs aimed to address barriers to parent-child communication and to provide essential sexual-health and HIV/AIDS knowledge and necessary skills (for example, condom-use skills) to parents. Other components commonly found in the effective FIHIs were the provisions that aimed to support parent-child relationships, strengthen parental monitoring strategies, engage with a wider context (e.g. peer, school) and those aimed to incorporate relevant social norms into the interventions.

However, an important question arose from this synthesis review reported in Chapter 4: How might these key characteristics be appropriately incorporated into a FIHI and adapted for young Thai women? The findings from focus groups discussed in Chapter 6 provided preliminary answers to this question, by highlighting several important issues that need to be taken into consideration in adapting FIHI programmes for young Thai women.

First, it was clear that, although most of the young Thai women in the study had finished secondary school, where they should have been taught about sexuality and HIV/AIDS, they still lacked the sexual-health knowledge required for making responsible sexual decisions. For this reason, future FIHIs should aim to provide such knowledge. However, one of the challenges is *how* to deliver essential sexual-health and HIV-related messages effectively. According to the focus-group discussions, it appears that school sex education alone simply is not enough to provide sophisticated, relevant

HIV-prevention knowledge, which can be sustained over time, to young Thai women. Analysis of focus group discussions identified several parental barriers to acquiring sexual-health and HIV information for young women (see below for further discussion). In addition to incorporating school and family contexts to improve young women's HIV knowledge, future FIHIs for young women should consider other resources where young women can acquire sexual-health and HIV/AIDS information. For example, studies from other developing countries have indicated that mass-media sources, such as television and newspapers, were considered to be a main source of information on HIV and related knowledge (Li et al., 2009; Singh et al., 2002). However, as discussed in Chapter 6, the mass media provision, in particular online social networks have to be closely controlled and monitored to avoid unintended negative consequences.

Second, findings from analysis of the focus groups revealed that young Thai women develop a sense of self with a strong connection to family and other social influences. One way to support young women in developing their sense of self in order to provide a foundation for healthier sexual decision making is through parent-child communication (Weinman et al., 2008). However, the findings showed that, in Thai families, parent-child communication about sex rarely happens at home. There appear to be several perceived barriers to discussing sex between parents and their daughters. According to this research, parents from low-socio-economic status (SES) backgrounds need more accurate, in-depth and technical information about sexual health and HIV/AIDS, which can support them in delivering important sexual-health messages and help them to be confident in discussing sex with their daughters. At the same time, the findings revealed that parents of high SES backgrounds should be better equipped with additional information about adolescent developments that can help them understand their

daughter's potential HIV/AIDS risks. More generally, Thai parents may feel embarrassed and uncomfortable in discussing sexual topics, such as condom use or HIV/STI prevention. Consequently, they may try to find indirect ways in which to convey sensitive messages. Unfortunately, the findings suggested that this indirect communication strategy may have conflicted with the desire expressed by young Thai women for intimate and direct discussion of the issues with their parents. Future FIHIs should aim to support Thai parents in developing effective communicating skills with their children, including lessons on how to talk about sensitive topics confidently and directly to their daughters. For example, in the *Thai Family Matters* intervention, parents were provided with educational booklets designed to facilitate family communication. The intervention was found to have a positive effect on parent-reported frequency of family communication about sex (Cupp et al., 2013).

Third, the findings from the focus groups suggested the importance of family relationships in terms of the way that young Thai women appreciate positive connections with parents, in particular with mothers. Their sense of self and confidence is internalised in relation to family relationships and family support. Future FIHIs should, therefore, give particular attention to strategies that can strengthen family relationships. This may include strategies that provide encouragement for Thai parents to spend time with their daughters, building relationships and trust. Moreover, given that the findings from the focus groups suggest that young women of low SES feel *distant* from their fathers and uncomfortable discussing sensitive topics with them, it might be important that future FIHIs for young Thai women of low SES should focus on strengthening father-daughter relationships before aiming to involve the father as an *educator* to deliver messages about sexual health and HIV/AIDS.

Fourth, although the successful FIHIs suggest that researchers should consider the importance of parental monitoring, the findings from the focus groups indicated that intervention strategies that stress parental monitoring may be less relevant for young Thai women when they are in the transitional period from adolescence emerging into adulthood. This is in line with the findings from the systematic review of qualitative studies in Chapter 5, which suggested that young women may experience a greater sense of freedom, as well as increased pressure, in new environments. Developmentally, this is the time when young women start taking on more adult roles, accepting more responsibility for their lives, and negotiating power relationships with their parents. However, future FIHIs might consider strategies that prepare Thai parents for the physical and transitional development of their young daughters and suggest ways of providing them with support.

Fifth, future FIHIs should take into consideration the coexistence of two cultures that might shape the sexual decisions of young Thai women. The findings from the focus groups indicated that family values and gender roles remain a strong influence on young Thai women's sexual decisions, emphasising the concepts of social harmony and social status. According to the focus group participants, parents expected their daughters to follow gender-norm standards established by conservative Thai norms. At the same time, living in an urbanised and increasingly Westernised society such as Bangkok, young Thai women desired more independence and developed more open attitudes towards sexuality. Indeed, young Thai women's individual opinions and choices appeared strongly embedded in, and partially determined by their complex and changing cultural contexts – in particular, the tensions between traditional culture and modernisation.

As supported by Family Change Theory, culturally relevant HIV interventions that provide support to and educate Thai parents may be useful in minimising the gap between the modernised values of young women and their parents' traditional sexual values. This may be possible through continuous efforts to facilitate young women's development of protective sexual health norms, fostering the idea of safe-sex practices, such as condom use, as desirable and effective HIV-prevention methods for young Thai women. Moreover, FIHIs should understand the effect of Thai cultural *double standards* of sexuality and aim to support young Thai women with opportunities to develop their sense of self, make responsible sexual decisions and sustain safe-sex behaviours. For example, FIHIs may need to help Thai parents to acknowledge the rapid and on-going changes in Thai society that have emerged in the past few decades, especially in urban settings. As young women emerge from adolescence, sexual abstinence may no longer relevant or desirable to them, and they have a pressing need for sufficient knowledge, as well as appropriate attitudes and skills, that can support them in making responsible sexual decisions.

The successful 100%-condom-use programmes launched in sex venues and emphasised among military conscripts in Thailand during the 1990s, together with the long-established family-planning campaigns in the country, may have contributed to the continuing cultural changes in sexual attitudes towards condom use and more openness in discussions about sex. In this way, Thai parents might be able to adapt the ways in which they socialise with their daughters and be able to communicate effectively about sex. FIHIs should capitalise on these national policies and cultural opportunities that have supported HIV prevention in key risk groups (i.e., among sex workers and the military). The sexual-health messages for young Thai women should go beyond

abstinence and pregnancy prevention and be more concerned with condom use, healthy sexual communication and other safe-sex behaviours.

One of the challenges in implementing future HIV interventions for young Thai women is the need for long-term commitment from local and national organisations, which must provide financial support in order to transfer policies into practice. Lessons can be learned from successful cases elsewhere. For example, the successful Brazilian national responses to HIV/AIDS in changing social attitudes towards condom use and in supporting open discussion of sexuality, specifically HIV/AIDS, were possible through advocacy, mass media and partnerships between local communities and government (Berkman et al., 2005).

In addition, the findings from the focus groups illustrated that young women from different backgrounds (for example, low-SES versus high-SES) may have different circumstances and needs. For example, young women who migrated from other provinces to the capital city, Bangkok, are distanced from their families and their physical and emotional support systems. Additionally, parents of low SES may need more in-depth and accurate sexual-health and HIV knowledge. Therefore, FIHIs should consider specific needs and be tailored to different subgroups.

Finally, future FIHIs for young Thai woman may benefit from more comprehensive, structural and eco-developmental approaches, simultaneously targeting both the individual level and the wider environment of young Thai women. This reflects the findings from the focus groups, indicating that the sexual decisions of young women are

dynamic and complex and take place in relation to a wide range of personal, familial, social and cultural influences

7.2 Limitations of the research

7.2.1 Systematic review of FIHIs

Given that the FIHIs in the review are multi-level, multi-component interventions, the findings should be interpreted as the effect of *whole package* FIHIs, rather than the contribution of any specific component. Moreover, the interventions varied greatly in scope. Across studies, they inconsistently defined and measured sexual-behaviour outcomes and employed different analytical procedures, which makes it inappropriate to aggregate study outcomes statistically through meta-analysis. In 16 of 18 studies, participants in the control group received an active intervention or standard care, rather than delayed or no intervention. It is possible that these control conditions had some effect on participants, and consequently that the FIHI groups were not powerful enough to demonstrate comparative effectiveness.

The systematic review of FIHIs included only studies that measured biological and sexual-behaviour outcomes, and those FIHI studies that only measured intermediate outcomes, such as HIV knowledge, sexual attitudes or family communication, were excluded from the review. Therefore, the findings can provide only some indication of causal pathways of how family-involved HIV interventions can influence young people's sexual outcomes. Based on the evidence reviewed in this thesis, it is not clear how the FIHIs would have impacted on intermediate outcomes (e.g. family

communication) that might, in turn, influence the effect of the FIHIs on young people's sexual behaviour.

To identify the key elements of effective FIHIs, the author relied on reported information in publications regarding FIHIs. In many cases, full information on the intervention development, content, doses, duration, intensity, programme activity and implementation process was not fully described in the primary report. Moreover, although information on intervention characteristics was coded and extracted as objectively as possible, using criteria built from previous studies (Galbraith et al., 2011; Ingram et al., 2008; Rotheram-Borus et al., 2009a; Rotheram-Borus et al., 2009b), the findings may reflect some degree of subjective judgement. In addition, it is not a certainty whether future FIHIs that incorporate all or most of the key characteristics identified in the systematic review will be effective in influencing young people's sexual outcomes. There may be other critical factors that can influence the effectiveness of the interventions, which must be identified and addressed in future primary research.

7.2.2 Systematic review of qualitative studies

The systematic review of qualitative studies employed transparent, replicable, and a priori specified methods to search, describe and synthesise the findings from multiple qualitative studies. In addition to the important findings from the review discussed in Chapter 5, some observations about the process of qualitative-research synthesis were made. First, there has been on-going debate about whether and how the quality assessment of individual qualitative studies should be incorporated into evidence syntheses. A number of quality-appraisal tools for qualitative research have been developed recently, despite the fact that consensus on an appropriate framework

remains to be achieved and empirically tested (Noyes et al. 2010; Sandelowski et al., 1997). Dixon-Woods et al. (2007) reviewed 42 published reports of qualitative-research syntheses and found that the review papers often failed to provide details of whether a quality criterion was used to exclude studies from their review, or how quality of qualitative research was taken into consideration during the synthesis. Currently, there is no hierarchy of study designs for qualitative research and no agreed-upon quality-assessment process, with little empirical evidence to support the decisions to exclude studies based on quality (Thomas and Harden, 2008). Also, there is a risk of bias by excluding studies just because of poor reporting quality (Dixon-Woods et al., 2006), rather than "*the overall value of a study*" (Sandelowski and Barroso, 2003a, p.919). The debate regarding quality assessment of studies in qualitative synthesis is likely to continue, as it is evident from previous studies that there is no emerging agreement on the issue (Thomas and Harden, 2008).

In this thesis, no studies were excluded from the synthesis on the basis of quality. The thesis aimed to understand and describe the range of quality across studies in the review and identify gaps in the reporting of qualitative research. This review found multiple domains that might influence methodological quality – e.g. statement of research questions, reflexivity, how negative cases were taken into consideration, and how the findings addressed the research aims – were rarely discussed in the primary qualitative study reports. Consequently, this review argued that the quality of reporting of qualitative studies about family influences on HIV risk needs to be improved. Recently developed guidelines for interviews and focus-group studies and consolidated criteria for reporting qualitative research (COREQ) may prove useful for researchers in the field (Tong et al., 2007). The main limitation of the systematic review process was that

studies were likely to be excluded on the basis of titles and abstracts even though there may be further relevant details in the full text reports. Moreover, the generalisability of this review may have been limited by the fact that the majority of studies identified were from a Western setting. Moreover, the review did not identify studies that explored the influence of other family members (siblings, extended family, etc.) which would provide a fuller description and understanding of the role of family, strengthening evidence-based knowledge in the field. Nonetheless, the findings provide an important foundation for developing a better understanding of the complexity of young women's sexual-risk discussions in familial and social contexts, which could inform policy in planning a future programme to prevent HIV infection in young women.

7.2.3 Qualitative investigation of young Thai women

There are important limitations to the focus-group study conducted for this thesis. First, only narrative accounts from the participants, without observation or in-depth individual quantitative data, were collected as part of this research. Although the study aimed to recruit participants from diverse backgrounds across Bangkok, the participants from each setting were recruited from the same contact source. The findings of the study were based on focus-group discussions by young women in Bangkok with a relatively small sample. Therefore, the accounts from the participants were unlikely to generate a representative view on the topic and the findings cannot be generalised to the whole population.

Moreover, while, across the groups, many young women were not living with their parents, the study was unable to identify any unique trends according to young women's

living arrangements as related to family influences on young women's sexual decision making. Therefore, the findings might not necessarily reflect the experience of living or not living with parents, but, rather, perceptions of how participants would react in the context of family influences in general.

Although information about the research was explained verbally to the potential participants, some participants might have been less willing to share highly personal or intimate ideas and experiences and some might have felt anxiety in expressing their views on sensitive topics. As strategies to improve the primary data collection procedures, the author attended a training course on focus group moderation to improve her skills in this area, and the topic guide was piloted with women of both high and low SES to assess whether appropriate language was used. Moreover, young women were contacted to verify the transcript of the focus-group discussions; however, none responded to the requests. Finally, the study did not include parents or family members in the discussions, which would have allowed different perspectives on the dynamics of young women's sexual decision-making processes to emerge. Therefore, future investigations that engage other family members are warranted.

7.3 Recommendations for research, practice and policy

The findings from the systematic reviews identify important research gaps. First, there is insufficient high-quality evidence to indicate whether involving family in HIV interventions will have an effect on HIV/STIs or pregnancy outcomes. Second, the majority of FIHI studies in the systematic review were carried out in the US and designed for ethnic-minority groups. Third, of 17 interventions, none was for young

people at the critical transitional stage of adolescence emerging into young adulthood; only four were gender-specific; and no effective FIHIs identified were designed for young women. Therefore, additional, rigorous research that aims to develop and evaluate FIHIs on HIV/STIs, pregnancy and other sexual behaviours for young women in other non-US population groups is a priority.

The systematic review of qualitative studies (Chapter 5) supports the notion that the family context has a meaningful influence on young women's sexual behaviour. The findings further suggest that young women's sexual behaviour is not only determined by familial factors, but also by broader social factors, such as community and culture. Family does not act in isolation, but is embedded in community and culture. Therefore, it is important for intervention researchers to consider these broader social contexts when developing a future HIV intervention. Moreover, future qualitative research exploring the role of family on young women's sexual decisions in non-Western contexts is recommended.

Given the time and resources required to develop and implement a new intervention, researchers can benefit from the key characteristics of effective FIHIs identified in this thesis to design a new FIHI for other population groups (Lightfoot and Milburn, 2012). Researchers from other contexts can have a better understanding of which intervention characteristics are important for improving young people's sexual outcomes. Moreover, it appears that there are several effective approaches to delivering FIHIs (for example: home visits, written materials, skills-training activities) and managing their implementation (for example, staff recruitment and training). Researchers should consider these strategies carefully in order to appropriately and effectively address programme goals within the contexts of family. Effective interventions also require

collaborative work between researchers who design and plan the interventions, and those who deliver, manage or implement the programme, to determine the most effective approaches (Collins et al., 2006). Therefore, it is crucial for researchers and interventionists to share a common goal and provide opportunities and space to develop partnerships.

After the successful condom-use programme in Thailand in the 1990s, public HIV information was launched nationally through extensive mass-media campaigns, accompanied by an increase in funding from the government (WHO, 2010). However, by 2000, the Thai government had heavily cut funding allocated to HIV-prevention programmes due to a national financial crisis, shifting the funding priority to AIDS treatment for HIV-infected people (UNDP, 2004). Some commentators have suggested that this policy shift may have contributed to the increased risk of HIV infection among a new generation of young people who have not been exposed to the safe-sex messages from the previous HIV/AIDS prevention campaigns (WHO, 2010).

The challenges of HIV risk in Thailand underscore the difficulty of sustaining prevention achievements in the face of recent economic and social changes. There is some indication that the Thai government acknowledges the importance of HIV preventions in young people. The *National Plan for Strategies and Integrated HIV and AIDS Prevention and Alleviation 2007-2011* (Strategy II) has included HIV-prevention recommendations for young people. The policy plan clearly states that condoms should be available to young people, and that sex and HIV/AIDS education should be offered to high-school students, out-of-school youths and those registered in tertiary institutions. The report also included mass media in the national strategies for HIV

prevention. In particular, *Strategy II* stipulates the following: The integration of prevention, care, treatment and impact mitigation for each target population suggests that the policy should promote a "*socially enabling environment*" to communicate about sex and AIDS within the family and the local community (UNDP, 2007).

However, how these national policies are to be successfully implemented is less clear. Launched in 2007, the mass media campaign *Yued ok pok thung* ("Proud to carry condoms"), targeting teenagers, was withdrawn following widespread criticism that it was undermining Thai sexual value (WHO, 2010). A recent progress report stated that school sex education in Thailand is inadequate (UNAIDS, 2012). There was limited evidence to support the effectiveness of school sex education on young Thai people's sexual behaviour (Thato et al., 2008). Although further evidence is needed regarding mass media and school-based sex education feasibility and the effects of these programmes on young people's sexual behaviour, involving parents in HIV intervention, as suggested by this thesis, may be an important alternative to existing programmes for young Thai people.

Following the success of the 100%-condom-use campaign (described previously), there have been no other programmes of a similar magnitude implemented in the country specifically designed for young women. This thesis provides evidence-based recommendations to researchers and policy makers in order to stimulate and inform the development of new policies and initiatives for the development of FIHIs for young women. It also aims to raise awareness of the importance of family in young women's attitudes towards HIV/AIDS through disseminating the research findings. The findings of the systematic review of qualitative studies (Chapter 5) and focus groups (Chapter 6)

have been published in peer-reviewed journals, and were presented at the XIX International AIDS conference in Washington DC in July 2012. The systematic review of FIHIs (Chapter 4) has been accepted for a poster presentation at the XX International AIDS conference (2014) in Melbourne, Australia. This will be followed by a manuscript addressing the FIHI systematic review on young people's sexual behaviour to be submitted to a peer-reviewed journal.

This thesis aims to explore the potential of FIHIs for young Thai women. A key feature of the research is the use of a mixed methods approach, bringing together **global evidence (systematic reviews) and local knowledge (young Thai women's experiences and perceptions)** to understand the way in which culturally relevant, appropriate FIHIs can be successfully developed for young Thai women. The methods used in this study are designed to complement each other.

In chapter 4, the systematic review of FIHIs systematically examines studies across settings to determine whether involving family in HIV interventions could influence young people's sexual behaviour. The findings suggest that FIHIs have a potential in shaping young people's condom use practices. The systematic review highlights research gaps and identifies key characteristics of effective FIHIs that can potentially be valuable for future HIV development in other contexts. In chapter 6, the qualitative investigation in Thailand informed by the findings of the systematic review of qualitative studies discussed in Chapter 5, seeks to provide a more understanding of family factors and local environments that influence young Thai women's sexual decisions. As a result, a configurative approach to research by interrogating the findings

from the qualitative studies and the findings of the systematic review of FIHIs builds a more complete picture to address the complex research question under study.

The findings of this thesis highlight several challenges for future FIHIs for young Thai women. These include barriers to parent-child communication, a tension of coexistence of two divergent sexual norms, alternative sources of sexual health and HIV knowledge, the importance of family relationships, and the different circumstances and needs of young Thai women from different backgrounds. Future FIHIs for young Thai women should consider a comprehensive, structural and eco-developmental approach, simultaneously targeting both individuals and the wider environment. This thesis offers a new contribution to the HIV prevention and sexual health education literature and identifies the potential effectiveness of FIHIs tailored to young Thai women, constituting an important step in addressing the public health problems of HIV/AIDS infections in Thailand.

References

Aalsma, M., Fortenberry, J., Sayegh, M. and Orr, D. (2006) Family and friend closeness to adolescent sexual partners in relationship to condom use. *Journal of Adolescent Health,* 38(3)**,** 173-178.

Abell, E. and Gecas, V. (1997) Guilt, shame, and family socialization. *Journal of Family Issues,* 18(2)**,** 99-123.

Ajzen, I. and Fishbein, M. (1980) *Understanding attitudes and predicting social behavior.* Englewood Cliffs, N.J.: Prentice-Hall.

Akers, A. Y., Holland, C. L. and Bost, J. (2011) Interventions to Improve Parental Communication About Sex: A Systematic Review. *Pediatrics,* 127(3)**,** 494-510.

Allen, D. R., Carey, J. W., Manopaiboon, C., Jenkins, R. A., Uthaivoravit, W., Kilmarx, P. H. and Van Griensven, F. (2003) Sexual health risks among young Thai women: Implications for HIV/STD prevention and contraception. *AIDS and Behavior,* 7(1)**,** 9-21.

Apakupakul, N. (2006) Sexual relation and condom use in teenagers and young adults at teens clubs: A case study in Bangkok. *Songkla Medical Journal,* 24**,** 475-482.

Armsden, G.C. and Greenberg, M.T. (1987) The inventory of parent and peer attachment: Individual differences and their relationship to psychological well-being in adolescence. *Journal of youth and adolescence,* 16 (5), 427-454.

Aronowitz, T., Rennells, R. and Todd, E. (2006) Ecological influences of sexuality on early adolescent African American females. *Journal of Community Health Nursing,* 23(2), 113-122.

Atienzo, E. E., Campero, L., Estrada, F., Rouse, C. and Walker, D. (2011) Interventions involving parents in order to impact adolescent sexual behavior. *Salud P˙blica de MÈxico,* 53**,** 160-171.

Attree, P. (2005) Parenting support in the context of poverty: A meta-synthesis of the qualitative evidence. *Health and Social Care in the Community,* 13(4)**,** 330-337.

Atwood, K. A., Zimmerman, R., Cupp, P. K., Fongkaew, W., Miller, B. A., Byrnes, H. F., Chamratrithirong, A., Rhucharoenpornpanich, O., Chaiphet, N., Rosati, M. J. and Chookhare, W. (2010) Correlates of precoital Behaviors, intentions, and sexual initiation among Thai adolescents. *Journal of Early Adolescence,* 32(3), 364-386.

Averett, P., Benson, M. and Vaillancourt, K. (2008) Young women's struggle for sexual agency: the role of parental messages. *Journal of Gender Studies,* 17(4)**,** 331-344.

Baird, S.J., Garfein, R.S., McIntosh, C.T., and O¨ zler, B. (2012). Effect of a cash transfer programme for schooling on prevalence of HIV and herpes simplextype 2 in Malawi: A cluster randomised trial. *Lancet*, 379(9823), 1320-1329.

Babalola, S., Tambashe, B. O. and Vondrasek, C. (2005) Parental factors and sexual risk-taking among young people in Cote d'Ivoire. *African Journal of Reproductive Health***,** 9(1), 49-65.

Baker, J., Rosenthal, S., Leonhardt, D., Kollar, L., Succop, P., Burklow, K. and Biro, F. (1999) Relationship between perceived parental monitoring and young adolescent girls' sexual and substance use behaviors. *Journal of Pediatric and Adolescent Gynecology,* 12(1)**,** 17-22.

Bakopanos, C. and Gifford, S. M. (2001) The changing ties that bind - Issues surrounding sexuality and health for Greek parents and their Australian-born sons and daughters. *Journal of Family Issues,* 22(3)**,** 358-385.

Baldwin, J. A., Trotter, R. T., 2nd, Martinez, D., Stevens, S. J., John, D. and Brems, C. (1999) HIV/AIDS risks among Native American drug users: key findings from focus group interviews and implications for intervention strategies. *AIDS Education and Prevention,* 11(4)**,** 279-92.

Bandura, A. (1977) *Social learning theory.* Englewood Cliffs: Prentice-Hall.

Baptiste, D. R., Kapungu, C., Miller, S., Crown, L., Henry, D., Da Costa Martinez, D. and Jo-Bennett, K. (2009) Increasing Parent Involvement in Youth HIV Prevention: A Randomized Caribbean Study. *AIDS Education and Prevention,* 21(6)**,** 495-511.

Baptiste, D. R., Voisin, D. R., Smithgall, C., Martinez, D. D. C. and Henderson, G. (2007) Preventing HIV/AIDS among Trinidad and Tobago teens using a family-based program. *Social Work in Mental Health,* 5(3-4)**,** 333-354.

Barber, B. K. and Olsen, J. A. (1997) Socialization in context: connection, regulation, and autonomy in the family, schoo, and neighborhood, and with peers. *Journal of Adolescent Research,* 12(2)**,** 287-315.

Barroso, J. and Powell-Cope, G. M. (2000) Metasynthesis of qualitative research on living with HIV infection. *Qualitative Health Research,* 10(3)**,** 340-53.

Bastien, S., Kajula, L. and Muhwezi, W. (2011) A review of studies of parent-child communication about sexuality and HIV/AIDS in sub-Saharan Africa. *Reproductive Health,* 8(1)**,** 25.

Belgrave, F. Z., Van Oss Marin, B. and Chambers, D. B. (2000) Cultural, contextual, and intrapersonal predictors of risky sexual attitudes among urban African American girls in early adolescence. *Cultural Diversity and Ethnic Minority Psychology,* 6(3)**,** 309-322.

Bennett, S. M. (1984) Family environment for sexual learning as a function of fathers' involvement in family work and discipline. *Adolescence,* 19(75)**,** 609-627.

Berkman, A., Garcia, J., Muñoz-Laboy, M., Paiva, V. and Parker, R. (2005) A critical analysis of the Brazilian response to HIV/AIDS: Lessons learned for controlling and mitigating the epidemic in developing countries. *American Journal of Public Health,* 95(7), 1162-1172.

Biddlecom, A., Awusabo-Asare, K. and Bankole, A. (2009) Role of parents in adolescent sexual activity and contraceptive use in four African countries. *International Perspectives on Sexual and Reproductive Health***,** 35(2), 72-81.

Blake, S. M., Simkin, L., Ledsky, R., Perkins, C. and Calabrese, J. M. (2001) Effects of a parent-child communications intervention on young adolescents' risk for early onset of sexual intercourse. *Family Planning Perspectives,* 33(2)**,** 52-61.

Bond, K. C., Valente, T. W. and Kendall, C. (1999) Social network influences on reproductive health behaviors in urban northern Thailand. *Social Science and Medicine,* 49(12)**,** 1599-614.

Bor, R. and Elford, J. (1994) *The family and HIV.* London: Cassell.

Borawski, E. A., Ievers-Landis, C. E., Lovegreen, L. D. and Trapl, E. S. (2003) Parental monitoring, negotiated unsupervised time, and parental trust: The role of perceived parenting practices in adolescent health risk behaviors. *Journal of Adolescent Health,* 33(2)**,** 60-70.

Boutron, I., Estellat, C. and Ravaud, P. (2005) A review of blinding in randomized controlled trials found results inconsistent and questionable. *Journal of Clinical Epidemiology,* 58(12)**,** 1220-1226.

Bowling, S. W. and Werner-Wilson, R. J. (2000) Father-daughter relationships and adolescent female sexuality: paternal qualities associated with responsible sexual behavior. *Journal of HIV/AIDS Prevention and Education for Adolescents and Children,* 3(4)**,** 5-27.

Braverman, P. K. (2000) Sexually transmitted diseases in adolescents. *Medical Clinics of North America,* 84(4)**,** 869-889.

Bronfenbrenner, U. (1979) *The ecology of human development : experiments by nature and design.* Cambridge, Masachusetts: Harvard University Press.

Bronfenbrenner, U. (1986) Ecology of the family as a context for human development: Research perspectives. *Development Psychology,* 22(6)**,** 723-742.

Bronfenbrenner, U. (2005) *Making human beings human : bioecological perspectives on human development.* London: Sage Publications, Inc.

Burgess, E. W. (1926) The family as a unity of interacting personalities. *The Family,* 7(1)**,** 3-9.

Buzi, R. S., Tortolero, S. R., Smith, P. B., Ross, M. W. and Roberts, R. E. (2002) Young minority females' perceptions of sexual abuse: A focus group approach. *North American Journal of Psychology,* 4(3), 441-456.

Campbell, R., Pound, P., Pope, C., Britten, N., Pill, R., Morgan, M. and Donovan, J. (2003) Evaluating meta-ethnography: a synthesis of qualitative research on lay experiences of diabetes and diabetes care. *Social Science and Medicine,* 56(4)**,** 671-84.

Campero, L., Walker, D., Atienzo, E. E. and Gutierrez, J. P. (2011) A quasi-experimental evaluation of parents as sexual health educators resulting in delayed sexual initiation and increased access to condoms. *Journal of Adolescence,* 34(2)**,** 215-223.

Cash, K. and Anansuchatkul, B. (1993) *Experimental Educational Interventions for AIDS prevention among Northern Thai single migratory female factory workers*. Washington D.C.: International Center for Research on Women, Women and AIDS Research Program.

Cash, K., Anansuchatkul, B. and Busayawong, W. (1999) Understanding the psychosocial aspects of HIV AIDS prevention for Northern Thai single adolescent migratory women workers. *Applied Psychology,* 48(2)**,** 125-137.

CASP (2006) Qualitative research: appraisal tool. 10 questions to help you make sense of qualitative research [onlne]. Available from: http://www.casp-uk.net/#!casp-tools-checklists/c18f8 [Accessed14 October 2010]

Catania, J., Kegeles, S. and Coates, T. (1990) Towards an understanding of risk behavior: An AIDS Risk Reduction Model (ARRM). *Health Education Quarterly,* 17(1)**,** 53-72.

Celentano, D. D. (2003) HIV prevention among drug users: an international perspective from Thailand. *Journal of Urban Health,* 80(3) supplement, iii97-iii105.

Cha, E. S., Kim, K. H. and Patrick, T. E. (2008) Predictors of intention to practice safer sex among Korean college students. *Archives of Sexual Behavior,* 37(4)**,** 641-651.

Chandy, J. M., Harris, L., Blum, R. W. and Resnick, M. D. (1994) Female adolescents of alcohol misusers: Sexual behaviors. *Journal of Youth and Adolescence,* 23(6)**,** 695-709.

Chang, J.S. (2005) 'Sexual evolution' in Chinese societies: Are young people becoming less Chinese? [Online] In: *TASA 2005 Conference,* University of Tasmania, 6-8 December 2005. [Accessed 26 June 2013]

Chen, X., Stanton, B., Gomez, P., Lunn, S., Deveaux, L., Brathwaite, N., Li, X., Marshall, S., Cottrell, L. and Harris, C. (2010) Effects on condom use of an HIV prevention programme 36 months postintervention: a cluster randomized controlled trial among Bahamian youth. *International Journal of STD and AIDS,* 21(9)**,** 622-630.

Christopher, F., Johnson, D. and Roosa, M. (1993) Family, individual, and social correlates of early Hispanic adolescent sexual expression. *Journal of Sex Research,* 30(1) **,** 54-61.

Chung, P. J., Travis Jr, R., Kilpatrick, S. D., Elliott, M. N., Lui, C., Khandwala, S. B., Dancel, T. M., Vollandt, L. and Schuster, M. A. (2007) Acculturation and Parent-Adolescent Communication about Sex in Filipino-American Families: A Community-Based Participatory Research Study. *Journal of Adolescent Health,* 40(6)**,** 543-550.

Clawson, C. L. and Reese-Weber, M. (2003) The amount and timing of parent-adolescent sexual communication as predictors of late adolescent sexual risk-taking behaviors. *Journal of Sex Research,* 40(3)**,** 256-265.

Cohen, D. J. and Crabtree, B. F. (2008) Evaluative criteria for qualitative research in health care: Controversies and recommendations. *Annals of Family Medicine,* 6(4)**,** 331-339.

Collins, C., Harshbarger, C., Sawyer, R. and Hamdallah, M. (2006) The diffusion of effective behavioral interventions project: development, implementation, and lessons learned. *AIDS Education and Prevention,* 18(4 Supplement A)**,** 5-20.

Commonwealth Secretariat (2002) *Gender mainstreaming in HIV/AIDS: Taking a multisectoral approach*. London: Commonwealth Secretariat.

Connell, R. (1987) *Gender and Power.* Stanford, CA: Stanford University Press.

Cottrell, L., Yu, S., Liu, H., Deveaux, L., Lunn, S., Bain, R. M. and Stanton, B. (2007) Gender-based model comparisons of maternal values, monitoring, communication, and early adolescent risk behavior. *Journal of Adolescent Health,* 41(4)**,** 371-379.

Court U. S. (1974) *Village of Belle Terre v. Boraas* 416 U.S. 1.

Cowan, F. M., Pascoe, S. J., Langhaug, L. F., Mavhu, W., Chidiya, S., Jaffar, S., Mbizvo, M. T., Stephenson, J. M., Johnson, A. M., Power, R. M., Woelk, G. and Hayes, R. J. (2010) The Regai Dzive Shiri project: results of a randomized trial of an HIV prevention intervention for youth. *AIDS,* 24(16)**,** 2541-2452.

Creswell, J. W. and Clark, V. L. P. (2007) Designing and conducting mixed methods research.

Crosbie-Burnett, M. and Lewis, E. (1993) Theoritical contributions from Social- and Cognitive-Behavioral Psychology. In: P. Boss, W. Doherty, R. Larossa, W. Schumm and S. Steinmetz (Eds.). *Sourcebook of Family Theories and Methods: An Contextual Approach.* New York: Plenum.

Crosby, R. A., DiClemente, R. J., Wingood, G. M., Cobb, B. K., Harrington, K. F., Davies, S. L., Hook, E.W. and Oh, M. K. (2001) HIV/STD protective benefits of living with mothers in perceived supportive families: a study of high-risk African American female teens. *Preventive Medicine,* 33(3)**,** 175-178.

Crosby, R.A., Kegler, M. and DiClemente, R.J. (2002a) Theory in health promotion practice and resesarch. In: R.J. DiClemente, R.A. Crosby and M. Kegler (Eds.). *Theory in health promotion practice and resesarch.* San Francisco: Jossey-Bass.

Crosby, R. A., DiClemente, R. J., Wingood, G. M., Harrington, K., Davies, S. and Hook, E. W. (2002b) Low parental monitoring predicts subsequent pregnancy among African-American adolescent females. *Journal of Pediatric and Adolescent Gynecology,* 15(1)**,** 43-46.

Cupp, P. K., Atwood, K. A., Byrnes, H. F., Miller, B. A., Fongkaew, W., Chamratrithirong, A., Rhucharoenpornpanich, O., Rosati, M. J. and Chookhare, W. (2013) The impact of Thai Family Matters on parent-adolescent sexual risk communication attitudes and behaviors. *Journal of Health Communication: International Perspectives***,** 18(11), 1384-1396.

Danaidussadeekul, R. (2004) *Factors related to sexual abstinence among late adolescent females in Bangkok Metropolitan Area.* MSc Human sexuality. Bangkok, Chulalongkorn University.

Dancy, B. L., Hsieh, Y. L., Crittenden, K. S., Kennedy, A., Spencer, B. and Ashford, D. (2009) African American adolescent females: mother-involved HIV risk-reduction intervention. *Journal of HIV/AIDS and Social Services,* 8(3)**,** 292-307.

Davis, E. C. and Friel, L. V. (2001) Adolescent Sexuality: Disentangling the Effects of Family Structure and Family Context. *Journal of marriage and family,* 63(3)**,** 669-681.

Deeks, J. J., Dinnes, J., D'amico, R., Sowden, A. J., Sakarovitch, C., Song, F., Petticrew, M. and Altman, D. G. (2003) Evaluating non-randomised intervention studies. *Health Technololgy Assessment,* 7(27)**,** 1-173.

Denzin, N. K. and Lincoln, Y. S. (2005) The discipline and practice of qualitative research. In: N.K. Denzin and Y.S. Lincoln (Eds.). *Handbook of qualitative research.* 3rd ed., London: Sage Publications, Inc.

Deptula, D. P., Henry, D. B. and Schoeny, M. E. (2010) How can parents make a difference? Longitudinal associations with adolescent sexual behavior. *Journal of Family Psychology,* 24(6)**,** 731-739.

DiCenso, A., Guyatt, G., Willan, A. and Griffith, L. (2002) Interventions to reduce unintended pregnancies among adolescents: Systematic review of randomised controlled trials. *British Medical Journal,* 324(7351)**,** 1426.

DiClemente, R. J., Salazar, L. F., Crosby, R. A. and Rosenthal, S. L. (2005) Prevention and control of sexually transmitted infections among adolescents: The importance of a socio-ecological perspective - a commentary. *Public Health,* 119(9)**,** 825-836.

DiClemente, R. J., Wingood, G. M., Crosby, R., Cobb, B. K., Harrington, K. and Davies, S. L. (2001) Parent-adolescent communication and sexual risk behaviors among African American adolescent females. *Journal of Pediatrics,* 139(3)**,** 407-412.

Dilorio, C., Mccarty, F., Denzmore, P. and Landis, A. (2007a) The moderating influence of mother-adolescent discussion on early and middle African-American adolescent sexual behavior. *Research in Nursing and Health,* 30(2)**,** 193-202.

Dilorio, C., Mccarty, F., Resnicow, K., Lehr, S. and Denzmore, P. (2007b) REAL men: A group-randomized trial of an HIV prevention intervention for adolescent boys. *American Journal of Public Health,* 97(6)**,** 1084.

Dilorio, C., Pluhar, E. and Belcher, L. (2003) Parent-child Communication About Sexuality: A review of the lierature from 1980-2002. *Journal of HIV/AIDS Prevention and Education for Adolescents and Children,* 5(3-4)**,** 7-32.

Dilorio, C., Resnicow, K., Mccarty, F., De, A. K., Dudley, W. N., Wang, D. T. and Denzmore, P. (2006) Keepin' it R.E.A.L.!: results of a mother-adolescent HIV prevention program. *Nursing Research,* 55(1)**,** 43-51.

Dittus, P. J. and Jaccard, J. (2000) Adolescents' perceptions of maternal disapproval of sex: relationship to sexual outcomes. *Journal of Adolescent Health,* 26(4)**,** 268-278.

Dixon-Woods, M., Booth, A. and Sutton, A. J. (2007) Synthesizing qualitative research: A review of published reports. *Qualitative Research,* 7(3)**,** 375-422.

Dixon-Woods, M., Cavers, D., Agarwal, S., Annandale, E., Arthur, A., Harvey, J., Hsu, R., Katbamna, S., Olsen, R., Smith, L., Riley, R. and Sutton, A. J. (2006) Conducting a critical interpretive synthesis of the literature on access to healthcare by vulnerable groups. *BMC Medical Research Methodoloy,* 6**,** 35.

Dixon-Woods, M., Shaw, R. L., Agarwal, S. and Smith, J. A. (2004) The problem of appraising qualitative research. *Quality and Safety in Health Care,* 13(3)**,** 223-225.

Dole, L. R., Elkins, D. B., Boonjear, K., Phiensrithom, S. and Maticka-Tyndale, E. (1998) Cattle markets and local festivals: development of HIV/AIDS prevention interventions for specific risk situations in rural northeast Thailand. *Health and Place,* 4(3)**,** 265-272.

Donenberg, G. R., Wilson, H. W., Emerson, E. and Bryant, F. B. (2002) Holding the line with a watchful eye: The impact of perceived parental permissiveness and parental monitoring on risky sexual behavior among adolescents in psychiatric care. *AIDS Education and Prevention,* 14(2), 138-157.

Downing, J., Jones, L., Bates, G., Sumnall, H. and Bellis, M. A. (2011) A systematic review of parent and family-based intervention effectiveness on sexual outcomes in young people. *Health Education Research,* 26(5)**,** 808-833.

Downs, S. H. and Black, N. (1998) The feasibility of creating a checklist for the assessment of the methodological quality both of randomised and non-

randomised studies of health care interventions. *Journal of Epidemiology and Community Health,* 52(6)**,** 377-384.

Dutra, R., Miller, K. S. and Forehand, R. (1999) The process and content of sexual communication with adolescents in two-parent families: associations with sexual risk-taking behavior. *AIDS and Behavior,* 3(1)**,** 59-66.

Elkins, D., Maticka-Tyndale, E., Kuyyakanond, T., Kiewying, M., Anusornteerakul, S., Chantapreeda, N., Choosathan, R., Sommapat, S., Theerasobhon, P. and Haswell-Elkins, M. (1996) Evaluation of HIV/AIDS education initiatives among women in northeastern Thai villages. *Southeast Asian Journal of Tropical Medicine and Public Health,* 27(3)**,** 430-442.

Farrow, R. and Arnold, P. (2003) Changes in Female Student Sexual Behaviour during the Transition to University. *Journal of Youth Studies*, 6(4), 339-355.

Feldman, S. S. and Rosenthal, D. A. (2000) The effect of communication characteristics on family members' perceptions of parents as sex educators. *Journal of Research on Adolescence,* 10(2)**,** 119-50.

Flay, B. R., Graumlich, S., Segawa, E., Burns, J. L., Holliday, M. Y. and Aban Aya, I. (2004) Effects of 2 prevention programs on high-risk behaviors among African American youth: a randomized trial. *Archives of Pediatrics and Adolescent Medicine,* 158(4)**,** 377-384.

Fongkaew, W. (1996) Early adolescent girls in transition in a peri-urban northern Thai community: Perceptions of gender role and sexuality. *Dissertation Abstracts International Section A: Humanities and Social Sciences*.

Fongkaew, W., Cupp, P. K., Miller, B. A., Atwood, K. A., Chamratrithirong, A., Rhucharoenpornpanich, O., Rosati, M. J., Chookhare, W. and Byrnes, H. F. (2012) Do Thai parents really know about the sexual risk taking of their children? A qualitative study in Bangkok. *Nursing and Health Sciences,* 14(3)**,** 391-397.

Ford, N. and Kittisukasthit, S. (1994) Destinations unknown: The gender construction and changing nature of the sexual expressions of Thai youth. *AIDS Care,* 6(5)**,** 517-531.

Galbraith, J. S., Herbst, J. H., Whittier, D. K., Jones, P. L., Smith, B. D., Uhl, G. and Fisher, H. H. (2011) Taxonomy for strengthening the identification of core elements for evidence-based behavioral interventions for HIV/AIDS prevention. *Health Education Research,* 26(5)**,** 872-885.

Giacomini, M. (2010) *Theory Matters in Qualitative Health Research.* London: Sage Publications, Inc.

Giddens, A. (1991) *Modernity and self-identity: Self and society in the late modern age*. Standford: Stanford University Press.

Glynn, J., Carael, M., Auvert, B., Kahindo, M., Chege, J., Musonda, R., Kaona, F., Buve, A. and Brown, T. (2001) Why do young women have a much higher prevalence of HIV than young men? A study in Kisumu, Kenya and Ndola, Zambia. *AIDS,* 15(Supplement 4)**,** S51-S60.

Goffman, E. (1959) *The presentation of self in everyday life.* London: Penguin Books.

Gottfredson, D. C. and Gottfredson, G. D. (2002) Quality of School-Based Prevention Programs: Results from a National Survey. *Journal of Research in Crime and Delinquency,* 39**,** 3-35.

Gough, D., Oliver, S. and Thomas, J. (2012) *An introduction to systematic reviews*. London: Sage Publications, Inc.

Granger, B. B., Sandelowski, M., Tahshjain, H., Swedberg, K. and Ekman, I. (2009) A qualitative descriptive study of the work of adherence to a chronic heart failure regimen: patient and physician perspectives. *Journal of Cardiovascular Nursing*, 24(4)**,** 308-315.

Green, J. and Thorogood, N. (2009) *Qualitative methods for health research.* London: Sage Publications, Inc.

Greene, J. C. and Caracelli, V. J. (2003) Making paradigmatic sense of mixed methods practice. In: A. Tashakkori and C. Teddlie. *Handbook of mixed methods in social and behavioral research***.** London: Sage Publications, Inc.

Greene, J. C. (2007) *Mixed methods in social inquiry*, California, USA: John Wiley & Sons.

Greenhalgh, T. and Taylor, R. (1997) Papers that go beyond numbers (qualitative research). *British Medical Journal,* 315**,** 740-743.

Grills, A. E. and Ollendick, T. H. (2002) Peer victimization, global self-worth, and anxiety in middle school children. *Journal of Clinical Child and Adolescent Psychology,* 31(1)**,** 59-68.

Grusec, J. E. and Goodnow, J. J. (1994) Impact of parental discipline methods on the child's internalization of values: A reconceptualization of current points of view. *Developmental Psychology,* 30(1)**,** 4-19.

Grusec, J. E. and Kuczynski, L. (1997) *Parenting and children's internalization of values : a handbook of contemporary theory.* New Jersey: John Wiley & Sons Inc.

Guilamo-Ramos, V., Bouris, A., Jaccard, J., Gonzalez, B., Mccoy, W. and Aranda, D. (2011) A Parent-Based Intervention to Reduce Sexual Risk Behavior in Early Adolescence: Building Alliances Between Physicians, Social Workers, and Parents. *The Journal of Adolescent Health,* 48(2)**,** 159-163.

Guilamo-Ramos, V., Bouris, A., Lee, J., Mccarthy, K., Michael, S. L., Pitt-Barnes, S. and Dittus, P. (2012) Paternal Influences on Adolescent Sexual Risk Behaviors: A Structured Literature Review. *Pediatrics,* 130(5)**,** e1313-e1325.

Hahn, S., Puffer, S., Torgerson, D. and Watson, J. (2005) Methodological bias in cluster randomised trials.[Online] *BMC Medical Research Methodology,* 5**,** 10. Available at http://www.biomedcentral.com/1471-2288/5/10 [Accessed 30/04/2012]

Halcomb, E. J., Gholizadeh, L., Digiacomo, M., Phillips, J. and Davidson, P. M. (2007) Literature review: Considerations in undertaking focus group research with culturally and linguistically diverse groups. *Journal of Clinical Nursing,* 16(6)**,** 1000-1011.

Hampton, M. R., Mcwatters, B., Jeffery, B. and Smith, P. (2005) Influence of teens' perceptions of parental disapproval and peer behaviour on their initiation of sexual intercourse. *Canadian Journal of Human Sexuality,* 14 (3-4)**,** 105-121.

Hanenberg, R. and Rojanapithayakorn, W. (1996) Prevention as policy: How Thailand reduced STD and HIV transmission. *AIDScaptions,* 3(1)**,** 24-27.

Harden, A., Garcia, J., Oliver, S., Rees, R., Shepherd, J., Brunton, G. and Oakley, A. (2004) Applying systematic review methods to studies of people's views: An example from public health research. *Journal of Epidemiology and Community Health,* 58**,** 794-800.

Harris, P. M. (1998) Attrition Revisited. *American Journal of Evaluation,* 19(3)**,** 293-305.

Hennink, M., Diamond, I. and Cooper, P. (1999) Young Asian women and relationships: traditional or transitional? *Ethnic and Racial Studies,* 22(5)**,** 867-891.

Henrich, C. C., Brookmeyer, K. A., Shrier, L. A. and Shahar, G. (2006) Supportive relationships and sexual risk behavior in adolescence: An ecological-transactional approach. *Journal of Pediatric Psychology,* 31(3)**,** 286-297.

Hertzog, J. L. (2008) "What about the gray area?": College women's reflections on the sex talk and abstinence. *Families in Society*, 89(2), 312-322.

Hewitt, C., Hahn, S., Torgerson, D. J., Watson, J. and Bland, J. M. (2005) Adequacy and reporting of allocation concealment: Review of recent trials published in four general medical journals. *British Medical Journal,* 330**,** 1057-1058.

Higgins, J. and Altman, D. G. (2008) Assessing risk of bias in included studies. [Online]. In: J.A. Higgins and S. Green *Cochrane Handbook for Systematic Reviews of Interventions: Cochrane Book Series.* Chichester, UK: John Wiley&Sons Ltd.,187-241. Available from doi: 10.1002/9780470712184.ch8 [Accessed 30/09/2008]

Hoppe, M. J., Graham, L., Wilsdon, A., Wells, E. A., Nahom, D. and Morrison, D. M. (2004) Teens speak out about HIV/AIDS: Focus group discussions about risk and decision-making. *Journal of Adolescent Health,* 35(4)**,** 345.e27-35.

Hutchinson, M. K. and Cooney, T. (1998) Patterns of Parent-Teen Sexual Risk Communication: Implications for Intervention. *Family Relations,* 47(2)**,** 185-194.

Hutchinson, M.K., Jemmott, J. B. 3rd, Jemmott, L. S., Braverman, P. and Fong, G. T. (2003) The role of mother-daughter sexual risk communication in reducing sexual risk behaviors among urban adolescent females: A prospective study. *Journal of Adolescent Health*, 33(2), 98-107.

Hutchinson, M. K. (2002) The influence of sexual risk communication between parents and daughters on sexual risk behaviors. *Family Relations,* 51(3)**,** 238-247.

Hutchinson, M. K. and Wood, E. B. (2007) Reconceptualizing adolescent sexual risk in a parent-based expansion of the Theory of Planned Behavior. *Journal of Nursing Scholarship,* 39(2)**,** 141-146.

Hyde, A., Howlett, E., Brady, D. and Drennan, J. (2005) The focus group method: insights from focus group interviews on sexual health with adolescents. *Social Science and Medicine,* 61(12)**,** 2588-2599.

Inazu, J. K. and Fox, G. L. (1980) Maternal influence on the sexual behavior of teen-age daughters. *Journal of Family Issues,* 1(1)**,** 81-102.

Ingram, B. L., Flannery, D., Elkavich, A. and Rotheram-Borus, M. J. (2008) Common processes in evidence-based adolescent HIV prevention programs. *AIDS and Behavior,* 12(3), 374-383.

Jaccard, J., Dittus, P. J. and Gordon, V. V. (1996) Maternal correlates of adolescent sexual and contraceptive behavior. *Family Planning Perspectives,* 28(4)**,** 159-165.

Jaccard, J., Dittus, P. J. and Gordon, V. V. (2000) Parent-Teen Communication about Premarital Sex Factors Associated With the Extent of Communication. *Journal of Adolescent Research,* 15(2)**,** 187-208.

Jaccard, J., Dodge, T. and Dittus, P. (2002) Parent-adolescent communication about sex and birth control: a conceptual framework.[Online]. *New Directions for Child and Adolescent Development***,** 97, 9-42. Available from doi: 10.1002/cd.48. [Accessed 5/10/2012]

Johnson, R. B. and Onwuegbuzie, A. J. (2004) Mixed methods research: A research paradigm whose time has come. *Educational researcher,* 33(7)**,** 14-26.

Kagitcibasi, C. (1996) *Family and Human Development across cultures.* New Jersey, USA: Lawrence Erlbraum Associates, Inc.

Karlson, C. W. and Rapoff, M. A. (2009) Attrition in Randomized Controlled Trials for Pediatric Chronic Conditions. *Journal of Pediatric Psychology,* 34(7)**,** 782-793.

Kim, C. R. and Free, C. (2008) Recent evaluations of the peer-led approach in adolescent sexual health education: A systematic review. *Perspectives on Sexual and Reproductive Health,* 40(4), 144-151.

Kirby, D. B., Baumler, E., Coyle, K. K., Basen-Engquist, K., Parcel, G. S., Harrist, R. and Banspach, S. W. (2004) The "Safer Choices" intervention: Its impact on the sexual behaviors of different subgroups of high school students. *Journal of Adolescent Health,* 35(6)**,** 442-452.

Kirkman, M., Rosenthal, D. A. and Feldman, S. S. (2002) Talking to a tiger: fathers reveal their difficulties in communicating about sexuality with adolescents. [Online] *New directions for child and adolescent development,* 57-74. Available from doi: 10.1002/cd.50. [Accessed on 10/07/2009]

Kitiyadisai, K. (2005) Privacy rights and protection: Foreign values in modern Thai context. *Ethics and Information technology,* 7(1)**,** 17-26.

Kitzinger, J. (1995) Qualitative research. Introducing focus groups. *British Medical Journal,* 311(7000)**,** 299-302.

Klausner, W. J. (1993) *Reflection on Thai culture.* Bangkok, Thailand: The Siam Society.

Knutson, T. J., Komolsevin, R., Chatiketu, P. and Smith, V. R. (2003) A cross-cultural comparison of Thai and US American rhetorical sensitivity: Implications for intercultural communication effectiveness. *International Journal of Intercultural Relations,* 27(1)**,** 63-78.

Kotchick, B. A., Shaffer, A. and Forehand, R. (2001) Adolescent sexual risk behavior: A multi-system perspective. *Clinical Psychology Review,* 21(4)**,** 493-519.

Lammers, C., Ireland, M., Resnick, M. and Blum, R. (2000) Influences on adolescents' decision to postpone onset of sexual intercourse: A survival analysis of virginity among youths aged 13 to 18 years. *Journal of Adolescent Health,* 26(1)**,** 42-48.

Leela, T. and Punsuwan, N. (2008) สถานการณ์โรคติดต่อทางเพศสัมพันธ์ในประเทศไทย พ.ศ. 2550. In: Sangwanlooy, O., Ratanarat, P., Punsuwan, N. and Leela, T. (Eds.) *สถานกาณ์โรคเอดส์ วัณโรคและโรคติดต่อทางเพศสัมพันธ์ พ.ศ.2550.* Nontaburi, Thailand, Bureau of Epidemiology,Department of Deisease Control, Ministry of Public Health.

Lescano, C. M., Brown, L. K., Raffaelli, M. and Lima, L.-A. (2009) Cultural Factors and Family-Based HIV Prevention Intervention for Latino Youth. *Journal of Pediatric Psychology,* 34(10)**,** 1041-1052.

Lesch, E. and Kruger, L. M. (2005) Mothers, daughters and sexual agency in one low-income South African community. *Social Science and Medicine,* 61(5)**,** 1072-1082.

Leslie, G. R. and Korman, S. K. (1967) *The family in social context*. New York: Oxford University Press.

Lewin, K. (1931) Environmental forces in child behavior and development. In: Mucheson, M. (Ed.) *Handbook of Child Psychology.* Massachusett: Clark University Press.

Li, L., Rotheram-Borus, M. J., Lu, Y., Wu, Z., Lin, C. and Guan, J. (2009) Mass media and HIV/AIDS in China. *Journal of Health Communication,* 14(5)**,** 424-438.

Li, X., Feigelman, S. and Stanton, B. (2000) Perceived parental monitoring and health risk behaviors among urban low-income African-American children and adolescents. *Journal of Adolescent Health,* 27(1)**,** 43-48.

Li, X., Stanton, B., Galbraith, J., Burns, J., Cottrell, L. and Pack, R. (2002) Parental monitoring intervention: practice makes perfect. *Journal of the National Medical Association,* 94(5)**,** 364-70.

Liabsuetrakul, T. (2012) Trends and outcomes of teenage pregnancy. *Thai Journal of Obstetrics and Gynaecology,* 20**,** 162-165.

Lightfoot, M. (2012) HIV prevention for adolescents: Where do we go from here? *American Psychologist,* 67(8)**,** 661.

Lightfoot, M. and Milburn, N. (2012) Common Elements of Family-Based HIV Interventions for Adolescents. *Couple and Family Psychology: Research and Practice,* 1(2)**,** 120-133.

Litosseliti, L. (2003) *Using focus groups in research:* London: Continuum.

Liu, A., Kilmarx, P., Jenkins, R. A., Manopaiboon, C., Mock, P. A., Jeeyapunt, S., Uthaivoravit, W. and Van Griensven, F. (2006) Sexual initiation, substance use, and sexual behavior and knowledge among vocational students in northern Thailand. *International Family Planning Perspectives,* 32(3), 126-135.

Locke, T. F. and Newcomb, M. D. (2008) Correlates and predictors of HIV risk among inner-city African American female teenagers. *Health Psychology,* 27(3), 337-348.

Loewenson, P. R., Ireland, M. and Resnick, M. D. (2004) Primary and secondary sexual abstinence in high school students. *Journal of Adolescent Health,* 34(3), 209-215.

Longmore, M. A., Manning, W. D. and Giordano, P. C. (2001) Preadolescent parenting strategies and teens' dating and sexual initiation: A longitudinal analysis. *Journal of Marriage and Family,* 63(2)**,** 322-335.

Longmore, M. A., Manning, W. D., Giordano, P. C. and Rudolph, J. L. (2003) Contraceptive self-efficacy: Does it influence adolescents' contraceptive use? *Journal of Health and Social Behavior,* 44(1)**,** 45-60.

Longmore, M. A., Manning, W. D., Giordano, P. C. and Rudolph, J. L. (2004) Self-esteem, depressive symptoms, and adolescents' sexual onset. *Social Psychology Quarterly,* 67(3)**,** 279-295.

Luster, T. and Small, S. (1994) Factors associated with sexual risk-taking behaviors among adolescents. *Journal of Marriage and Family,* 56(3)**,** 622-632.

Lytton, H. (1980) *Parent-child interaction : the socialization process observed in twin and singleton families.* New York: Plenum Press.

Magnussen, L., Ehiri, J. E., Ejere, H. O. and Jolly, P. E. (2004) Interventions to prevent HIV/AIDS among adolescents in less developed countries: are they effective? *International Journal of Adolescent Medicine and Health,* 16(4)**,** 303-323.

Maguen, S. and Armistead, L. (2006) Abstinence among female adolescents: Do parents matter above and beyond the influence of peers? *American Journal of Orthopsychiatry,* 76(2), 260-264.

Manderson, L., Kelaher, M., Woelzstirling, N., Kaplan, J. and Greene, K. (2002) Sex, contraception and contradiction among young Filipinas in Australia. *Culture, Health and Sexuality,* 4(4)**,** 381-391.

Manlove, J., Logan, C., Moore, K. A. and Ikramullah, E. (2008) Pathways from Family Religiosity to Adolescent Sexual Activity and Contraceptive Use. *Perspectives on Sexual Reproductive Health,* 40(2), 105-117.

Manning, W. D., Longmore, M. A. and Giordano, P. C. (2000) The relationship context of contraceptive use at first intercourse. *Fam Planning Perspectives,* 32(3)**,** 104-10.

Marston, C. and King, E. (2006) Factors that shape young people's sexual behaviour: a systematic review. *Lancet,* 368(9547)**,** 1581-1586.

Martin, K. (1996) *Puberty, sexuality and the self: Girls and boys at adolescence*. London: Routledge.

Maticka-Tyndale, E., Haswell-Elkins, M., Kuyyakanond, T., Kiewying, M. and Elkins, D. (1994) A research-based HIV intervention in northeast Thailand. *Health Transition Review,* 4**,** 349-367.

Mays, N. and Pope, C. (2000) Quality research in health care: Assessing quality in qualitative research. *British Medical Journal,* 320**,** 50-52.

McBride, C. K., Baptiste, D., Traube, D., Paikoff, R. L., Madisonboyd, S., Coleman, D., Bell, C. C., Coleman, I. and Mckay, M. M. (2007) Family-based HIV preventive intervention: child level results from the CHAMP family program. *Social Work in Mental Health,* 5**,** 203-220.

McGrath, J. W., Celentano, D. D., Chard, S. E., Fullem, A., Kamya, M., Gangakhedar, R. R., Khamboonruang, C., Joglekar, N., Malhotra-Kohli, R., Kiwanuka, A. and Sirirojn, B. (2007) A group-based intervention to increase condom use among HIV serodiscordant couples in India, Thailand, and Uganda. *AIDS Care,* 19(3)**,** 418-424.

McNeely, C., Shew, M. L., Beuhring, T., Sieving, R., Miller, B. C. and Blum, R. W. M. (2002) Mothers' influence on the timing of first sex among 14- and 15-year-olds. *Journal of Adolescent Health,* 31(3)**,** 256-265.

Medley, A., Kennedy, C., O'Reilly, K. and Sweat, M. (2009) Effectiveness of peer education interventions for HIV prevention in developing countries: a systematic review and meta-analysis. *AIDS Education and Prevention,* 21(3)**,** 181-206.

Meschke, L., Bartholomae, S. and Zentall, S. (2002) Adolescent sexuality and parent-adolescent processes: Promoting healthy teen choices. *Journal of Adolescent Health,* 31(Supplement), 264-279.

Michielsen, K., Chersich, M. F., Luchters, S., De Koker, P., Van Rossem, R. and Temmerman, M. (2010) Effectiveness of HIV prevention for youth in sub-Saharan Africa: Systematic review and meta-analysis of randomized and nonrandomized trials. *AIDS,* 24(8)**,** 1193-1202.

Miles, M. B. and Huberman, A. M. (1994) *Qualitative data analysis : An expanded sourcebook.* London: Sage Publications, Inc.

Miller, B. (2002) Family influences on adolescent sexual and contraceptive behavior. *Journal of Sex Research,* 39(1)**,** 22-6.

Miller, B. C., Benson, B. and Galbraith, K. (2001) Family relationships and adolescent pregnancy risk: A research synthesis. *Developmental Review,* 21(1)**,** 1-38.

Miller, W. B. and Pasta, D. J. (2000) Early family environment, reproductive strategy, and contraceptive behavior: Testing a genetic hypothesis. In: J.L. Rodgers, D.C. Rowe, W.B. Miller (eds.). *Genetic Influences on Human Fertility and Sexuality - Theoretical and Empirical Contributions from the Biological and Behavioral Sciences.* US: Springer US, 183-230.

Mills, E., Jadad, A. R., Ross, C. and Wilson, K. (2005) Systematic review of qualitative studies exploring parental beliefs and attitudes toward childhood vaccination identifies common barriers to vaccination. *Journal of Clinical Epidemiology,* 58(11)**,** 1081-1088.

Ministry of Public Health, Thailand (2011) *AIDS patients by age and gender.* Bangkok: Epidemiological Information Section, Bureau of Epidemiology, Department of Disease Control.

Moore, C. W. (1997) Models of attachment, relationships with parents, and sexual behavior in at-risk adolescents. *Dissertation Abstracts International: Section B: The Sciences and Engineering,* 58(6-B)**,** 3322.

Moore, M. R. and Chase-Lansdale, P. L. (2001) Sexual intercourse and pregnancy among African American girls in high-poverty neighborhoods: The role of family and perceived community environment. *Journal of Marriage and Family*, 63(4), 1146-1157.

Morgan, D. L. (1993) *Successful focus groups: Advancing the state of the art*. Sage Publications, Inc.

Morgan, D. L. (1996) Focus groups. *Annual Review of Sociology***,** 22, 129-152.

Morrison, L. (2004) Traditions in transition: Young people's risk for HIV in Chiang Mai, Thailand. *Qualitative Health Research,* 14(3)**,** 328-344.

Munro, S. A., Lewin, S. A., Smith, H. J., Engel, M. E., Fretheim, A. and Volmink, J. (2007) Patient adherence to tuberculosis treatment: a systematic review of qualitative research. [Online]. *PLoS Medicine* Available from DOI: 10.1371/journal.pmed.0040238. [Accessed 06/02/2009]

Murry, V. M., Berkel, C., Brody, G. H., Gerrard, M. and Gibbons, F. X. (2007) The Strong African American Families program: longitudinal pathways to sexual risk reduction. *Journal of Adolescent Health,* 41(6)**,** 333-342.

Nagamatsu, M., Saito, H. and Sato, T. (2008) Factors associated with gender differences in parent-adolescent relationships that delay first intercourse in Japan. *Journal of School Health,* 78(11)**,** 601-606.

Nagamatsu, M., Sato, T., Nakagawa, A. and Saito, H. (2011) HIV prevention through extended education encompassing students, parents, and teachers in Japan. Environmental Health and Preventive Medicine, 16(6), 350-362.

Narmwart, C. and Chantanee, S. (2011) Results from HIV survillence in students, Thailand. Bangkok: Bureau of Epidemiology, Ministry of Public Health.

Nelson, K. E., Celentano, D. D., Eiumtrakol, S., Hoover, D. R., Beyrer, C., Suprasert, S., Kuntolbutra, S. and Khamboonruang, C. (1996) Changes in sexual behavior and a decline in HIV infection among young men in Thailand. *The New England Journal of Medicine,* 335**,** 297-303.

Newbern, E. C., Miller, W. C., Schoenbach, V. J. and Kaufman, J. S. (2004) Family socioeconomic status and self-reported sexually transmitted diseases among black and white American adolescents. *Sexually Transmitted Diseases,* 31(9)**,** 533-541.

Newman, I., Ridenour, C. S., Newman, C. and Demarco Jr, G. M. P. (2003) Typology of research purpose and its relatinship to mixed methods. In: A. Tashakkori and

C. Teddlie (Eds.). *Handbook of mixed methods in social and behavioral research.* USA: Sage Publications, Inc.

Noblit, G. W. and Hare, R. D. (1988) *Meta-ethnography : Synthesizing qualitative studies.* London: Sage Publications, Inc.

Nosseir, N. (2003) Family in The New Millineum: Major Trends Affecting Families in North Africa. [Online] In: *Major Trends affecting families: A Background Document,* Department of Economic and Social Affairs, United Nation. Available from http://undesadspd.org/Family/Publications/MajorTrendsAffectingFamilies.aspx.

Noyes, J., Popay, J., Pearson, A., Hannes, K., Booth, A. (2010) Chapter 20: Qualitative research and Cochrane reviews. In: Higgins JPT, Green S, editors. Cochrane Handbook for Systematic Reviews of Interventions. The Cochrane Collaboration.

Nwoga, I. A. (2000) African American mothers use stories for family sexuality education. *The American Journal of Maternal Child Nursing,* 25(1), 31-6.

O'Donnell, C. L. (2008) Defining, conceptualizing, and measuring fidelity of implementation and its relationship to outcomes in K‐12 curriculum intervention research. *Review of Educational Research,* 78(1)**,** 33-84.

O'Donnell, C.L., Stueve, A., Duran, R., Myint-U, A., Agronick, G., San Doval, A. and Wilson-Simmons, R. (2008) Parenting Practices, Parents' Underestimation of Daughters' Risks, and Alcohol and Sexual Behaviors of Urban Girls. *Journal of Adolescent Health,* 42(5)**,** 496-502.

O'Reilly, K., Msiska, R., Mouli, V. and Islam, M. (1999) Behavirol Intervention in Developing Nations. In: L. Gibney, R. DiClemente and S. Vermund (Eds.). *Preventing HIV in Developing Countries: Biomedical and Behavioral Approaches.* New York: Kluwer Academic/Plenum Publishers.

O'Sullivan, L., Jaramillo, B., Moreau, D. and Meyer-Bahlburg, H. (1999) Mother-daughter communication about sexuality in a clinical sample of Hispanic adolescent girls. *Hispanic Journal of Behavioral Sciences,* 21(4)**,** 447-469.

O'Sullivan, L. F., Meyer-Bahlburg, H. F. L. and Watkins, B. X. (2001) Mother-daughter communication about sex among urban African American and Latino families. *Journal of Adolescent Research,* 16(3)**,** 269-292.

Oliver, S., Dickson, K. & Newman, M. (2012) Getting started with a review. IN Gough, D., Oliver, S. & Newman, M. (Eds.) *An introduction to systematic reviews.* London: SAGE.

Oliver, S., Harden, A., Rees, R., Shepherd, J., Brunton, G. and Oakley, A. (2007) Young people and mental health: novel methods for systematic review of research on barriers and facilitators. *Health Education Research,* 23(5), 770-790.

Oxford English Dictionary (2009) 11th ed., Oxford: Oxford University Press.

Pantin, H., Prado, G., Lopez, B., Huang, S., Tapia, M. I., Schwartz, S. J., Sabillon, E., Brown, C. H. and Branchini, J. (2009) A randomized controlled trial of Familias Unidas for Hispanic adolescents with behavior problems. *Psychosomatic Medicine,* 71(9)**,** 987-995.

Parera, N. and Suris, J.C. (2004) Having a good relationship with their mother: A protective factor against sexual risk behavior among adolescent females? *Journal of Pediatric and Adolescent Gynecology,* 17(4)**,** 267-71.

Parsons, S., Harding, G., Breen, A., Foster, N., Pincus, T., Vogel, S. and Underwood, M. (2007) The influence of patients' and primary care practitioners' beliefs and expectations about chronic musculoskeletal pain on the process of care: A systematic review of qualitative studies. *Clinical Journal of Pain,* 23(1)**,** 91-98.

Parsons, T. and Bales, R. F. (1956) *Family, socialization and interaction process.* London: Routledge.

Pattaravanich, U. (1993) Effect of cultural factors on safer sexual behaviours among adolescents in Thailand. In: N. Ford and A. Chamratrithirong (Eds.) *UK/Thai collaborative research development in reproductive and sexual health: proceedings of the symsosium on the Mahidol-Exeter British Council Link.* Thailand: Institute for population and social research, Mahidol University.

Patton, M. Q. and Patton, M. Q. (2002) *Qualitative research and evaluation methods.* London: Sage Publications, Inc.

Paul, C., Fitzjohn, J., Herbison, P. and Dickson, N. (2000) The determinants of sexual intercourse before age 16. *Journal of Adolescent Health,* 27(2), 136-147.

Pearson, J. (2006) Personal control, self-efficacy in sexual negotiation, and contraceptive risk among adolescents: The role of gender. *Sex Roles,* 54(9-10)**,** 615-625.

Perrino, T., González-Soldevilla, A., Pantin, H. and Szapocznik, J. (2000) The role of families in adolescent HIV prevention: A review. *Clinical Child and Family Psychology Review,* 3(2)**,** 81-96.

Peterson, S. H. (2007) The importance of fathers: Contextualizing sexual risk-taking in "low-risk" African American adolescent girls. *Journal of Human Behavior in the Social Environment,* 15(2-3), 329-346.

Phananiramai, M. (1997) Population changes and Economic development in Thailand: Their implications on women's status. *TDRI Quaterly Review,* 12**,** 15-27.

Pildal, J., Chan, A. W., Hrobjartsson, A., Forfang, E., Altman, D. G. and Gotzsche, P. C. (2005) Comparison of descriptions of allocation concealment in trial protocols and the published reports: cohort study. *British Medical Journal,* 330**,** 1049.

Podhisita, C., Xenos, P. and Varangrat, A. (2001) The risk of premarital sex among Thai youth: Individaul and family influences. *East-West Centre Working Papers: Populatin series.* Hawaii: East-West Center.

Popay, J., Roberts, H., Sowden, A., Petticrew, M., Arai, L., Rodgers, M., Britten, N., Roen, K. and Duffy, S. (2006) Guidance on the conduct of narrative synthesis in systematic reviews. [Online] *A product from the ESRC methods programme.* Available from http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.178.3100&rep=rep1&type=pdf. [Accessed 07/11/12]

Popay, J., Rogers, A. and Williams, G. (1998) Rationale and standards for the systematic review of qualitative literature in health services research. *Qualitative Health Research,* 8(3)**,** 341-351.

Poulsen, M. N., Miller, K. S., Lin, C., Fasula, A., Vandenhoudt, H., Wyckoff, S. C., Ochura, J., Obong'o, C. O. and Forehand, R. (2010a) Factors Associated with Parent–Child Communication About HIV/AIDS in the United States and Kenya: A Cross-Cultural Comparison. *AIDS and Behavior,* 14(5)**,** 1083-1094.

Poulsen, M. N., Vandenhoudt, H., Wyckoff, S. C., Obong'o, C. O., Ochura, J., Njika, G., Otwoma, N. J. and Miller, K. S. (2010b) Cultural adaptation of a U.S. evidence-based parenting intervention for rural Western Kenya: from parents matter! To families matter! *AIDS Education and Prevention,* 22(4)**,** 273-285.

Powwattana, A. (2009) Sexual behavior model among young Thai women living in slums in Bangkok, Thailand. *Asia-Pacific Journal of Public Health,* 21(4)**,** 451-460.

Prado, G., Pantin, H., Schwartz, S.J., Lupei, N.S. and Szapocznik, J. (2006) Predictors of engagement and retention into a parent-centered, ecodevelopmental HIV preventive intervention for Hispanic adolescents and their families. *Journal of Pediatric Psychology,* 31 (9), 874-890.

Prado, G., Pantin, H., Briones, E., Schwartz, S. J., Feaster, D., Huang, S., Sullivan, S., Tapia, M. I., Sabillon, E., Lopez, B. and Szapocznik, J. (2007) A randomized controlled trial of a parent-centered intervention in preventing substance use and HIV risk behaviors in Hispanic adolescents. *Journal of Consulting and Clinical Psychology,* 75(6)**,** 914-926.

Prado, G., Pantin, H., Huang, S., Cordova, D., Tapia, M. I., Velazquez, M. R., Calfee, M., Malcolm, S., Arzon, M. and Villamar, J. (2012) Effects of a family intervention in reducing HIV risk behaviors among high-risk Hispanic adolescents: A randomized controlled trial. *Archives of Pediatrics and Adolescent Medicine,* 166(2)**,** 127-133.

Punpanich, W., Ungchusak, K. and Detels, R. (2004) Thailand's response to the HIV epidemic: Yesterday, today, and tomorrow. *AIDS Education and Prevention,* 16(3 Supplement A)**,** 119-136.

Rabiee, F. (2004) Focus-group interview and data analysis. *Proceedings of the Nutrition Society,* 63(4)**,** 655-660.

Raffaelli, M., Bogenschneider, K. and Flood, M. (1998) Parent-teen communication about sexual topics. *Journal of Family Issues,* 19(3)**,** 315-333.

Ramirez Valles, J., Zimmerman, M. A. and Juarez, L. (2002) Gender differences of neighborhood and social control processes - A study of the timing of first intercourse among low-achieving, urban, African American youth. *Youth and Society,* 33(3)**,** 418-441.

Rasamimari, A., Dancy, B. and Smith, J. (2008) HIV risk behaviours and situations as perceived by Thai adolescent daughters and their mothers in Bangkok, Thailand. *AIDS Care,* 20(2)**,** 181-187.

Rasamimari, A., Dancy, B., Talashek, M. and Park, C. G. (2007) Predictors of sexual behaviors among Thai young adults. *Journal of the Association of Nurses in AIDS Care,* 18(6)**,** 13-21.

Ream, G. L. and Savin-Williams, R. C. (2005) Reciprocal associations between adolescent sexual activity and quality of youth-parent interactions. *Journal of Family Psychology,* 19(2)**,** 171-179.

Rees, R. & Oliver, S. (2012) Stakeholder perspectives and participation in reviews. IN Gough, D., Oliver, S. & Thomas, J. (Eds.) *An introduction to systematic reviews.* London: SAGE.

Regnerus, M. and Luchies, L. (2006) The Parent-child relationship and opportunities for adolescents' first sex. *Journal of Family Issues,* 27(2)**,** 159-183.

Rhucharoenpornpanich, O., Chamratrithirong, A., Fongkaew, W., Miller, B. A., Cupp, P. K., Rosati, M. J., Byrnes, H. F., Atwood, K. A. and Chookhare, W. (2012) Parent-teen communication about sex in urban Thai families. *Journal of Health Communication,* 17(4)**,** 380-396.

Richard, R., Van Der Pligt, J. and De Vries, N. (1995) Anticipated affective reactions and prevention of AIDS. *British Journal of Social Psychology,* 34(Pt1)**,** 9-21.

Ritchie, J. and Lewis, J. (2008) *Qualitative research practice: A guide for social science students and researchers,* London: Sage Publications, Inc.

Robin, L., Dittus, P., Whitaker, D., Crosby, R., Ethier, K., Mezoff, J., Miller, K. and Pappasdeluca, K. (2004) Behavioral interventions to reduce incidence of HIV, STD, and pregnancy among adolescents: a decade in review. *Journal of Adolescent Health,* 34(1)**,** 3-26.

Rodgers, K. B. (1999) Parenting processes related to sexual risk-taking behaviors of adolescent males and females. *Journal of Marriage and Family,* 61(1)**,** 99-109.

Rodgers, M., Sowden, A., Petticrew, M., Arai, L., Roberts, H., Britten, N. and Popay, J. (2009) Testing methodological guidance on the conduct of narrative synthesis in systematic reviews effectiveness of interventions to promote smoke alarm ownership and function. *Evaluation,* 15(1)**,** 49-73.

Rogers, R. and White, J. (1993) Family development theory. In: P. Boss, W. Doherty, R. Larossa, W. Schumm and S. Steinmetz (Eds.). *Sourcebook of Family Theories and Methods: A contextual approach.* New York: Plemum.

Romo, L. F., Lefkowitz, E. S., Sigman, M. and Au, T. K. (2002) A longitudinal study of maternal messages about dating and sexuality and their influence on Latino adolescents. *Journal of Adolescent Health,* 31(1)**,** 59-69.

Rosati, M. J., Cupp, P. K., Chookhare, W., Miller, B. A., Byrnes, H. F., Fongkaew, W., Vanderhoff, J., Chamratrithirong, A., Rhucharoenpornpanich, O. and Atwood,

K. A. (2012) Successful Implementation of Thai Family Matters: Strategies and Implications. *Health Promotion Practice,* 13(3)**,** 355-363.

Rosenstock, I., Strecher, V. and Becker, B. (1994) The Health Belief Model and HIV risk behavior change. In: R. DiClemente and J. Peterson (Eds.). *Preventing AIDS: Theories and Methods of Behavioral Interventions.* New York: Plenum Press.

Ross, D. A., Wight, D., Dowsett, G., Buve, A. and Obasi, A. I. (2006) The weight of evidence: a method for assessing the strength of evidence on the effectiveness of HIV prevention interventions among young people. *World Health Organisation Technical Report Series,* 938**,** 79-102.

Rotheram-Borus, M. J., Ingram, B. L., Swendeman, D. and Flannery, D. (2009a) Common principles embedded in effective adolescent HIV prevention programs. *AIDS and Behavior,* 13(3)**,** 387-98.

Rotheram-Borus, M. J., Swendeman, D., Flannery, D., Rice, E., Adamson, D. M. and Ingram, B. (2009b) Common factors in effective HIV prevention programs. *AIDS and Behavior,* 13(3)**,** 399-408.

Roye, C. F. and Seals, B. (2001) A qualitative assessment of condom use decisions by female adolescents who use hormonal contraception. *Journal of the Association of Nurses in AIDS care,* 12(6)**,** 78-87.

Sandelowski, M. and Barroso, J. (2002) Reading qualitative studies. *International Journal of qualitative methods,* 1(1)**,** 1-47.

Sandelowski, M. and Barroso, J. (2003a) Classifying the findings in qualitative studies. *Qualitative Health Research,* 13(7)**,** 905-923.

Sandelowski, M. and Barroso, J. (2003b) Toward a metasynthesis of qualitative findings on motherhood in HIV-positive women. *Research in Nursing and Health,* 26(2)**,** 153-170.

Sandelowski, M., Docherty, S. and Emden, C. (1997) Focus on qualitative methods. Qualitative metasynthesis: Issues and techniques. *Research in Nursing and Health,* 20(4)**,** 365-371.

Santelli, J. S., Lowry, R., Brener, N. D. and Robin, L. (2000) The association of sexual behaviors with socioeconomic status, family structure, and race/ethnicity among US adolescents. *American Journal of Public Health,* 90(10)**,** 1582-1588.

Saranrittichai K, S. W., Ayuwat D. (2006) Adolescent sexual health behavior in Thailand: Implications for prevention of cervical cancer. *Asian Pacific Journal of Cancer Prevention,* 7(4)**,** 615-618.

Sarkadi, A., Kristiansson, R., Oberklaid, F. and Bremberg, S. (2008) Fathers' involvement and children's developmental outcomes: A systematic review of longitudinal studies. *Acta Paediatrica, International Journal of Paediatrics,* 97(2)**,** 153-158.

Schuster, M. A., Corona, R., Elliott, M. N., Kanouse, D. E., Eastman, K. L., Zhou, A. J. and Klein, D. J. (2008) Evaluation of Talking Parents, Healthy Teens, a new worksite based parenting programme to promote parent-adolescent communication about sexual health: randomised controlled trial. [Online] *British Medical Journal,* 337. Available from doi: http://dx.doi.org/10.1136/bmj.39609.657581.25. [Accessed 17/09/11].

Schwandt, T. (2000) Three epistemological stances for qualitative inquiry. In: N.K. Denzin and Y.S. Lincoln (Eds.). *Handbook of qualitative research.* Thousand Oaks, CA: Sage Publications, Inc.

Sethaput, C. and Pattaravanich, U. (1993) Information provided by rural mothers to their daughters concerning reproductive healths. In: N. Ford and A. Chamratrithirong (Eds.). *UK/Thai Collaborative Research development in reproductive and sexual health: proceedings of the symposium on the Mahidol-Exeter British Council Link.* Bangkok, Thailand.

Shepherd, J., Kavanagh, J., Picot, J., Cooper, K., Harden, A. and Barnett-Page, E. (2010) The effectiveness and cost-effectiveness of behavioural interventions for the prevention of sexually transmitted infections in young people aged 13-19: a systematic review and economic evaluation. *Health Technology Assessment,* 14(7)**,** 1-206.

Shoveller, J. A., Johnson, J. L., Langille, D. B. and Mitchell, T. (2004) Socio-cultural influences on young people's sexual development. *Social Science and Medicine,* 59(3)**,** 473-487.

Shrier, L. A., Emans, S. J., Woods, E. R. and Durant, R. H. (1997) The association of sexual risk behaviors and problem drug behaviors in high school students. *Journal of Adolescent Health,* 20(5)**,** 377-383.

Sieving, R. E., McNeely, C. S. and Blum, R. W. (2000) Maternal expectations, mother-child connectedness, and adolescent sexual debut. *Archives of Pediatrics and Adolescent Medicine,* 154(8)**,** 809-816.

Silva, M. and Ross, I. (2002) Association of perceived parental attitudes towards premarital sex with initiation of sexual intercourse in adolescence. *Psychological Reports,* 91(3 Pt 1)**,** 781-784.

Singh, S., Fukuda, H., Ingle, G. and Tatara, K. (2002) Knowledge, attitude, the perceived risks of infection and sources of information about HIV/AIDS among pregnant women in an urban population of Delhi. *Journal of Communicable Diseases,* 34(1)**,** 23-34.

Small, S. A. and Luster, T. (1994) Adolescent sexual activity: An ecological, risk-factor approach. *Journal of Marriage and Family,* 56(1)**,** 181-192.

Smith, C. A. (1997) Factors associated with early sexual activity among urban adolescents. *Social Work,* 42(4)**,** 334-346.

Smith, G., Kippax, S., Aggleton, P. and Tyrer, P. (2003) HIV/AIDS school-based education in selected Asia-Pacific countries. *Sex Education,* 3(1)**,** 3-21.

Sneed, C., Morisky, D., Rotheram-Borus, M., Ebin, V. and Malotte, C. (2001) The social ecology of the co-occurrence of substance use and early coitus among poor, urban black female adolescents. *Substance Use and Misuse,* 36(4), 421-446.

Solomon, Y., Warin, J., Lewis, C. and Langford, W. (2002) Intimate talk between parents and their teenage children. *Sociology,* 36(4)**,** 965-983.

Somers, C. L. and Paulson, S. E. (2000) Students' perceptions of parent-adolescent closeness and communication about sexuality: Relations with sexual knowledge, attitudes and behaviors. *Journal of Adolescence,* 23(5)**,** 629-44.

Somers, C. L. and Vollmar, W. L. (2006) Parent-adolescent relationships and adolescent sexuality: Closeness, communication, and comfort among diverse U.S. adolescent samples. *Social Behavior and Personality,* 34(4)**,** 451-460.

Speizer, I. S., Magnani, R. J. and Colvin, C. E. (2003) The effectiveness of adolescent reproductive health interventions in developing countries: a review of the evidence. *Journal of Adolescent Health,* 33(5)**,** 324-348.

Spencer, L., Ritchie, J., Lewis, J. and Dillon, L. (2003) *Quality in qualitative evaluation: A framework for assessing research evidence*. London: National Centre for Social Research.

Sperber, E., Mckay, M. M., Bell, C. C., Petersen, I., Bhana, A. and Paikoff, R. (2008) Adapting and disseminating a community-collaborative, evidence-based HIV/AIDS prevention programme: Lessons from the history of CHAMP. *Vulnerable Children and Youth Studies,* 3(2)**,** 150-158.

Sridawruang, C., Crozier, K. and Pfeil, M. (2010a) Attitudes of adolescents and parents towards premarital sex in rural Thailand: A qualitative exploration. *Sexual and Reproductive Healthcare,* 1(4)**,** 181-187.

Sridawruang, C., Pfeil, M. and Crozier, K. (2010b) Why Thai parents do not discuss sex with their children: A qualitative study. *Nursing and Health Sciences,* 12(4)**,** 437-443.

Srisuriyawet, R., Fongaew, W. and Villaruel, A. (2006) Gender and sexual experience difference in adolescent sexual behavior in Thailand: Psychosocial factor. *Thai Journal Nursing Research,* 10(3)**,** 215-227.

Stanton, B., Cole, M., Galbraith, J., Li, X., Pendleton, S., Cottrel, L., Marshall, S., Wu, Y. and Kaljee, L. (2004) Randomized trial of a parent intervention: Parents can make a difference in long-term adolescent risk behaviors, perceptions, and knowledge. *Archives of Pediatrics and Adolescent Medicine,* 158(10)**,** 947-55.

Steinberg, L., Lamborn, S. D., Dornbusch, S. M. and Darling, N. (1992) Impact of parenting practices on adolescent achievement: Authoritative parenting, school involvement, and encouragement to succeed. *Child Development,* 63(5)**,** 1266-1281.

Strech, D., Synofzik, M. and Marckmann, G. (2008) How physicians allocate scarce resources at the bedside: A systematic review of qualitative studies. *Journal of Medicine and Philosophy,* 33(1)**,** 80-99.

Strecher, V. J., Mcevoy Devellis, B., Becker, M. H. and Rosenstock, I. M. (1986) The role of self-efficacy in achieving health behavior change. *Health Education and Behavior,* 13(1)**,** 73-92.

Svensson, R. (2004) Shame as a consequence of the parent-child relationship. *European Journal of Criminology,* 1(4)**,** 477-504.

Sweat, M., Morin, S., Celentano, D., Mulawa, M., Singh, B., Mbwambo, J., Kawichai, S., Chingono, A., Khumalo-Sakutukwa, G., Gray, G., Richter, L., Kulich, M., Sadowski, A. and Coates, T. (2011) Community-based intervention to increase HIV testing and case detection in people aged 16–32 years in Tanzania,

Zimbabwe, and Thailand (NIMH Project Accept, HPTN 043): A randomised study. *The Lancet Infectious Diseases,* 11(7)**,** 525-532.

Sy, F. S., Rheaume, C., Choi, S. T., Heybruck, K. L., Thomas, B. M., Pendleton, K. T., Lacson, R. S. and Taylor, D. J. (1998) Using focus groups in developing HIV prevention strategies for youth in rural communities. *Journal of HIV/AIDS Prevention and Education for Adolescents and Children,* 2(3-4)**,** 73-89.

Tangmunkongvorakul, A., Carmichael, G., Banwell, C., Seubsman, S.-A. and Sleigh, A. (2012) Cotial experience among adolescents in three social-educational groups in urban Chiang Mai, Thailand. *Asian Population Studies,* 8(1)**,** 39-63.

Tangmunkongvorakul, A., Carmichael, G., Banwell, C., Utomo, I. D. and Sleigh, A. (2010) Sexual perceptions and practices of young people in Northern Thailand. *Journal of Youth Studies,* 14(3)**,** 315-339.

Tangmunkongvorakul, A., Kane, R. and Wellings, K. (2005) Gender double standards in young people attending sexual health services in Northern Thailand. *Culture, Health and Sexuality,* 7(4), 361-373.

Tashakkori, A. and Teddlie, C. (2008) *Foundations of mixed methods research: Integrating quantitative and qualitative approaches in the social and behavioral sciences,* London: Sage Publications, Inc.

Teitelman, A. M., Ratcliffe, S. J. and Cederbaum, J. A. (2008) Parent-adolescent communication about sexual pressure, maternal norms about relationship power, and STI/HIV protective behaviors of minority urban girls. *Journal of the American Psychiatric Nurses Association,* 14(1)**,** 50-60.

Thato, R., Jenkins, R. A. and Dusitsin, N. (2008) Effects of the culturally-sensitive comprehensive sex education programme among Thai secondary school students. *Journal of Advanced Nursing,* 62(4)**,** 457-469.

Thato, S., Charron-Prochownik, D., Dorn, L. D., Albrecht, S. A. and Stone, C. A. (2003) Predictors of condom use among adolescent Thai vocational students. *Journal of Nursing Scholarship,* 35(2)**,** 157-163.

Thianthai, C. (2004) Gender and class differences in young people's sexuality and HIV/AIDS risk-taking behaviours in Thailand. *Culture, Health and Sexuality,* 6(3), 189-203.

Thomas, H. (2003) Quality assessment tool for quantitative studies. *Effective Public Health Practice Project.* Toronto: McMaster University.

Thomas, J., Brunton, J. and Graziosi, S. (2010) *EPPI-Reviewer 4: Software for research synthesis.* EPPI-Centre, Social Science Research Unit, Institute of Education.

Thomas, J. and Harden A. (2008) Methods for the thematic synthesis of qualitative research in systematic reviews. *BMC Medical Reseasrch Methodology,* 8, 45.

Tong, A., Lowe, A., Sainsbury, P. and Craig, J. C. (2008) Experiences of parents who have children with chronic kidney disease: A systematic review of qualitative studies. *Pediatrics,* 121(2)**,** 349-360.

Tong, A., Sainsbury, P. and Craig, J. (2007) Consolidated criteria for reporting qualitative research (COREQ): A 32-item checklist for interviews and focus group. *International Journal for Quality in Health Care,* 19(6)**,** 349-357.

UNAIDS (2006) Preventing HIV/AIDS in young people: A systematic review of the evidence from developing countries. [Online] In: D.A. Ross, B. Dick and J. Ferguson. *WHO Technical report series,* 938. Available from http://www.who.int/maternal_child_adolescent/documents/trs_938/en/ [Accessed 05/07/2006]

UNAIDS (2007) *AIDS epidemic update: December 2007.* [Online] Switzerland, UNAIDS/WHO. Available from http://www.who.int/hiv/pub/epidemiology/epiupdate2007/en/. [Accessed 14/04/2008]

UNAIDS (2010) Young people are leading the HIV prevention revolution.[Online] Switzerland: UNAIDS. Available from http://www.unaids.org/outlook/YoungPeople.aspx. [Accessed 09/092012]

UNAIDS (2012) *Thailand AIDS Response Progress report 2012: Reporing period: 2010-2011.* [Online] Switzerland: UNAIDS. Available from http://www.unaids.org/en/regionscountries/countries/thailand/ [Accessed 05/10/2013]

UNDP (2004) *Thailand's Response to HIV/AIDS: Progreess and Challenges.* [Online] Thematic MDG report. Bangkok: UNDP. Available from www.un.or.th/pdf/HIV_AIDS_Report_ENG.pdf [Accessed 05/10/2013]

UNDP (2007) *The National Plan for Strategies and Integrated HIV and AIDS Prevention and Alleviation 2007-2011.* Department of Disease Control, Ministry of Public Health. Thailand: The Agricultural Co-operative Federation of Thailand.

UNGASS (2010) UNGASS Country Progress Report: Thailand. National AIDS Prevention and Alleviation Committee. [Online] Available from http://www.unaids.org/en/dataanalysis/knowyourresponse/countryprogressreports/2010countries/#T [Accessed 05/01/2012]

Upchurch, D. M., Aneshensel, C. S., Sucoff, C. A. and Levy-Storms, L. (1999) Neighborhood and family contexts of adolescent sexual activity. *Journal of Marriage and Family***,** 61(4), 920-933.

Usher-Seriki, K. K., Bynum, M. S. and Callands, T. A. (2008) Mother-daughter communication about sex and sexual intercourse among middle- to upper-class African American girls. *Journal of Family Issues,* 29(7)**,** 901-917.

Voisin, D. R., Salazar, L. F., Crosby, R. A. and DiClemente, R. J. (2007) Understanding motivations for sex among detained youth: implications for HIV prevention programs. *Journal of HIV/AIDS and Social Services,* 6(3)**,** 29-41.

Vuttanont, U., Greenhalgh, T., Griffin, M. and Boynton, P. (2006) "Smart boys" and "sweet girls" - sex education needs in Thai teenagers: a mixed-method study. *Lancet,* 368(9552)**,** 2068-2080.

Wakefield, J. C. (1996) Does social work need the eco-systems perspective? Part 1. Is the perspective clinically useful? *The Social Service Review***,** 70(1), 1-32.

Wamoyi, J., Fenwick, A., Urassa, M., Zaba, B. and Stones, W. (2011) Parental control and monitoring of young people's sexual behaviour in rural North-Western Tanzania: Implications for sexual and reproductive health interventions. *BMC Public Health,* 11**,** 106.

Weeks, K., Levy, S. R., Gordon, A. K., Handler, A., Perhats, C. and Flay, B. R. (1997) Does parental involvement make a difference? The impact of parent interactive activities on students in a school-based AIDS prevention program. *AIDS Education and Prevention,* 9(1 Supplement 1)**,** 90-106.

Weinman, M. L., Small, E., Buzi, R. S. and Smith, P. B. (2008) Risk factors, parental communication, self and peers' beliefs as predictors of condom use among female adolescents attending family planning clinics. *Child and Adolescent Social Work Journal***,** 25(3), 157-170.

Weiss, E., Whelan, D. and Gupta, G. R. (2000) Gender, sexuality and HIV: Making a difference in the lives of young women in developing countries. *Sexual and Relationship Therapy,* 15(3)**,** 233-245.

Wellings, K., Branigan, P. and Mitchell, K. (2000) Discomfort, discord and discontinuity as data: Using focus groups to research sensitive topics. *Culture, Health and Sexuality,* 2(3)**,** 255-267.

Weniger, B. G., Limpakarnjanarat, K., Ungchusak, K., Thanprasertsuk, S., Choopanya, K., Vanichseni, S., Uneklabh, T., Thongcharoen, P. and Wasi, C. (1991) The epidemiology of HIV infection and AIDS in Thailand. *AIDS,* 5 (Supplement 2)**,** S71-S85.

Whitaker, D. J. and Miller, K. S. (2000) Parent-adolescent discussions about sex and condoms: Impact on peer influences of sexual risk behavior. *Journal of Adolescent Research,* 15(2)**,** 251-273.

Whitaker, D. J., Miller, K. S., May, D. C. and Levin, M. L. (1999) Teenage partners' communication about sexual risk and condom use: The importance of parent-teenager discussions. *Family Planning Perspectives,* 31(3)**,** 117-121.

Whitbeck, L. B., Conger, R. D. and Kao, M.-Y. (1993) The influence of parental support, depressed affect, and peers on the sexual behaviors of adolescent girls. *Journal of Family Issues*, 14(2), 261-278.

Whitbeck, L. B., Yoder, K. A., Hoyt, D. R. and Conger, R. D. (1999) Early adolescent sexual activity: A development study. *Journal of Marriage and Family,* 61(4)**,** 934-946.

Whitchurch, G. and Constantine, L. (1993) Systems Theory. In: P. Boss, W. Doherty, R. Larossa, W. Schumm and S. Steinmetz (Eds.). *Soucebook of Family Theories and Methods: A contextual approach.* New York: Plenum.

White, H. R., Mcmorris, B. J., Catalano, R. F., Fleming, C. B., Haggerty, K. P. and Abbott, R. D. (2006) Increases in alcohol and marijuana use during the transition out of high school into emerging adulthood: The effects of leaving home, going to college, and high school protective factors. *Journal of Studies Alcohol,* 67(6)**,** 810-822.

White, J. (1991) *Dynamics of family development: The theory of family development,* New York: Guilford.

Whitehead, S. J., Leelawiwat, W., Jeeyapant, S., Chaikummao, S., Papp, J., Kilmarx, P. H., Markowitz, L. E., Tappero, J. W., Chaowanachan, T., Uthaivoravit, W. and Van Griensven, F. (2008) Increase in sexual risk behavior and prevalence of *Chlamydia Trachomatis* among adolescents in Northern Thailand. *Sexually Transmitted Diseases,* 35(10)**,** 883-888.

WHO (2010) Thailand's new condom crucade. *Bulletin of the World Health Organization,* 88(6)**,** 401-480.

Wingood, G. and DiClemente, R. (1999) The use of psychological models for guiding the design and implementation of HIV prevention intervetnions: Translating Theory into Practice. In: L. Gibney, R. DiClemente and S. Vermund (Eds.) *Preventing HIV in Developing Countries: Biomedical and Behavioral Approaches.* New York: Kluwer Academic/Plenum Publishers.

Wiwanitkit, V. (2003) Knowledge about human immunodeficiency virus infection: The perceived risks of infection of Thai adolescents in a rural community. *Sexuality and Disability,* 21(4)**,** 263-267.

Wright, P. (2009) Father-child sexual communication in the United States: A review and synthesis. *Journal of Family Communication,* 9(4)**,** 233-250.

Yang, H., Stanton, B., Li, X., Cottrel, L., Galbraith, J. and Kaljee, L. (2007) Dynamic association between parental monitoring and communication and adolescent risk involvement among African-American adolescents. *Journal of the National Medical Association,* 99(5)**,** 517-524.

Appendix 1: Search strategies

Search strategies	Non intervention studies	Intervention studies
Electronic databases	EMBASE, CINAHL, PsycINFO, Web of Science, Sociological abstracts, MEDLINE, ASSIA, Family and Society Studies Worldwide	CINAHL, PsycINFO, EMBASE, SSCI, ERIC, AIDSLINE, Cochrane library, Family and Society Studies Worldwide, MEDLINE
Websites	UNAIDS (http://www.unaids.org/en/) UNESCO (http://en.unesco.org/) WHO (http://www.who.int/en/) UNDP (http://www.undp.org/content/undp/en/home.html) Google, Google Scholar	
Key concepts and their synonyms	1) Population: 'young women', 'girls', 'female adolescents' 2) HIV/AIDS: 'HIV', 'Sexually Transmitted Diseases', 'sexual risk' 3) Family: 'parents', 'families', 'fathers', and 'mothers'.	1) Population: 'young people', 'youth', 'adolescents', students 2) HIV/AIDS: 'HIV', 'Sexually Transmitted Diseases', 'sexual risk' 3) Study designs: Randomize, clinical trials, evaluation
Search period	February 2009	2008 and 2011

Non-interventions studies

Databases	Search strategies
Family and Society Studies Worldwide (9 Feb 2009)	A) ((HIV OR SEXUAL BEHAVIOR OR CONDOM OR ABSTINENCE OR SEXUAL* TRANSMIT*) AND (PARENT* OR MOTHER* OR FATHER*) AND (GIRL OR YOUNG WOMEN OR YOUNG FEMALE OR ADOLESCENT* WOMEN OR ADOLESCENT* FEMALE OR TEEN* WOMEN OR TEEN* FEMALE OR YOUTH WOMEN OR YOUTH FEMALE)) B) Sexual behaviour AND Family (Title)
PsycINFO (7 Feb 2009) (OVID)	1 (young adj3 female$).ti,ab. 2 (young adj3 women).ti,ab.

	3 (adolescen$ adj3 female$).ti,ab. 4 (adolescen$ adj3 women).ti,ab. 5 (female adj3 student$).ti,ab. 6 (female adj3 teen$).ti,ab. 7 (female adj3 youth$).ti,ab. 8 (youth$ adj3 women).ti,ab. 9 (teen$ adj3 women).ti,ab. 10 girl$.mp. 11 10 or 6 or 1 or 9 or 4 or 3 or 7 or 2 or 5 or 8 12 (experience* or interview* or qualitative).tw. 13 exp HIV/ 14 exp AIDS/ 15 exp Sexually Transmitted Diseases/ 16 exp Sexual Risk Taking/ 17 exp CONDOMS/ 18 exp SEXUAL ABSTINENCE/ 19 (HIV or AIDS or sexually transmitted or sexual risk* or sexual behavio?r* or condom* or sexual abstinence).tw. 20 18 or 17 or 14 or 19 or 15 or 13 or 16 21 exp NUCLEAR FAMILY/ or exp FAMILY STRUCTURE/ or exp FAMILY/ or exp EXTENDED FAMILY/ or exp FAMILY SOCIOECONOMIC LEVEL/ or exp FAMILY BACKGROUND/ or exp BIOLOGICAL FAMILY/ or exp FAMILY SIZE/ or exp FAMILY RELATIONS/ or exp FAMILY MEMBERS/ or famil$.ti,ab. 22 exp PARENT CHILD RELATIONS/ or exp PARENT CHILD COMMUNICATION/ or exp PARENT EDUCATIONAL BACKGROUND/ or parent*.ti,ab. 23 exp MOTHER CHILD COMMUNICATION/ or exp MOTHER CHILD RELATION/ or mother*.ti,ab. 24 exp FATHER CHILD COMMUNICATION/ or exp FATHER CHILD RELATIONS/ or father*.ti,ab. 25 23 or 21 or 24 or 22 26 25 and 11 and 12 and 20 27 limit 26 to yr="1980 – 2009"
EMBASE (7 Feb 2009) OVID	1 exp Human Immunodeficiency Virus/ 2 exp Acquired Immune Deficiency Syndrome/ep, pc, th

	[Epidemiology, Prevention, Therapy] 3 exp Sexual Behavior/ or sexual risk.mp. or exp Sexually Transmitted Disease/ or exp Condom/ 4 exp ABSTINENCE/ or abstinence.mp. 5 (condom$ or sexually transmitted).mp. [mp=title, abstract, subject headings, heading word, drug trade name, original title, device manufacturer, drug manufacturer name] 6 2 or 5 or 1 or 4 or 3 7 exp Family Size/ or exp Family/ or exp Extended Family/ or family.mp. or exp Family Functioning/ 8 father*.mp. or exp Father Child Relation/ or exp Father/ 9 exp Mother Child Relation/ or mother*.mp. or exp Mother/ 10 exp Single Parent/ or exp Parent/ or parent*.mp. or exp Child Parent Relation/ 11 exp Family Size/ or exp Family/ or exp Extended Family/ or famil*.ti. or exp Family Functioning/ 12 (young adj3 female$).ti,ab. 13 (young adj3 women).ti,.ab. 14 (adolescen$ adj3 female$).ti,ab. 15 (adolescen$ adj3 women).ti,ab. 16 (female adj3 student$).ti,ab. 17 (female adj3 teen$).ti,ab. 18 (female adj3 youth$).ti,ab. 19 (youth$ adj3 women).ti,ab. 20 (teen$ adj3 women).ti,ab. 21 girl$.mp. or exp GIRL/ 22 21 or 17 or 12 or 20 or 15 or 14 or 18 or 13 or 16 or 19 23 22 and 6 24 8 or 11 or 10 or 9 or 7 25 24 and 23
Sociological Abstracts (10 Feb 2009) CSA	(KW=(girl* or (young within 3 wom?n) or (young within 3 female*)) or KW=((adolescen* within 3 wom?n) or (adolescen* within 3 female*) or (female* within 2 student*)) or KW=((female* within 3 youth) or (female* within3 teen*) or (youth within 3 wom?n)) or KW=(teen* within 3 wom?n)) and((DE=("celibacy" or "acquired immune deficiency syndrome" or "condoms" or "extramarital sexuality" or "premarital sex" or

	"sexual intercourse" or "venereal diseases")) or(KW=(HIV or (sexual* transmitted) or (sexual behavio?r*)) or KW=(abstinence or condom))) and((DE=("parents" or "fathers" or "grandparents" or "mothers" or "parent training" or "family" or "family relations" or "family research" or "family roles" or "family size" or "family stability" or "family structure" or "parental influence")) or(KW=(famil* or parent* or father*) or KW=mother*))
ASSIA (11 Feb 2009) CSA	(((DE=("adolescent girls" or "girls" or "young girls" or "young women")) or (KW=(girl* or (young within 3 wom?n) or (young within 3 female*)) or KW=((adolescen* within 3 wom?n) or (adolescen* within 3 female*) or (female* within 2 student*)) or KW=((female* within 3 youth) or (female* within3 teen*) or (youth within 3 wom?n)) or KW=(teen* within 3 wom?n))) and((DE=("abstinence" or "aids" or "HIV" or "sexual behaviour" or "sexually transmitted diseases")) or(KW=(HIV or (sexual* transmitted) or (sexual behavio?r*)) or KW=(abstinence or condom))) and((DE=("families" or "grandparents" or "parents" or "fathers" or "mothers")) or(KW=(famil* or parent* or mother*) or KW=father*))) or(((DE=("abstinence" or "aids" or "hiv" or "sexual behaviour" or "sexually transmitted diseases")) or(KW=(HIV or (sexual* transmitted) or (sexual behavio?r*)) or KW=(abstinence or condom))) and(DE=("parent adolescent relationships" or "mother adolescent communication" or "mother adolescent interactions" or "parent adolescent communication" or "parent adolescent interactions")))
MEDLINE (17 Feb 2009) OVID	1 girl$.mp. 2 (young adj3 women).ti,ab. 3 (young adj3 female$).ti,ab. 4 (adolescen$ adj3 female$).ti,ab. 5 (adolescen$ adj3 women).ti,ab. 6 (female adj3 student$).ti,ab. 7 (female adj3 youth$).ti,ab. 8 (female adj3 teen$).ti,ab. 9 (youth$ adj3 women).ti,ab. 10 (teen$ adj3 women).ti,ab. 11 1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10 12 Acquired Immunodeficiency Syndrome.ti,ab. 13 HIV.ti,ab. 14 (condom$ or sexually transmit$ or abstinen$).ti,ab. 15 exp Sexual Behavior/ or exp Unsafe Sex/

	16 (sexual adj3 behavio$).ti,ab. 17 16 or 13 or 12 or 15 or 14 18 (famil* or parent* or father* or mother*).ti. 19 *family/ or *family characteristics/ or *marital status/ or *family relations/ or *family conflict/ or *intergenerational relations/ or *parent-child relations/ or *parenting/ or *paternal behavior/ or *paternal deprivation/ or *sibling relations/ or nuclear family/ 20 *family/ or *family characteristics/ or *marital status/ or *family relations/ or *family conflict/ or *intergenerational relations/ or *parent-child relations/ or *parenting/ or *paternal behavior/ or *paternal deprivation/ or *sibling relations/ or nuclear family/ 21 *parents/ or *fathers/ or *mothers/ 22 *Mothers/px, ed [Psychology, Education] 23 *Fathers/ed, px [Education, Psychology] 24 22 or 21 or 18 or 23 or 19 or 20 25 11 and 24 and 17
SSCI (12 Feb 2009) ISI	#4 #3 AND #2 AND #1 #3 TS= (HIV OR ("acquired immunodeficiency syndrome") OR ("sexual behavio*") OR ("sexual* transmit*") OR (condom OR abstinence)) #2 TS= ((young SAME women) OR girl* OR (young SAME female) OR (adolescen* SAME women) OR (adolescen* SAME female) OR (female SAME student*) OR (female SAME youth) OR (female SAME teen*) OR (youth SAME women) OR (teen* SAME women)) #1 TS= (famil* OR parent* or father* or mother*)
CINAHL (18 Feb 2009) EBSCOhost	S17 S14 and S15 and S16 S16 "girl*" or Young W3 women or young W3 female* or adolescen* W3 women or adolescen* N3 female* or female N3 student* or female* N3 youth or youth W3 women or teen* N3 female* or teen* N3 women S15 S2 or S3 or S4 or S5 or S6 or S7 or S8 S14 S9 or S10 or S11 or S12 or S13 S13 TI parent* or famil* S12 ("fathers") or (MM "Fathers") or (MH "Father-Child Relations") S11 ("mothers") or (MH "Mothers+") or (MH "Mother-Child

	Relations") S10 ("parents") or (MH "Parents+") or (MH "Parental Attitudes+") or (MH "Biological Parents") or (MH "Parental Behavior") S9 ("families") or (MH "Dependent Families+") or (MH "Extended Family+") or (MH "Nuclear Family+") or (MH "Family+") S8 ("Sexual behavior") or (MM "Sexual Behavior Analysis (Saba CCC)") S7 ("Abstinence") or (MM "Sexual Abstinence") S6 ("condom") or (MM "Female Condoms") or (MH "Condoms") S5 ("Sexually transmitted diseases") or (MM "Sexually Transmitted Diseases") or (MM "Risk Control: Sexually Transmitted Diseases (STD) (Iowa NOC)") S4 ("Sexually transmitted diseases") or (MM "Sexually Transmitted Diseases") or (MM "Risk Control: Sexually Transmitted Diseases (STD) (Iowa NOC)") S3 ("AIDS") or (MH "Acquired Immunodeficiency Syndrome") S2 ("HIV") or (MH "HIV Education") or (MM "HIV Infections")

Intervention studies

CINAHL (OVID and EBSCO) (24 Jan 2008, 05 Sept 2008 and 08 May 2011)	S17 S16 and S15 and S8 S16 TX randomized or MH treatment outcome or PT clinical trial S15 S9 or S10 or S11 or S12 or S13 or S14 S14 TX sexual risk S13 (MH "Sexual Abstinence") S12 (MH "Condoms S11 (MH "Unsafe Sex") S10 MM "Acquired Immunodeficiency Syndrome") or (MH "Sexually Transmitted Diseases+") S9 (MH "Human Immunodeficiency Virus+") S8 (S2 or S1 or S3 or S4 or S5 or S6 or S7)

	S7 young women S6 "girl*" S5 TX young S4 TX youth S3 (MH "Adolescence+") S2 (MH "Female") S1 (MH "Women+")
PsychINFO (OVID) Search strategies (24 Feb 2009, 15 Sept 2008, 06 May 2011)	1 exp Human Females/ 2 female.mp. 3 young.mp. 4 youth.mp. 5 adolescen*.mp. 6 teenage*.mp. 7 young adult*.mp. 8 girl*.mp. 9 (young adj3 women).mp. [mp=title, abstract, heading word, table of contents, key concepts] 10 student*.mp. 11 1 or 2 or 7 or 5 or 3 or 6 or 8 or 9 or 10 or 4 12 exp HIV/ 13 exp AIDS/ 14 exp Sexually Transmitted Diseases/ 15 exp Sexual Risk Taking/ 16 exp CONDOMS/ 17 exp SEXUAL ABSTINENCE/ 18 (HIV or AIDS or sexually transmitted or sexual risk* or sexual behavio?r* or condom* or sexual abstinence).tw. 19 12 or 13 or 14 or 15 or 16 or 17 or 18 20 double-blind.tw. 21 random: assigned.tw. 22 20 or 21 23 11 and 19 and 22
EMBASE (OVID) (24 Feb 2008, 23 Oct 2008, 06 May	1. girl$.mp. or exp GIRL/ 2. "young women".mp.

2011)	3. 1 or 2 4. (young or adolescen$).mp. 5. youth.mp. or Juvenile/ 6. (female$ or women$).mp. 7. exp Human Immunodeficiency Virus/ 8. exp Acquired Immune Deficiency Syndrome/ep, pc, th [Epidemiology, Prevention, Therapy] 9. exp Sexual Behavior/ or sexual risk.mp. or exp Sexually Transmitted Disease/ or exp Condom/ 10. exp ABSTINENCE/ or abstinence.mp. 11. random:.tw. 12. placebo:.mp. 13. double-blind:.mp. 14. 11 or 12 or 13 15. 4 or 5 16. 6 and 15 17. 16 or 3 18. (condom$ or sexually transmitted).mp. [mp=title, abstract, subject headings, heading word, drug trade name, original title, device manufacturer, drug manufacturer name] 19. 8 or 18 or 7 or 10 or 9 20. 19 and 17 and 14
SSCI (ISI) (25 May 2008, 04 Sept 2008, 12 May 2011)	#14 #13 AND #12 DocType=All document types; Language=All languages; Database=SSCI; #13 TI=(prevent* or evaluation or intervention or impact or program* or efficacy or prevention or effectiveness) DocType=All document types; Language=All languages; Database=SSCI; #12 #11 AND #7 DocType=All document types; Language=All languages; Database=SSCI; #11 #10 OR #9 OR #8 DocType=All document types; Language=All languages; Database=SSCI; #10 TS=(sexual* transmit*)

	DocType=All document types; Language=All languages; Database=SSCI; #9 TS=(AIDS) DocType=All document types; Language=All languages; Database=SSCI; #8 TS=HIV DocType=All document types; Language=All languages; Database=SSCI; #7 #6 AND #5 DocType=All document types; Language=All languages; Database=SSCI; #6 #4 OR #1 DocType=All document types; Language=All languages; Database=SSCI; #5 TS=(young or youth* or adolescen*) DocType=All document types; Language=All languages; Database=SSCI; #4 TS=women DocType=All document types; Language=All languages; Database=SSCI; #3 TS="young women" DocType=All document types; Language=All languages; Database=SSCI; #2 TS=girl* DocType=All document types; Language=All languages; Database=SSCI; #1 TS=female DocType=All document types; Language=All languages; Database=SSCI;
ERIC CSA (25 May 2008)	((DE=("prevention" or "accident prevention" or "crime prevention" or "delinquency prevention" or "dropout prevention" or "hearing conservation")) or (DE=("intervention" or "crisis intervention" or "early intervention" or "individualized family service plans" or "prereferral intervention")) or (DE=("evaluation" or "alternative assessment" or "performance based assessment" or "computer software evaluation" or "course evaluation" or "curriculum evaluation" or "educational assessment" or "college outcomes assessment" or "equipment evaluation" or "formative evaluation" or "holistic evaluation" or "informal assessment" or "institutional

	evaluation" or "instructional material evaluation" or "textbook evaluation" or "medical care evaluation" or "medical evaluation" or "auditory evaluation" or "dental evaluation" or "physical examinations" or "speech evaluation" or "needs assessment" or "peer evaluation" or "personnel evaluation" or "administrator evaluation" or "counsellor evaluation" or "faculty evaluation" or "teacher evaluation" or "student evaluation of teacher performance" or "portfolio assessment" or "preschool evaluation" or "program evaluation" or "property appraisal" or "assessed valuation" or "psychological evaluation" or "personality assessment" or "recognition achievement" or "awards" or "literary awards" or "commencement ceremonies" or "professional recognition" or "self evaluation groups" or "self evaluation individuals" or "student evaluation" or "curriculum based assessment" or "nongraded student evaluation" or "student teacher evaluation" or "summative evaluation" or "vocational evaluation" or "writing evaluation"))) and (((DE="sexually transmitted diseases") or (DE="acquired immune deficiency syndrome")) and (((DE=("youth" or "affluent youth" or "black youth" or "disadvantaged youth" or "migrant youth" or "out of school youth" or "rural youth" or "suburban youth" or "urban youth")) or (DE=("adolescents" or "late adolescents"))) and (DE=("females" or "battered women" or "daughters" or "displaced homemakers" or "employed women" or "women administrators" or "women faculty" or "mothers" or "black mothers" or "unwed mothers" or "nuns" or "pregnant students" or "rural women" or "women scientists")))))
AIDSLINE (PubMed) (26 Jan 2008)	#5 adolescen$ [title] or youth$[title]) and (female[title] or women[title]) Limits: AIDS #4 Search #3 and (#1 or #2) Limits: AIDS #3 Search intervention or evaluation or impact or program$ Limits: AIDS #2 Search "young women"[Title/Abstract] Limits: AIDS #1 Search "girl$"[Title] Limits: AIDS
Cochrane (26 Jan 08, 9 Jun 2011)	#1 (female$) or (women):ti,ab,kw or (young or youth$ or adolescen$ or juvenile):ti,ab,kw #2 "young women" or girl$:ti,ab,kw #3 (HIV):ti,ab,kw or (AIDS):ti,ab,kw or (STD$):ti,ab,kw or (STI$):ti,ab,kw or (sexually transmit$):ti,ab,kw #4 ((#1 OR #2) AND #3)
MEDLINE (OVID) (26 Jan 2008, 18 Nov 2008, 06 May 2011)	1 girl$.mp. 2 (young adj3 women).mp. 3 (young adj3 female*).mp.

	4 (adolescen* adj3 female*).mp 5 (adolescen* adj3 women).mp. 6 (female adj3 student*).mp. 7 (female adj3 youth*).mp. 8 (female adj3 teen*).mp. 9 (youth* adj3 women).mp. 10 (teen* adj3 women).mp. 11 (young or adolescent* or adolescence or teenager* or student* or emerging adult* or youth*).mp 12 1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 13 Acquired Immunodeficiency Syndrome/ 14 exp HIV/ 15 exp Sexually Transmitted Diseases/ 16 (condom* or sexually transmit* or abstinen*).mp. 17 (sexual adj3 risk*).mp. 18 exp Sexual Behavior/ or exp Unsafe Sex/ 19 (sexual adj3 behavio*).mp. 20 (unsafe adj3 sex).mp. 21 17 or 13 or 15 or 14 or 18 or 13 or 16 or 19 or 20 22 randomized controlled trial.pt. 23 randomized.mp. 24 placebo.mp. 25 22 or 24 or 23 26 12 and 25 and 21
Family and society worldwide (08 May 2011)	# Query Limiters/Expanders S9 S7 and S1 and S2 Limiters – Date Published from: 19800101-20111231 Search modes – Boolean/Phrase S8 S7 and S1 and S2 Search modes – Boolean/Phrase S7 S6 or S5 or S4 or S3 Search modes – Boolean/Phrase S6 SU Condom or SU sexual risk or TX sexual risk or TX Condom Search modes – Boolean/Phrase S5 SU Sexually transmitted diseases Search modes – Boolean/Phrase S4 SU AIDS Search modes – Boolean/Phrase

	S3 SU HIV Search modes – Boolean/Phrase S2 TI (impact or evaluation or program* or intervention or efficacy or prevention or effectiveness) or TI (trial* or randomi* or experiment) Search modes – Boolean/Phrase S1 girl* or young W3 women or young W3 female* or adolescen* W3 women or adolescen* N3 female* or female N3 student* or female N3 youth or youth W3 women or teen* N3 female* or teen* N3 women or young adult N3 female* or young adult N3 women or youth or young adult or adolescen* or teenag* or student* or emerging adult* or young people Search modes – Boolean/Phrase

Appendix 2: Exclusion criteria for systematic knowledge map

All studies	Non intervention studies	Intervention studies
Population: A study that included participants who had HIV-positive status	A study did not report data on girls and or young women aged 10-25 years	A study did not report data on young people aged 10-25 years
Topic: A study that mainly focused on pregnancy and contraception	A study did not either a) investigate the relationship between familial factors and HIV/AIDS sexual risk behaviour, or b) did not explore the perceptions of young women on family roles and their sexual decisions.	The study did not aim to evaluate family-involved HIV interventions.
Date	A study was published before 1980	
Type of publication	Editorials, book reviews, policy documents, theoretical studies, methodological studies, review, systematic reviews and bibliographies.	

Appendix 3: Coding tool for systematic knowledge map

A: Country and publication

A.1 Country in which study was carried out?	A.1.1 UK A.1.2 USA A.1.3 Thailand A.1.4 Argentina A.1.5 Australia A.1.6 Bangladesh A.1.7 Botswana A.1.8 Brazil A.1.9 Cambodia A.1.10 Canada A.1.11 Chad A.1.12 Chile A.1.13 China A.1.14 Colombia A.1.15 Congo, Dem.Rep A.1.16 Congo, Rep A.1.17 Cote d'lvoire A.1.18 Denmark A.1.19 Ecuador A.1.20 Ethiopia A.1.21 Finland A.1.22 France

	A.1.23 Gambia A.1.24 Germany A.1.25 Ghana A.1.26 Hong Kong, China A.1.27 India A.1.28 Indonesia A.1.29 Israel A.1.30 Italy A.1.31 Japan A.1.32 Kenya A.1.33 Korea, Rep A.1.34 Lao PDR A.1.35 Liberia A.1.36 Libya A.1.37 Lithuania A.1.38 Malawi A.1.39 Malaysia A.1.40 Mexico A.1.41 Mozambique A.1.42 Myanmar A.1.43 Namibia A.1.44 Nepal A.1.45 Netherlands A.1.46 New Zealand A.1.47 Niger

	A.1.48 Nigeria A.1.49 Norway A.1.50 Pakistan A.1.51 Peru A.1.52 Philippines A.1.53 Peru A.1.54 Russian Federation A.1.55 Rwanda A.1.56 Senegal A.1.57 Sierra Leone A.1.58 Singapore A.1.59 Somalia A.1.60 South Africa A.1.61 Spain A.1.62 Sri Lanka A.1.63 Sudan A.1.64 Swaziland A.1.65 Sweden A.1.66 Tanzania A.1.67 Togo A.1.68 Tonga A.1.69 Turkey A.1.70 Uganda A.1.71 Vietnam A.1.72 Zambia

	A.1.73 Zimbabwe A.1.74 More than one countries Please tick here and relevant countries A.1.75 Others
A.2 When was the study carried out? *Publication date*	A.2.1 1980-1985 A.2.2 1986-1990 A.2.3 1991-1995 A.2.4 1996-2000 A.2.5 2001-2005 A.2.6 2006-2009

Section B: Population

B.1 Age of participants or samples -As reported in the study -Please use mean age if reported. -Other populations e.g. parents or males, please do not report here	B.1.1 10-15 B.1.2 16-20 B.1.3 21-25 B.1.4 Did not report mean age, but report age range *Please specify age range* B.1.5 Did not report mean age or age range, only reported as 'girls' or 'young women' or female adolescents'
B.2 What is the population included in the study? -Tick more than one if apply -As reported in the study	B.2.1 Young women only B.2.2 Young people with results of young women reported separately *Both males and females were included the study* B.2.3 Women with results of young women (aged 10-25) reported in the study B.2.4 Young women and family members

	B.2.5 Young women with family members -Family members are defined as any adults who act as a socialised agent for young women and have an influence throughout young women's life. -Please specify family members B.2.6 young women with other population groups -*Please specify (e.g. school teachers, peers)*
B.3 What are participants' characteristics reported in the study? *try to tick only one answer*	B.3.1 College students or graduates (after high schools) B.3.2 Intravenous Drug Users B.3.3 Drug Users B.3.4 Partners of at risk populations (e.g. IDUs, drug users, gay men, commercial sex workers) B.3.5 Sex workers B.3.6 Participants with histories of STIs B.3.7 Participants with mental health disorders B.3.8 Housewives B.3.9 Gay or Lesbian B.3.10 High school students B.3.11 Ethnicity (e.g. African American, Latino, Chinese American) B.3.12 Participants in a health care setting B.3.13 Pregnant women B.3.14 High risk population (as described in the report) B.3.15 Homeless B.3.16 Not stated

	B.3.17 Other (please specify)

Section C: Study Design

C.1 What type of study?	C.1.1 Randomised Controlled Trial C.1.2 Quasi experiment with random allocation to groups *(e.g. by class, post code, school)* C.1.3 Experiment with non-random allocation to groups C.1.4 Experiment single group pre-post test (no control groups) C.1.5 Experiment single group pre-post test (no control groups) C.1.6 Observational cohort study *-retrospective or prospective* C.1.7 Observational longitudinal Study (i.e. panel, trend study – other than a cohort study) C.1.8 Observational correlation study *(cross sectional study)* C.1.9 Observational case-control study C.1.10 Case study C.1.11 Focus group C.1.12 In-depth interviews C.1.13 Participant observation C.1.14 Secondary data analysis -Please specify data set name if relevant -The authors did not collect data themselves C.1.15 Direct observation C.1.16 Other

	-Please specify
C.2 What is the purpose of the study? -Then please answer the following sections as appropriate	C.2.1 What works? -Intervention study -Please answer questions in the intervention description section C.2.2 Exploration of social phenomenon -Using qualitative data -Then please answer questions in the section of exploration of social phenomenon (Section D and D.3) C.2.3 Exploration of relationship -Non intervention study using quantitative data analysis -Please answer questions in exploration of relationship section (Section D, D.4 and D.5) C.2.4 Multi purposes (intervention and non-intervention: quantitative) C.2.5 Multi purposes (intervention and non-intervention: qualitative) C.2.6 Multi purpose (non-intervention both quantitative and qualitative)

Section D: Descriptive information

D.1 Theories are reported?	D.1.1 Yes -Please specify D.1.2 No
D.2 Definition of family or family factors is discussed?	D.2.1 Yes -Please specify D.2.2 No
D.3 For exploration of relationship study, what family variables were investigated in the study?	D.3.1 Not application, not explore relationship of variables D.3.2 Family structure

	D.3.3 Parental relationship D.3.4 Family connectedness D.3.5 Parental behaviours *(e.g. substance misuse)* D.3.6 Family belief or religion D.3.7 Parent monitoring D.3.8 Family values D.3.9 Family expectation D.3.10 Parent-child communication D.3.11 Parental income D.3.12 Parent education level D.3.13 Family violence D.3.14 Parental occupation D.3.15 Others -please specify D.3.16 please also tick here if more than one variables investigated in the study
D.4 For exploration of social phenomenon study, what the topic focus of the study? *-As reported by the authors*	D.4.1 Not applicable, not explore phenomenon (using quantitative methods) D.4.2 Details –as reported in the studies
D.5 For exploration of social phenomenon study, based on question D.4, if family was not the topic focus of the study, which family aspects were covered in the study (in the topic guide, questionnaire, or theory) as indicated by the authors	F.5.1 Not applicable, not explore phenomenon (using quantitative methods) F.5.2 Not applicable, the study focus was on family influence F.5.2 Details

2) Family-involved HIV intervention studies

Section A: Administrative data

A.1 In which country/countries was the study carried out?	Please specify
A.2 When was the study carried out? or publication date	A.2.1 1980-1985 A.2.2 1986-1990 A.2.3 1991-1995 A.2.4 1996-2000 A.2.5 2001-2005 A.2.6 2006-2010 A.2.7 2011-2015
A.3 Aim of the study	Please provide detail as reported

Section B: Population

B.1 Who were sampled in the study?	B.1.1Young women only B.1.2 Young people Both male and female B.1.3 Parents or family members only Please specify who? Mother, father, grandparent, guardian B.1.4 Both young women and family members Please specify who was the family members B.1.5 Young people with family members Please specify family members B.1.6 Young women and others Others may be peers, school teachers, community workers, please specify B.1.7 Young people with others Others may be peers, teachers, community workers etc., please specify B.1.8 Others (with no young women or young people)
B.2 Did the study report results of young women separately?	B.2.1 Yes B.2.2 No

B.3 Age of participants	B.3.1 Young women only Please specify B.3.2 Young people Please specify B.3.3 Family members Please specify
B.4 What were samples' characteristics reported in the study?	B.4.1 Students Please indicate, high school, primary school or undergraduates B.4.2 Drug Users Please indicate if they were Intravenous Drug Users B.4.3 Partners of at risk populations For example, IDUs, CSWs etc. please specify B.4.4 Sex workers B.4.5 Participants with histories of STIs B.4.6 Participants with mental health disorders B.4.7 Housewives B.4.8 Ethnicity For example, African American, Latino, Please indicate B.4.9 Participants in a health care setting B.4.10 Pregnant women B.4.11 High risk population (as described in the report) B.4.12 Homeless B.4.13 High SES B.4.14 Low SES B.4.15 From urban B.4.16 From rural B.4.17 Not stated B.4.18 Others Please indicate

Section C: Study design

C.1 Sample size	Please specify
C.2 What was the study design?	C.2.1 Randomised Controlled Trial C.2.2 Quasi experiment with random allocation to groups Please provide detail of how groups or individuals allocated C.2.3 Experiment with non-random allocation to groups C.2.4 Experiment single group pre-post test (no control groups) C.2.5 Experiment Single group post test only (no control groups) C.2.6 Observational cohort study Please indicate prospective or retrospective C.2.8 Observational longitudinal Study For example, panel, trend study-other than a cohort study. Please specify C.2.9 Observational Correlation study (cross sectional study) C.2.10 Observational case-control study C.2.11 Case study C.2.12 Focus group C.2.13 In-depth interviews C.2.14 Participant observation C.2.15 Secondary data analysis Please specify data set name if relevant C.2.16 Direct observation C.2.17 Other

Section D: Family-involved HIV intervention: Information

D.1 What was the intervention name, if any?	D.1.1 Stated

	Please specify D.1.2 Not stated
D.2 Intervention goals	D.2.1 Stated Please specify D.2.2 Not stated
D.3 Theory-based intervention?	D.3.1 Stated Please specify D.3.2 Not stated
D.4 Please indicate family components in the intervention	D.4.1 Education and information D.4.2 Skill training D.4.3 Provision of services and resources D.4.4 Interactive activities D.4.5 Community engagement
D.5 What are family aspects/processes that the intervention aims to target or change	D.5.1 Communication D.5.2 Sexual/HIV/AIDS knowledge D.5.3 Family support D.5.4 Monitoring and supervision D.5.5 Beliefs D.5.6 Parenting skills D.5.7 Parent-child relationship D.5.8 Problem solving skills D.5.9 Decision making skills D.5.10 Parent's self efficacy
D.6 Please indicate, if any, other components of the HIV/AIDS intervention	D.6.1 Education information D.6.2 Skills training D.6.3 Provision of resources and services For example, pamphlets, brochures, tapes, video, CD, youth club, free condom D.6.4 Mass media D.6.5 Professional Training D.6.6 Incentives and economic empowerment D.6.7 Counseling D.6.8 Social support D.6.9 Policy and legislation

	D.6.10 Screening D.6.11 Social marketing D.6.12 Media D.6.13 Interactive activities D.6.14 None
D.7 Please indicate level of intervention	D.7.1 Individual level An intervention designed to deliver/provide the intervention directly to individual such as training to girls, screening HIV/AIDS, counseling individuals D.7.2 Family level An intervention designed to deliver the intervention to individuals and family members, for example, education for parents and their children or provide training for mothers D.7.3 Extra familial level An intervention designed to deliver/provide the intervention at community, general population, peers, schools etc. Please specify D.7.4 None
D.8 Where: intervention setting	D.8.1 Family home D.8.2 School D.8.3 Health care setting D.8.4 Community centre D.8.5 Street D.8.6 Population D.8.7 Church D.8.8 Worksite D.8.9 Not stated
D.9 Who: who did deliver the intervention?	D.9.1 Peers D.9.2 Counselors D.9.3 Teachers D.9.4 Researchers D.9.5 Healthcare professional D.9.6 Community workers D.9.7 Computer-based

	D.9.8 Trained facilitators D.9.9 Media D.9.10 Parent D.9.11 Not stated
D.10 What was the content of the intervention?	Please specify (For example, 8 session curriculum included 6 session for adolescents)
D.11 Did the study indicate any cultural or context specific aspects of the intervention?	D.11.1Stated D.11.2 Not stated
D.12 Please provide information of control group, if any	D.12.1 Yes D.12.2 No control group D.12.3 Not stated
D.13 Biological outcomes reported in the study	D.13.1 Self reported STI incidence D.13.2 Test report STI incidence D.13.3 Self reported HIV incidence D.13.4 Test report HIV incidence D.13.5 STI prevalence D.13.6 HIV prevalence D.13.7 None
D.14 Sexual behaviour outcomes reported in the study?	D.14.1 Protected sexual intercourse For example, condom use D.14.2 Numbers of sexual intercourse D.14.3 Delaying onset of sexual activity D.14.4 Abstinence D.14.5 Unplanned pregnancy D.14.6 Unprotected sexual intercourse D.14.7 Age at first sex D.14.8 Had sex D.14.9 Condom use skills D.14.10 Contraceptive use at last sex D.14.11 Number of partners D.14.12 Other D.14.13 None
D.15 Other outcomes on young people	D.15.1 Attitudes towards sex

reported in the study	D.15.2 Self efficacy D.15.3 Sexual/HIV/AIDS knowledge D.15.4 Intention D.15.5 Communication D.15.6 Motivation D.15.7 Monitoring and supervision D.15.8 Mental health D.15.9 Problems solving skills and assertiveness D.15.10 Expectancies of consequences of sexual behaviours D.15.11 Behaviour risks D.15.12 Self esteem D.15.13 Body image D.15.14 Racial identify D.15.15 Sexual willingness D.15.16 Sexual interaction values D.15.17 Feeling towards parents D.15.18 Gender vision D.15.19 Externalizing behaviour problem D.15.20 Violence D.15.21 Attitudes toward substance use D.15.22 None D.15.23 Not stated
D.16 Family-related outcomes reported on parents in the study	D.16.1 Sexual/HIV/AIDS knowledge D.16.2 Attitudes towards sex D.16.3 Communication D.16.4 Parenting skills D.16.5 Monitoring D.16.6 Relationship D.16.7 Mental health D.16.8 reinforcement D.16.9 Support from others D.16.10 Problem solving skills and

	assertiveness D.16.11 Parent's (dis) approval D.16.12 Parents' self efficacy D.16.13 Racial socialisation D.16.14 Family functioning D.16.15 General health D.16.16 Neighbourhood D.16.17 Other outcomes D.16.18 None
D.17 Have the studied investigated moderators and mediating factors that might affect the outcome of interest?	D.17.1 Yes, moderators D.17.2 Yes, mediators D.17.3 None
D.18 Qualitative data	D.18.1 Participant satisfaction D.18.2 Communication skills D.18.3 Monitoring and supervision D.18.4 Family stress D.18.5 Social support D.18.6 Barriers to participation in the intervention D.18.7 Motivation D.18.8 Knowledge D.18.9 None

Appendix 4: Data extraction tool and checklist for systematic review of family-involved HIV interventions

SECTION A: Data extraction for family-involved HIV intervention study

I: Sample

Q: How were the participations recruited?

Q.A: Whether the participants were recruited from the same population and over the same period of time?

- Yes
- No

Q: Were the baseline characteristics described?

- Yes
- No

II: Intervention

Q: Was the intervention based on a need assessment?

- Yes
- No

Q: Who was involved in the development of the intervention?

Q: Was the intervention piloted?

- Yes
- No/Not stated

Q: Do the authors indicate any specific barriers to developing/delivering the intervention?

- Yes
- No/Not stated

Q: Do the authors indicate any specific factors favourable to developing/delivering intervention?

- Yes
- No

Q: Did the intervention Family approach or Parenting approach?

- Family approach (targeting both parents and youth)
- Parenting approach (targeting only parents)

Q: How often the intervention delivered?

Q: What is the length of the intervention?

Q: How were the people who provided or delivered the intervention recruited?

Q: Was special training given to people providing the intervention?

Q: How/in what ways family involved in the intervention?

Q: Incentive

III: Methodological characteristics of the study

Q: Number of participants recruited to interventions and controls at BASELINE/EVALUATION/ANALYSIS

Q: What was the unit of allocation into groups?

- School
- Classroom
- County
- Individual
- Community

Q.B: Did the study describe how the participants were allocated into groups?

- Random
- Quasi-random

  e.g. date of birth, day of week, medical record, alternation
- Non random

  e.g. naturally occurring, preferences, matched

Q.C: Which major prognostic factors are baseline values reported for?

Q.D: Were baseline values of major prognostic factors reported for each group as allocated?

- Yes
- No

Q.E: Did the study assess baseline comparability?

- Yes
- No

Q.F: Were group equivalence in the trial at the baseline?

- Yes

- No
- Not reported

Q.G: Did the study identify possible confounding variables?

- Yes
- No

Q.H: Did the study attempt to control or minimize confounding?

e.g. use matching, stratification, covariance adjustment-regression, propensity score analysis

- Yes
- No

Q.I: Did the study describe allocation concealment or blinding procedure during enrolment?

- Yes
- No
- Not stated

Q.J: Were participants aware which group they were in for intervention?

- Yes
- No
- Not stated

Q.K: Was outcome measure done blind?

- Yes
- No
- Not stated

Q: How many times were data on outcome collected after intervention?

Q: Timing(s) of follow-up measurement

Q.L: Intention to treat analysis?

- Yes
- No
- Not reported

Q.M: Is attrition rate reported separately according to allocation group?

- Yes
- No

Q.N: What was the attrition rate?

Q.O: Did the authors describe reasons why participants dropped out?

- Yes
- No

Q.P: How the study addressed the potential bias arising from attrition?

Q.Q: Did all outcome measures reported at the post intervention/follow up?

- Yes
- No

Q: What measurement tool(s) is/are used to collected outcome data?

- Interview
- Observation
- Practical test
- Psychological test
- Self reported/diary/questionnaire
- Clinical test
- Others

Q.R: Was the instrument used to assess outcomes piloted/validated?

- Yes
- No
- Not stated

Q.S: What method used in data analysis?

SECTION B: Quality assessment

A. Selection bias

A.1 Appropriate sequence generation and/or randomisation

ONLY FOR RCT and Quasi RCT

Consider Question B

- Low risk of bias (by design or analysis)

  RCT: referring to a random number table, using a computer random number generator, Shuffling cards or envelopes, throwing dice, drawing of lots, minimization

- High risk of bias

  Quasi-randomisation: sequence generated by odd or even of birth, generated by

rule based on date or hospital number, judgment of the clinician, preference of the participant, results of tests, availability of intervention

- Unclear risk of bias
  Insufficient information about sequence generation process to permit judgment of 'low risk' or 'high risk'
- N/A Non RCT

A.2. Participants were drawn from the same population

Consider Question A

- Low risk of bias
- High risk of bias
- Unclear risk of bias

A3. Avoiding/adjusting confounders in the design/analysis?

Consider Question: C, D, E, F, G, H

- Low risk of bias
  -Non-RCT but using restrict or match the intervention and control groups according to the potential confounders
  -Adjust the confounders using (e.g. matching, covariance, propensity scores) in the analysis
- High risk of bias
  A study does not attempt to identify/control potential confounding variables, to balance/match the group at the baseline, or does not adjust the confounders at the analysis
- Unclear risk of bias
  Insufficient information to permit judgment of 'low risk' or 'high risk'

B: Performance bias

B.1 Was an attempt made to blind participant to the intervention they have?

Consider Question: I, J

- Low risk of bias
  participants and investigators enrolling participation could not foresee assignment because the following method was used: central allocation (web-based randomization), telephone, sequentially numbered, sealed enveloped

- High risk of bias

  using an open random allocation schedule e.g. a list of random numbers, alternation or rotation, date of birth, case record number

- Unclear risk of bias

  Insufficient information to permit judgment of 'low risk' or 'high risk'

C: Detection bias

C.1 Was an attempt made to blind those measuring the main outcomes of the intervention?

Consider Question K

- Low risk of bias
- High risk of bias
- Unclear risk of bias

D. Attrition bias

D1. Intension to treat analysis

Consider Question: L, M, N, O, and P

- Low risk of bias

  -No missing outcome data o Reasons for missing outcome data unlikely to be related to true outcome

  -Missing outcome data balanced in numbers across intervention groups, with similar reasons for missing data across group

  -Attrition rate less than 20% as bias is thought to be a significant concern if the attrition rate exceeds 20% (Harris, 1998; Marcellus, 2004)

- High risk of bias

  - Reason for missing outcome data likely to be related to true outcome, with either imbalance in numbers or reasons for missing data across intervention groups;

  -'As-treated' analysis done with substantial departure of the intervention received from that assigned at randomization;

  -Attrition rate is higher than 20% or can't be determined from the data

- Unclear risk of bias

  Insufficient information to permit judgment of 'low risk' or 'high risk'

E. Selected reporting bias

E1. If any of the results were based on data dredging? Was this made clear?

Consider Question: Q

- Low risk of bias
- High risk of bias
- Unclear risk of bias

F. Other bias

F1. Were the main outcome measures used accurate?

Consider Question: R, S

- Low risk of bias
- High risk of bias
- Unclear risk of bias

Is the study judged to be 'Low risk of Bias'? (Based on your judgement, not scoring system, some guideline below for consistency please note your comments and reason for the judgement)

YES: Please explain

Guideline

For RCT consider criteria: selection bias (A1) and confounding (A2 and A3), attrition bias (D1)

Other designs consider criteria: selection bias and confounding (A2, A3), attrition bias (D1).

If all of the criteria (selection bias and confounding, and attrition bias) are rated as low risk of bias, a study should be considered as 'low risk of bias' study. If one of these criteria is rated as high risk of bias, a study should be considered as 'high risk of bias' study

NO: Please explain

Appendix 5: Data extraction tool and checklist for systematic review of qualitative studies

Section A: Research background and introduction

A.1 What is research question(s)? (Also consider: whether rationales of the study, a statement of problems were stated?)	A.1.1 Clearly stated *Please give details* A.1.2 Not clearly stated Please give details Please give reviewer interpretation A.1.3 Not stated
A.2 What is the aim of research? (Clear statement of aims and objectives?)	A.2.1 Details A.2.2 Not stated
A.3 Is previous research/knowledge described? (For example, review of existing research was carried out and reported, theoretical background was provided?)	A.3.1 Yes, please give details A.3.2 No
A.4 Are ethical issues taken into consideration? (Consider: -Potential risks arise from the study -Consent procedure -Sensitivity of the content and subject -Confidentiality of the data -How anonymity of participants was protected)	A.4.1 Yes Please specify A.4.2 Not stated

Section B: Research process

B.1 Are the ways in which the researcher(s) have shaped the data collection and data analysis described? (For example, whether the authors reported personal characteristics e.g. identity, occupation, gender, experience, or training of researchers in the study,	B.1.1 Yes Please specify

whether the authors reported his/her relationships with participants? or whether participant knowledge of the interviewer e.g. personal goals or reasons for doing the research Reflexivity: the ways that researchers consider their own actions and decisions that will have an impact on the research processes and context of the investigation)	B.1.2 Not stated
B.2 Are descriptions of study locations/areas reported? How and why they chosen? (For example, descriptions of the city e.g. size of the population, socioeconomic background, political and culture of the locations/areas. Please also state why this location was chosen e.g. because the high risk in this area, population represented the study population)	B.2.1 Yes please specify B.2.2 Not stated
B.3 Are descriptions of population of interest reported? and How sample selection relates to the population of interest? (For example, Who was the targeted population? What was the sampling frame?)	B.3.1 Yes, please specify B.3.2 Not stated
B.4 What is the sample size?	B.4.1 Details
B.5 What is the description of the samples included in the study?	B.5.1 Details B.5.2 Not stated
B.6 What is the sampling method used?	B.6.1 Details B.6.2 Not stated
B.7 How participants were identified? And by who? (Consider: who and access methods to the participants and how this might affect the data collected)	B.7.1 Details B.7.2 Not stated
B.8 What are inclusion/exclusion criteria of sample selection?	B.8.1 Details B.8.2 Not stated
B.9 Are reasons for non-participation among samples described?	B.9.1 Yes please specify

	B.9.2 Not stated
B.10 Is the data collection method clearly described? Who, procedure? (Also consider: how context and setting might affect data collected)	B.10.1 Yes please specify B.10.2 Not stated
B.11 Is audio or video recording used in the study?	B.11.1 Yes please specify B.11.2 Not stated
B.12 Are any descriptions of data collected (depth, richness) discussed? (For example, a topic guide covers a wide range of questions and allows participant to talk, or data collected from different sources)	B.12.1 Yes please specify B.12.2 Not stated
B.13 What is the method of data analysis used?	B.13.1 Details B.13.2 Not stated
B.14 Any discussion of data management software? (Any rationale and how can this can preserve the context of original data?)	B.14.1 Details B.14.2 Not stated
B.15 Any discussion of form of original data? (For example, was it from transcription? Field notes and observation?)	B.15.1 Details B.15.2 Not stated
B.16 Any discussion of descriptive analytic methods used and how analytic concepts are constructed? (For example, use codes, labels or categories)	B.16.1 Details B.16.2 Not stated
B.17 Are negative cases taken into consideration?	B.17.1 Yes please specify B.17.2 Not stated

Section C: Results

C.1 Any discussion of the links between aims, data, results and conclusions?	C.1.1 Yes please specify

(Consider: -Findings and conclusions are making sense? -Finding and conclusions link directly to the aims/objectives of the study)	C.1.2 Not stated
C.2 Are results verified? How? (Triangulation, member checking, peer review/debriefing, audit)	C.2.1 Yes please specify C.2.2 Not stated
C.3 What is the result? (Please extract all results from young women only)	C.3.1 Details C.3.2 Not stated

Section D: Contribution

D.1 Any limitations of the study are discussed? (For example, restricted access to the participants, time and resources constraint, incomplete analysis, gaps in the sample)	D.1.1 Yes please specify D.1.2 Not stated
D.2 Any gaps in a body of research are discussed?	D.2.1 Details D.2.2 Not stated
D.3 Discussion of what can be transferred to other settings or a wider population or policy?	D.3.1 Yes please specify D.3.2 Not stated
D.4 Any discussion of a better understanding extended by the research? (For example. a way that findings offers new insights, conceptualised new knowledge)	D.4.1 Yes please specify D.4.2 Not stated

E: Quality of the study

E.1 Quality If details were given at least in the following questions: research aims and objective (A2), sample size and sample characteristics (B4 and B5), data collection and data analysis (B10 and B13), pleased assess quality of the study	E1.1 Yes E.1.2 No E1.3 Unknown

"Based on data and information of the study reported (from above questions), are you **trust and confident** in data and results derived from the study" and based on your judgement, please say YES or NO Consider -Research strategy can address research aims and objectives (SECTION A) -Data collection and data analysis processes are systematic and transparent (SECTION B) - Plausible arguments and claims (SECTION C) -Contribution to wider knowledge (SECTION D)	
E.2 Relevance "High" if the study main focus was about 1) Young women only AND 2) Family influences 'Low' If the study the study main aims and objectives were to explore and investigate on only one of the above (For example, LOW if the study explored both young men and young women's perceptions of family influences which data were reported for both men and women, or LOW if the study investigated young women's social factors)	E.2.1 High E.2.2 Low

Appendix 6: Demographic questionnaire

Department of Social Policy and Social work

University of Oxford

Barnett House, 32 Wellington Square, Oxford, OX1 2ER

Tel: +44(0) 1865 270325Fax: +44(0)1865 270324

http://www.spsw.ox.ac.uk

Demographic Questionnaire

Please answer the questions below

Study Title: Roles of the family in HIV prevention in developing countries: A systematic review of different study designs and qualitative investigation of young Thai females.

Questions about yourself

Question 1: What is your age?

Please specify _____

Question 2: Place of birth

Please specify the province_____

Question 3: How long have you been living in Bangkok?

Please specify_____

If you moved from other provinces, what was the main reason?

a) Looked for job

b) Required by the employer

c) My study

d) Moved with parent

e) Other

Question 4: If you are studying, what level is your current education?

a) Yes, please specify_____

b) No, I am not studying

Question 5: What is your highest education level?

a) Please specify_____

b) None

Question 6: Are you working? If so, please indicate your occupation?

No, I am a student

No, I am unemployed

Yes, please specify (for example, position, full-time/part-time, company's name)

_____

Question 7: Who are you living with in Bangkok?

a) With both parents

b) Only with mother

c) Only with father

d) With mother and step father

e) With father and step mother

f) With my other family members (please specify)

g) With my boyfriends

h) With my friends

h) Alone

i) Other living arrangements (please specify)

About your family and parents

Question 8: What is your parents' marital status?

a) Married

b) Divorced

c) Separated

d) Widowed

e) Cohabiting

f) Do not know

Question 9: Please tick items below that your family has or owns.

a) Television

b) Radio

c) Refrigerator

d) Washing machine

e) Telephone

f) Air conditioner

g) Fan

h) Car

i) Motorcycle

j) Bicycle

k) Agricultural machinery

l) Agricultural truck

Question 10: What is your mother's highest level of education?

a) Elementary school

b) Junior High school

c) Senior High school

d) Vocational school

e) Bachelor degree

f) Master degree

g) Doctoral degree

h) Other (please specify)

i) Do not know

Question11: What is your father's highest level of education?

a) Elementary school

b) Junior High school

c) Senior High school

d) Vocational school

e) Bachelor degree

f) Master degree

g) Doctoral degree

h) Other (please specify)

i) Do not know

Question 12: Is your mother working? If so, what is her occupation?

Yes, please specify (for example, position, full-time/part-time, company's name)

No, she is not working

Question 13: Is your father working? If so, what is his occupation?

Yes, please specify (for example, position, full-time/part-time, company's name)

No, he is not workin

Appendix 7: Topic guide

Research Title: Roles of the family in HIV prevention in developing countries: A systematic review of different study designs and qualitative investigation of young Thai females.

A. Introduction (10 Minutes)

Aim: to explain purpose of research, introduce the moderator

-Thank you participants for taking part in the research

-Introduce the moderator

-Explain the purpose of research

-Explain the rights of the participants that they do not have to answer all questions and free to leave the interview at any time. Reassure other ethical issues: confidentiality, anonymity, audio recording, and consent.

-Explain importance of the participants' views. There are no right or wrong answers.

-Check if the participants feel comfortable

-Ask if anyone has any questions to ask

B. Rapport Building (15 Minutes)

Aim: to explore aspects of participants on everyday life and experiences

- Name, age

-What do you do?

-Who do you live with? Whether with family members or by themselves? If so, why?

-What do you think about your life in general?

-What do you think about young Thai women and their lives?

C. In-depth Discussion (60 Minutes)

Aim: to explore relevant aspects of family influences or roles in their HIV/AIDS sexual health behaviours

-Please tell me about your family. How do you feel about them?

-Can you please give me examples or explain a little bit more on what you just said about the relationship with your family?

-Do you think that they (i.e. mother/father) can influence your decisions or how you live your life?

- Now we turn to discuss about health issues. Can anyone tell me about healthy person: what does the healthy person do?

- What does it mean to you to be healthy and how this is related to your family? Are your family members concerned about your health?

-Do you know HIV/AIDS, what do you know about it? Who can get infected? Who are at risk to get infected? How they can protect themselves?

-Do your family members or parents talk about HIV/AIDS? Who is it in your family that talk or keep you safe from HIV/AIDS? What do they do, please can you give me examples?

-What do you think about your parents (or other family members) in terms of their influences on your risk behaviours or HIV/AIDS risk behaviours? Can they affect your decisions or prevent you from getting HIV/AIDS? If not, what/who can do?

-What do you think you need from your family to keep you safe from getting HIV/AIDS infected?

D. Closure (5 Minutes)

Aim: to round up the group discussion and close

Moderator: summarise conversation and what has been discussed

-Ask if there are anything in particular concerns or anything else participants would like to discuss

- Ask if anyone has any questions to ask

-Thank you the participants

Appendix 8: Systematic knowledge map

This appendix presents key characteristics of the research, which investigated a) family-involved HIV interventions; b) perceptions of family and social influences on young women; and c) the relationship between family variables and young women's sexual-risk behaviours. The main purpose of this systematic knowledge map is to identify relevant studies for the systematic reviews (Chapters 4 and 5). It also aims systematically to identify and describe key characteristics of research evidence in the areas of family and young women's sexual-risk behaviour, to identify gaps in the field and to provide an evidence base for future research.

Identification of studies

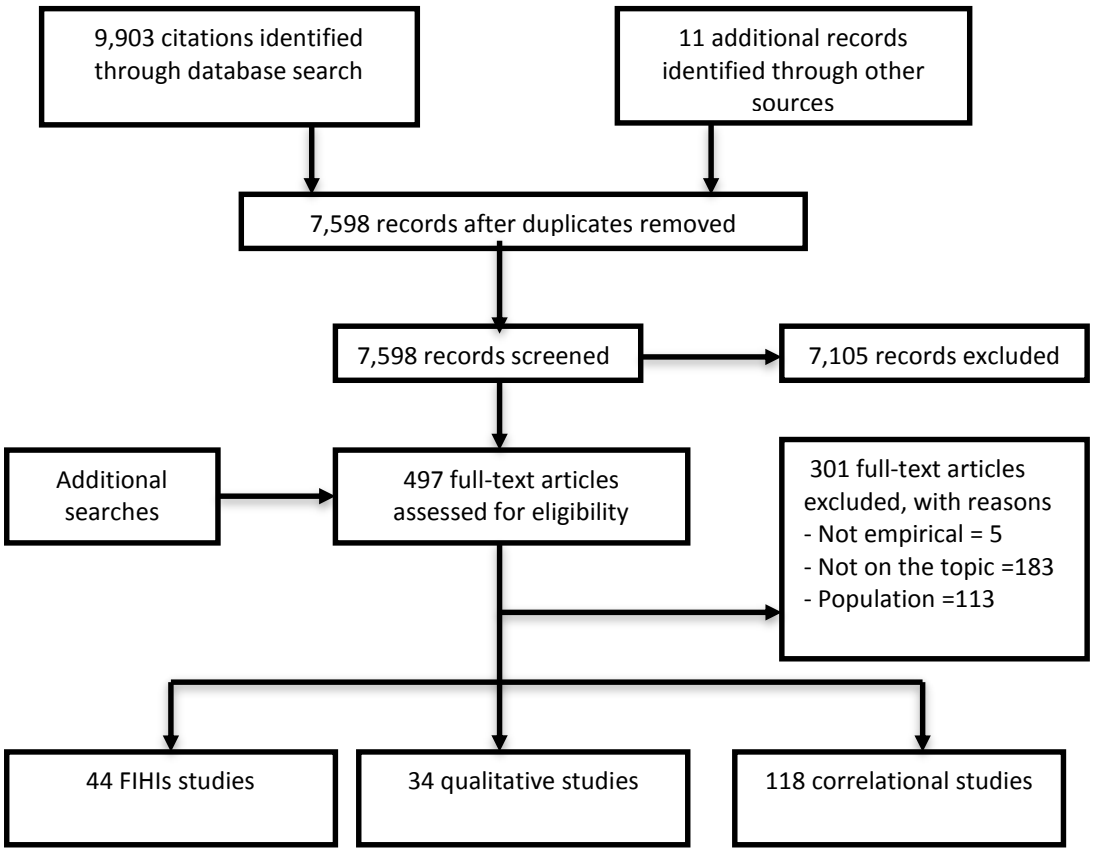
As discussed in Chapter 3 for search strategy, a search of various sources yielded 9,914 citations. After excluding 2,316 duplicates, a total of 7,598 citations were screened on the basis of titles and abstracts, against the predefined exclusion criteria (see Appendix 2). A large proportion of reports were excluded from the review because they were not on the topic (n=3,123, 44%); a further 497 full-text reports were retrieved and screened. A total of 196 studies were included in the systematic knowledge map and coded using the coding tool developed specifically for the review (see Appendix 3 for the coding tool). Following the screening process, three distinct categories of study were identified, based on whether they:

a) Explored young women's perceptions of family and social influences on their sexual decisions (qualitative studies), or;

b) Examined the relationship between familial variables and young women's sexual-risk behaviours (correlational studies), or;

c) Evaluated family-involved HIV interventions (FIHIs) for young people (intervention studies).

Figure A: Further details of the selection process in the systematic knowledge map

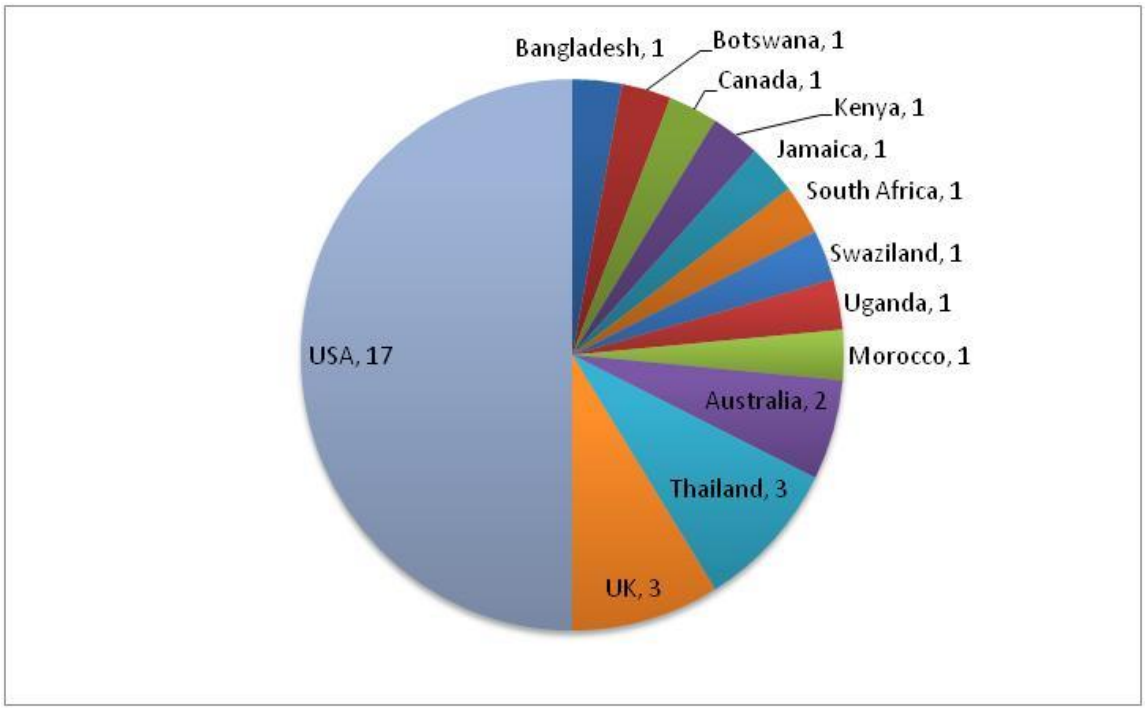


Descriptions of qualitative studies that explored young women's perceptions

A total of 34 studies examined young women's views on family-related roles on their sexual behaviours. The majority of the studies were carried out in the US (n=17), three in the UK, three in Thailand, two in Australia, and one each in Bangladesh, Botswana, Canada, Kenya, South Africa, Swaziland, Uganda, Jamaica and Morocco (see Figure B). Focus groups (n=24) or in-depth interviews (n=19) were commonly used as the data-collection method. Other types of data-collection method were open-ended surveys, narrative writing and participant observation. The theoretical constructs described in the studies include Human Ecology Theory (Teitelman and Loveland-Cherry, 2004; Aronowitz et al.,, 2007); Theory of Planned Behaviour (Smith et al., 2003); Information, Motivation and Behaviour (IMB) (Aronowitz et al., 2007); the

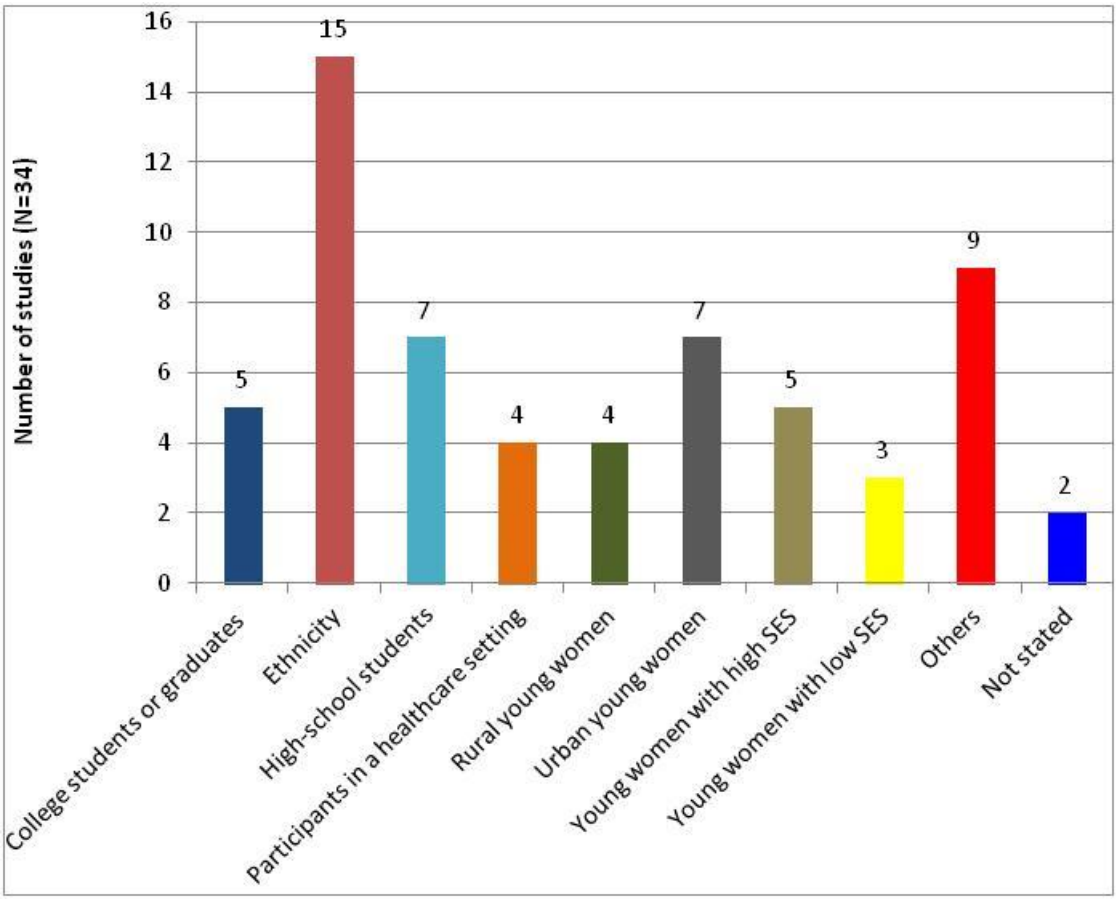
Health Belief Model (Roye and Seals, 2001); Socialisation (Kinsman et al., 2000); Social Learning Theory (Mbugua, 2007); Postmodern Feminism (Hertzog, 2008); Script Theory (Hertzog, 2008); and Life Span to Human Development (Haglund, 2006).

Figure B: Qualitative studies by study country (n=34)



Most studies focused on young women aged between 10 and 18 (n=23); several investigated late adolescents (n=11). Girls and young women included in the studies were described as being from ethnic-minority groups (n=15); as high-school students (n=7); from urban (n=7) or rural communities (n=4); from low (n=3) or high SES backgrounds (n=5); recruited from healthcare settings (n=4); and/or college students (n=5) (see Figure C).

Figure C: Sample characteristics of 34 qualitative studies in the systematic knowledge map



* Codes are not mutually exclusive

Across the 34 studies, two groups were broadly identified according to their aims and objectives. The first group aimed to identify and describe multiple factors or circumstances that influenced sexual-risk behaviours of young women. The other group intended specifically to explore the roles of family (for example, family relationships and parent-child communication) on young women's sexual behaviours (see Table A for further details).

Table A: Overview of studies that explore young women's perceptions

Studies	Young women's characteristics	Theoretical framework	Data collection	Aims and objectives
Aarons and Jenkins (2002)	14-19, African and Latino American, Urban,	No	Focus group	To uncover the prime motivators for early sexual involvement, examine attitudes towards pregnancy and contraception and explore peer and family influences on sexual decision making
Archibald (2007)	14-18, Caribbean African American	No	Focus group	To identify and describe knowledge and attitudes toward HIV/AIDS and risky sexual behaviours
Aronowitz et al., (2007)	10-15, African American, Urban	Ecological model, IMB model	Focus group	To identify factors that could encourage delaying sexual debut
Averett et al. (2008)	18-22, upper-middle SES	No	Written narratives and interviews	To examine perceptions of the impact of parenting on sexual agency
Baier and Wampler (2008)	14-17, high SES	No	Focus groups and in-depth interviews	To explore the attitudes of Baptist mothers and daughters about sexuality, religiosity, and spirituality, and how they communicate about these topicsr
Bakopanos and Gifford (2001)	21-25, Greek-Australian women	No	In-depth interviews	To examine the changing nature of family values and expectations in relation to sexuality, gender roles and health
Bowling and Werner-Wilson (2000)	20-24, undergraduate	No	Focus groups	To explore which specific dynamics interact with parental influences on adolescent female sexual decision making
Buston and Wight (2002)	14-16, high-school students	No	In-depth interviews and focus groups	To understand better the salience of sex education in schools

Studies	Young women's characteristics	Theoretical framework	Data collection	Aims and objectives
Cash et al. (2001)	13-18, rural	No	Focus groups and in-depth interviews	To understand the broad parameters of sexual and reproductive health within the sociocultural context of young people's risk behaviour and vulnerabilities
Farrow and Arnold (2003)	18-24, college students	No	Open-ended questionnaires	To understand how female university students' sexual behaviour changes in the transitional stage of beginning university
Fasula et al. (2007)	14-17, African-American	No	Interviews	To explore mothers' sexual messages to sons and daughters
Fitzharris and Werner-Wilson (2004)	Mean age 15	No	Focus groups	To explore the perceptions of both adolescents and their parents regarding adolescent sexuality
Hendrickx et al., (2002)	15-21, Moroccan immigrants in Belgium	No	Focus group	To acquire insight into participants' knowledge, attitudes and behaviour concerning choice of partner, sexuality and sexual abstinence
Hennink et al., 1999	18-30, Asian women	No	In-depth interviews	To develop an understanding of social and sexual relationships and the extent to which behaviours are influenced by culture traditions
Hertzog (2008)	18-21, College students	Postmodern feminism, Script theory	Focus groups and in-depth interviews	To investigate the dominant sexual scripts emerging from young women's discussions of sexuality with their parents and their female peers
Haglund	15-18, African	Life Span to	Semi-structured	To explore the

Studies	Young women's characteristics	Theoretical framework	Data collection	Aims and objectives
(2006)	American, sexually abstinent	Human Development	interviews	perspectives of teenage girls regarding how life contexts influence sexuality and sexual abstinence
Jones (2006)	16-20, secondary-school students	No	Focus groups, interviews, written accounts, participant observation	To understand how and where sexual-health knowledge is gained and what young people consider to be the main influences on their sexual decision making
Kao et al. (2007)	15-14, second-generation Taiwanese-American	No	Focus groups	To understand perceptions of sex education and sexual health as a basis for family-centred interventions
Kinsman et al. (2000)	14-17, secondary-school students	Socialisation	Focus group and one-to-one interviews	To seek information about the socialising influences that have shaped the views of adolescents and the values they hold concerning sex
Lesch and Kruger (2005)	14-18, secondary-school students, low-income	Social constructionism	Interviews	To explore the impact of mother-daughter relationships on adolescents' sexual behaviours
Manderson et al. (2002)	14-25, Filipino-Australian	No	Focus groups and interviews	To describe young women's ideas about sex, contraception and cultural conflict
Mbugua (2007)	17-19, high-school students	No	Focus groups	To understand why many educated mothers in Kenya are unable to provide meaningful sex education to their daughters
McKee and	15-18, Hispanic-	No	Interviews	To understand the

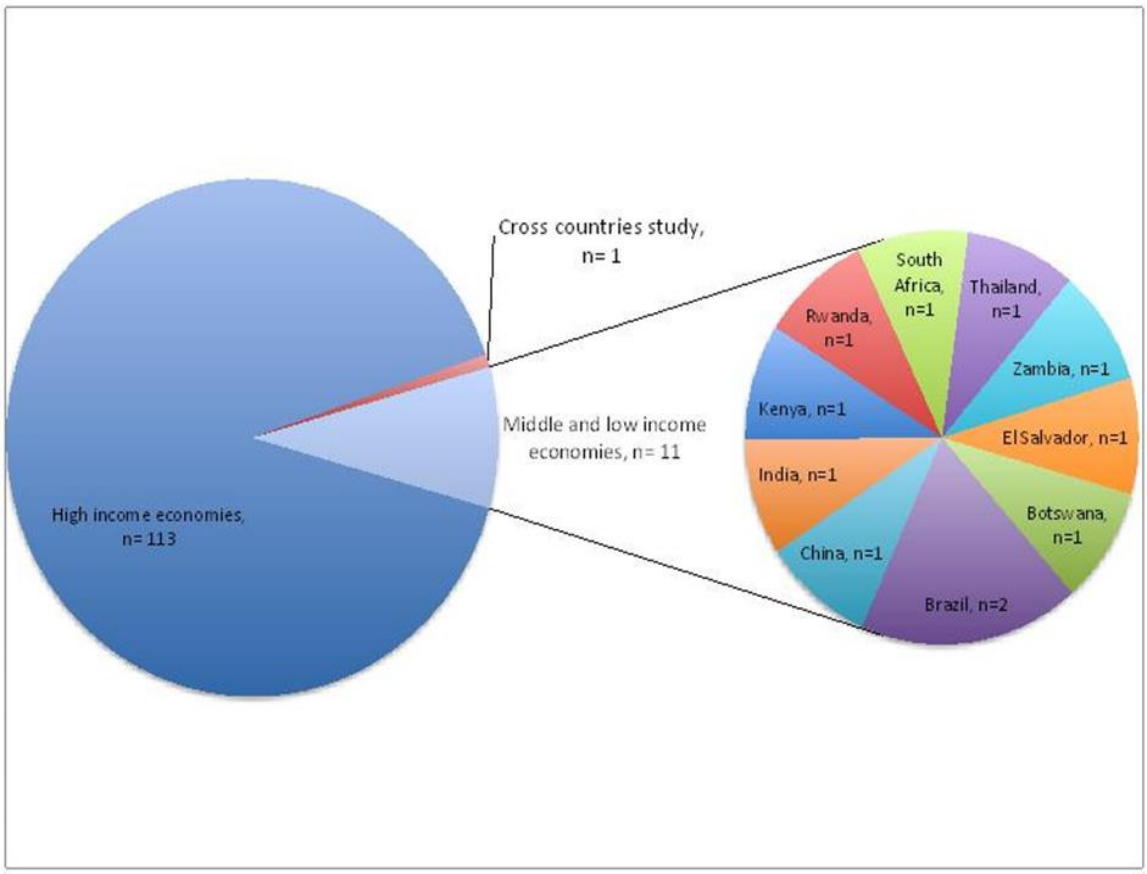
Studies	Young women's characteristics	Theoretical framework	Data collection	Aims and objectives
Karasz (2006)	American, inner-city			sociocultural and familial context of Hispanic adolescents' sexual behaviour and reproductive healthcare seeking behaviour
Meeker and Ahmed (2007)	13-18	No	Mixed-methods	To examine patterns of male and female adolescent sexual behaviours
Morrison (2004)	College students, urban	No	Interviews, focus groups, participant observation	To understand specific conditions and forces that are shaping young people's sexual-risk behaviours, in particular regarding HIV
Morrison-Beedy et al. (2008)	14-19, urban	No	Focus groups	To gain insight into the context of sexual abstinence and identify potential determinants of abstinence
O'Sullivan et al. (2001)	6-13, Urban African-American and Latino young women	No	Focus groups	To explore the sources of information about sexual issues for adolescents, particularly parent-child communication
Peterson (2007)	18-21, African-American	No	Mixed-methods	To explore the relationship between self-esteem, socio-demographic factors, father-daughter relationships and sexual risk taking
Rasamimari et al., (2008)	12-14, high-school students, urban	No	Focus group	To explore specific behaviours and situations placing young women at risk of HIV
Roye and Seals (2001)	15-21, female who use hormonal contraception, inner-city	The Health Belief Model	In-depth interviews	To gain understanding of the factors that lead inner-city adolescents who use hormonal contraceptives

Studies	Young women's characteristics	Theoretical framework	Data collection	Aims and objectives
				to use condoms
Shoveller et al. (2004)	18-24 years, rural and urban	Ecological theory	In-depth, semi-structured interviews	To examine how social context shapes experiences and perceptions pertaining to sexual behaviour
Smith et al. (2003)	15-18, out-of-school adolescents	Theory of Planned Behaviour	Focus group	To investigate the sexual behaviour of adolescents and to elucidate the cultural contexts of this behaviour
Teitelman and Loveland-Cherry (2004)	14-18, urban	Human Ecology Theory, Sexual Script Theory	In-depth interviews	To explore participants' perspectives on family scripts
Vuttanont et al., 2006	Secondary school	No	Focus groups, mixed-methods	To investigate knowledge, attitudes, norms, and values of parents, teenagers, teachers and policy makers in relation to sex and sex education

Description of studies examining the relationship between familial variables and young women's sexual-risk behaviours

The review identified 120 studies that quantitatively investigated the connection between various family variables and young women's sexual risk. The majority of the studies were carried out in the US (n=88). When using Gross National Income (GNI) per capita for classifying economies of different countries,[9] the majority were from high or upper-middle-income economies, with only five studies were from lower-middle-income or low-income economies including, India (Abraham and Kumar, 1999), Kenya (Ngom, 1993), Rwanda (Babalola et al., 2002), Zambia (Djamba, 1997), El Salvador (Springer et al., 2006). One study was carried out across nine European countries (Lenciauskiene and Zaborskis, 2008) (See Figure D)

Figure D: Correlational studies by study country (n=120, codes not mutually exclusive)

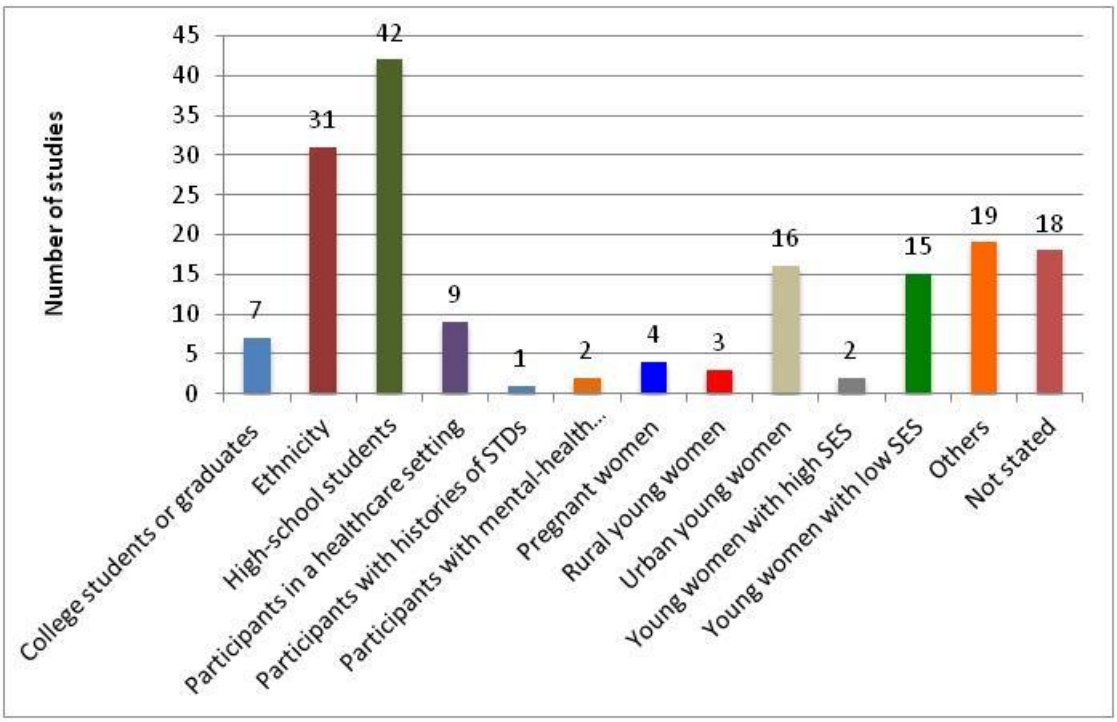


[9] This classification is based on the World Bank criterion for classifying economies: http://data.worldbank.org/about/country-classifications/country-and-lending-groups

Sample

Adolescents of 10-18 years of age were more likely to be included in studies than young adults. Eighteen studies had samples with an age range between 10 and 25 years old. Girls and young women included in the studies were described as those who were from ethnic-minority groups (n=31), high-school students (n=42), from urban communities (n=16), from low-SES backgrounds (n=15), recruited from healthcare settings (n=9), and/or college students (n=7). Fewer studies investigated young women with high SES (n=2), from rural areas (n=3), pregnant women (n=4), women with mental-health problems (n=2) and with histories of sexually transmitted diseases (STIs; n=1) (see Figure E).

Figure E: Sample characteristics of 120 studies included in the systematic knowledge map



*Codes are not mutually exclusive

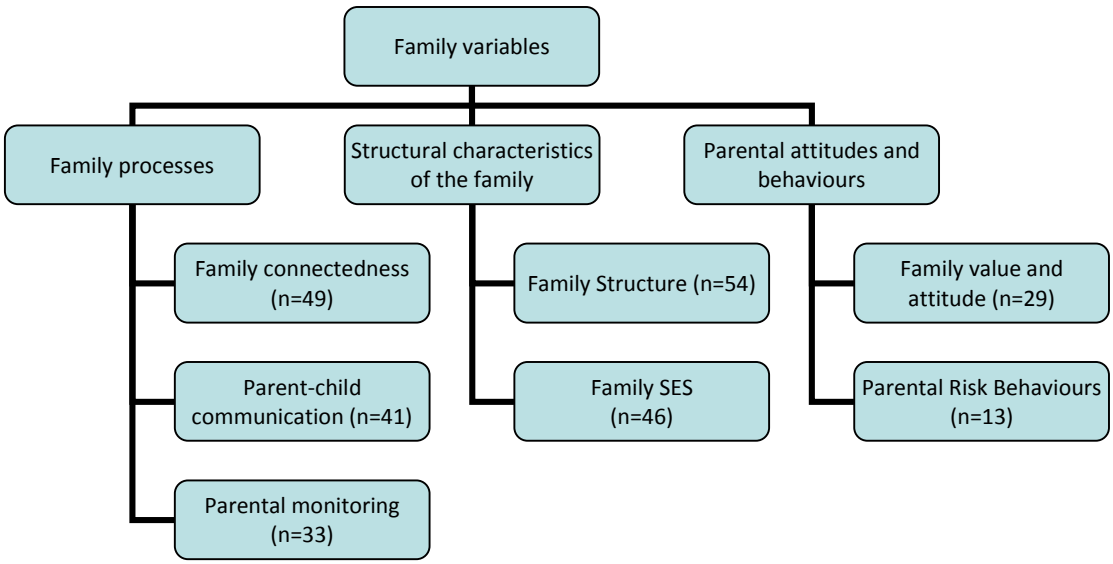
Study design

The two main study designs employed in the studies were *correlational, cross-sectional studies* (n= 56) and *secondary-data analysis*, using pre-existing data-set surveys (n=

46). Other study designs were *cohort study* (n=4), *case-control study* (n=3), *mixed-method study* (n=4), and other *longitudinal studi*es (n=10). A broad range of familial variables was identified, classified into three broad clusters: family processes, structural characteristics of the family, and parental attitudes and behaviours (see Figure F).

The studies in the review employed several theoretical frameworks, for example: an ecological model (Yoon, 2004; Voisin et al., 2006; Smith, 1997; Small and Luster, 1994; Rink et al., 2007; Maguen and Armistead, 2006; Meschke and Silbereisen, 1997; Gillimore et al., 1992); Social Control Theory (Whitbeck et al., 1993; Ream and Savin-Williams, 2005); Sexual Socialisation Theory (Rodgers, 1999); Control Theory (Rodgers, 1999); Collective Socialisation Theory (Ramirez Valles et al., 2002); and the Social Development Model (Gillimore et al., 1992).

Figure F: Family variables identified in the systematic knowledge map

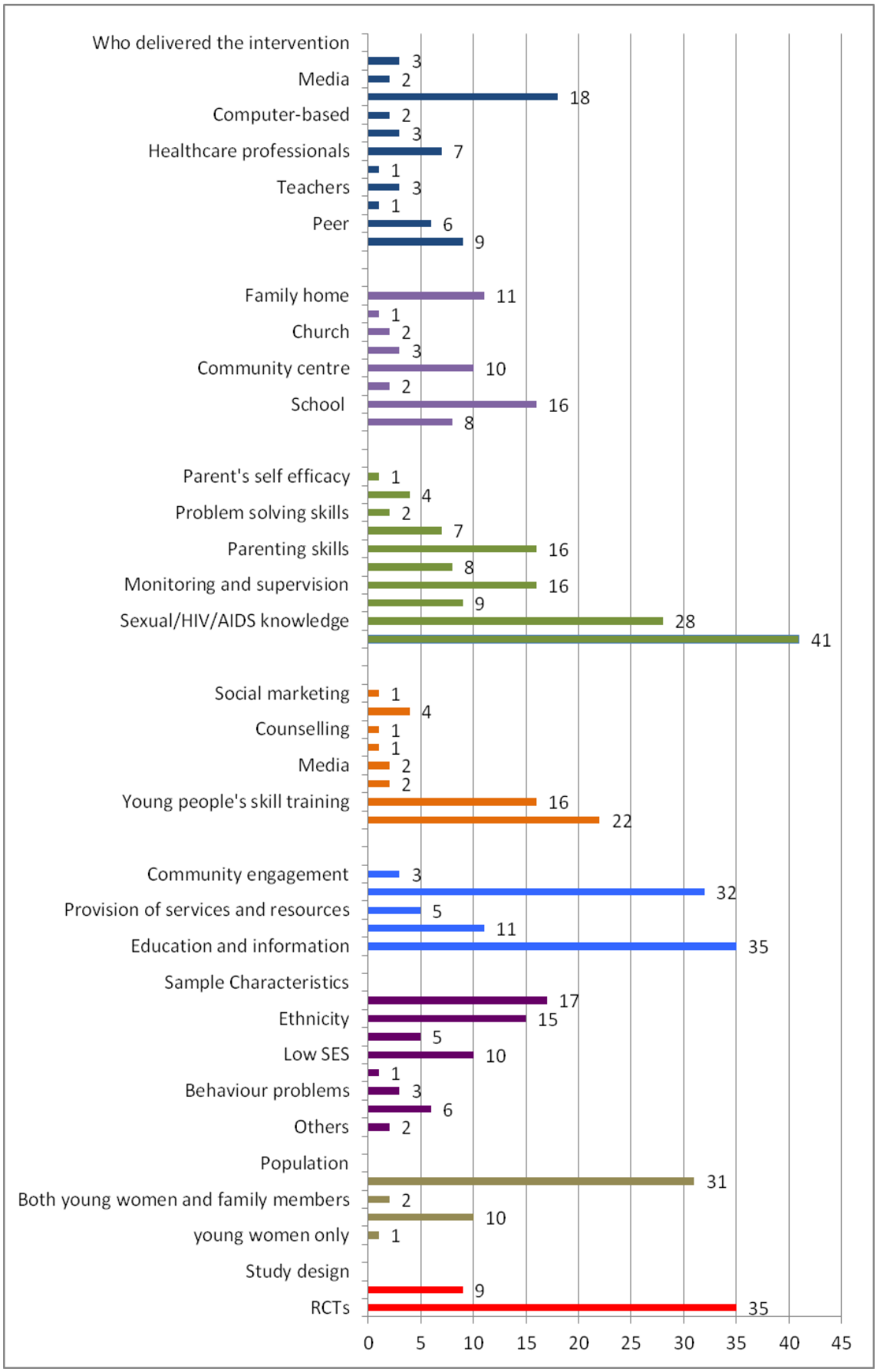


Descriptions of studies that evaluated family-involved HIV interventions (FIHIs) for young people

A total of 44 studies evaluating FIHIs for young people were identified. The majority of the studies were carried out in the US (n=31), three in South Africa, two each in Mexico and Trinidad and Tobago, one each in Bahamas, Canada, Japan, Nigeria, Nicaragua, Zimbabwe and Peru. The majority of the studies (52%) were published between 2006 and 2010. Of the 44 studies, 35 were randomised controlled trials (RCTs), nine were experimental studies with non-random allocation to groups. Fifteen studies focused on young people from ethnic-minority groups and ten on young people from low SES backgrounds. The majority of the studies included young people and their family members; only three studies focused on young women and/or their family members.

Family processes that the interventions aimed to change included: parent-child communication (n=41), sexual health/HIV/AIDS knowledge (n=28), family support (n=9), parental monitoring or supervision (n=16), family beliefs (n=8), parenting skills (n=16), parent-child relationships (n=7), problem-solving skills (n=2), decision-making skills (n=4), parent's self-efficacy (n=1). The majority of the interventions aimed to deliver the intervention messages through sexual health/HIV/AIDS education (n=35) and interactive activities (n=32). Other intervention strategies included social marketing (n=1), social support (n=4), counselling (n=1), incentives and economic empowerment (n=1), media (n=2), provisions of resources and services (n=2), young people's education (n=22) and skill training (n=16). The three main settings where the interventions were delivered were school (n=16), community centres (n=10) and family homes (n=11). When reported, the interventions were delivered by trained facilitators (n=18), peers (n=6), healthcare professionals (n=7), community workers (n=3), parents (n=3), media (n=2), computer-based (n=2), researcher (n=1) and counsellors (n=1) (see Figure G).

Figure G: Characteristics of FIHI studies in the systematic knowledge map (n=44)



References of studies in the systematic knowledge map

Qualitative studies (n=34)

Aarons, S.J.and Jenkins, R.R. (2002) Sex, pregnancy, and contraception-related motivators and barriers among Latino and African-American youth in Washington DC. *Sex Education*, 2 , 5-30.

Archibald, C. (2007) Knowledge and attitudes toward HIV/AIDS and risky sexual behaviors among Caribbean African American female adolescents. *JANAC: Journal of the Association of Nurses in AIDS Care*, 18, 64-72.

Aronowitz, T., Todd, E., Agbeshie, E.and Rennells, R.E. (2007) Attitudes that affect the ability of African American preadolescent girls and their mothers to talk openly about sex. *Issues in Mental Health Nursing*, 28, 7-20.

Averett, P., Benson, M. and Vaillancourt, K. (2008) Young women's struggle for sexual agency: the role of parental messages. *Journal of Gender Studies*, 17, 331-344.

Baier, M.E.and Wampler, K.S. (2008) A qualitative study of Southern Baptist mothers' and their daughters' attitudes toward sexuality. *Journal of Adolescent Research, 23, 31-54*.

Bakopanos, C. and Gifford, S.M. (2001) The changing ties that bind-Issues surrounding sexuality and health for Greek parents and their Australian-born sons and daughters. *Journal of Family Issues*, 22, 358-385.

Bowling, S.W. and Werner-Wilson, R.J. (2000) Father-daughter relationships and adolescent female sexuality: Paternal qualities associated with responsible sexual behavior. *Journal of HIV/AIDS Prevention and Education for Adolescents and Children*, 3, 5-28.

Buston, K.and Wight, D. (2002) The salience and utility of school sex education to young women. *Sex Education, 2, 233-250*.

Cash, K., Hashima, E.N., Aziz, A., Bhuiya, A., Chowdhury, A.M.R. and Chowdhury, S. (2001) Without sex education: exploring the social and sexual vulnerabilities of rural Bangladeshi girls and boys. *Sex Education*, 1, 219-233.

Farrow, R. and Arnold, P. (2003) Changes in female student sexual behaviour during the transition to university. *Journal of Youth Studies*, 6, 339-355.

Fasula, A.M., Miller, K.S. and Wiener, J. (2007) The sexual double standard in African American adolescent women's sexual risk reduction socialization. *Women and Health*, 46, 3-21.

Fitzharris, J.L. and Werner-Wilson, R. (2004) Multiple perspectives of parent-adolescent sexuality communication: Phenomenological description of a Rashoman effect. *American Journal of Family Therapy*, 32, 273-288.

Haglund, K. (2006) Understanding sexual abstinence in African American teens. *MCN: The American Journal of Maternal/Child Nursing, 31, 86-92*.

Hendrickx, K., Lodewijckx, E., Van Royen, P., and Denekens, J. (2002) Sexual behaviour of second generation Moroccan immigrants balancing between traditional attitudes and safe sex. *Patient Education and Counseling*, 47, 89-98.

Hennick, M., Diamond, I. and Cooper, P. (1999) Young Asian Women and Relationships: Traditional or Transitional?. *Source: Ethnic and Racial Studies*, 22, 867-891.

Hertzog, J.L. (2008) "What about the grey area?": College women's reflections on the sex talk and abstinence. *Families in Society, 89, 312-322*.

Jones, L. (2006) Sexual discourse and decision-making by urban youth in AIDS-afflicted Swaziland. *African Journal of AIDS Research,* 5, 145-157.

Kao, T.S., Guthrie, B. and Loveland-Cherry, C. (2007) An intergenerational approach to understanding Taiwanese American adolescent girls' and their mothers' perceptions about sexual health. *Journal of Family Nursing,* 13, 312-332.

Kinsman, J., Nyanzi, S. and Pool, R. (2000) Socializing influences and the value of sex: The experience of adolescent school girls in rural Masaka, Uganda. *Culture, Health and Sexuality, 2, 151-166.*

Lesch,E. and Kruger,L. M. (2005) Mothers, daughters and sexual agency in one low-income South African community. *Social science and Medicine,* 61, 1072-1082.

Manderson, L., Kelaher, M., Woelz-Stirling, N., Kaplan, J. and Greene, K. (2002) Sex, contraception and contradiction among young Filipinas in Australia. *Culture, Health and Sexuality,* 4, 381-391.

Mbugua, N. (2007) Factors inhibiting educated mothers in Kenya from giving meaningful sex-education to their daughters. *Social Science and Medicine,* 64, 1079-1089.

McKee, M. and Karasz, A. (2006) "You Have to Give Her That Confidence": Conversations About Sex in Hispanic Mother-Daughter Dyads. *Journal of Adolescent Research,* 21, 158-184.

Meekers, D. and Ahmed, G. (1997) Adolescent sexuality in southern Africa: cultural norms and contemporary behavior. the XXIII IUSSP General Conference, Beijing, China, October 11-17.

Morrison, L. (2004) Traditions in transition: Young people's risk for HIV in Chiang Mai, Thailand. *Qualitative health research,* 14, 328-344.

Morrison-Beedy, D., Carey, M.P., Cote-Arsenault, D., Seibold-Simpson, S. and Robinson, K.A. (2008) Understanding sexual abstinence in urban adolescent girls. *Journal of Obstetric Gynecologic and Neonatal Nursing,* 37, 185-195.

O'Sullivan, L.F., Meyer-Bahlburg, H.F.L. and Watkins, B.X. (2001) Mother-daughter communication about sex among urban African American and Latino families. *Journal of Adolescent Research,* 16, 269-292.

Peterson, S.H. (2007) The importance of fathers: Contextualizing sexual risk-taking in "low-risk" African American adolescent girls. *Journal of Human Behavior in the Social Environment, 15, 329-346.*

Rasamimari, A., Dancy, B. and Smith, J. (2008) HIV risk behaviours and situations as perceived by Thai adolescent daughters and their mothers in Bangkok, Thailand. *AIDS Care,* 20, 181-187.

Roye, C.F. and Seals, B. (2001) A qualitative assessment of condom use decisions by female adolescents who use hormonal contraception. *Journal of the Association of Nurses in AIDS Care, 12, 78-87.*

Shoveller, J.A., Johnson, J.L., Langille, D.B. and Mitchell, T. (2004) Socio-cultural influences on young people's sexual development. *Social Science and Medicine,* 59, 473-87.

Smith, D., Roofe, M., Ehiri, J., Campbell-Forrester, S., Jolly, C. and Jolly, P. (2003) Sociocultural contexts of adolescent sexual behavior in rural Hanover, Jamaica. *Journal of Adolescent Health,* 33, 41-48.

Teitelman, A. and Loveland-Cherry, C. (2004) Girls' perspectives on family scripts about sex-related topics and relationships: Implications for promoting sexual health and reducing sexual risk. *Journal of HIV/AIDS Prevention in Children and Youth, 6, 59-90.*

Vuttanont,U., Greenhalgh,T., Griffin,M.and Boynton,P. (2006) "Smart boys" and "sweet girls" - sex education needs in Thai teenagers: a mixed-method study. *Lancet*, 368, 2068-2080.

Correlational studies (n=120)

Aalsma, M., Fortenberry, J., Sayegh, M. and Orr, D. (2006) Family and friend closeness to adolescent sexual partners in relationship to condom use. *Journal of Adolescent Health*, 38, 173-178.

Abraham, L. and Kumar, K.A. (1999) Sexual experiences and their correlates among college students in Mumbai City, India. *International Family Planning Perspectives*, 25, 139-146.

Ancheta, R., Hynes, C. and Shrier, L. (2005) Reproductive health education and sexual risk among high-risk female adolescents and young adults. *Journal of Pediatric and Adolescent Gynecology*,18, 105-111.

Andersson-Ellström, A., Forssman, L. and Milsom, I. (1996) Age of sexual debut related to life-style and reproductive health factors in a group of Swedish teenage girls. *Acta Obstetricia Et Gynecologica Scandinavica*, 75, 484-489.

Anteghini, M., Fonseca, H., Ireland, M. and Blum, R.M. (2001) Health risk behaviors and associated risk and protective factors among Brazilian Adolescents in Santos, Brazil. *Journal of Adolescent Health*, 28, 295-302.

Babalola, S., Awasum, D. and Quenum-Renaud, B. (2002) The Correlates of safe sex practices among Rwandan Youth: A Positive Deviance Approach. *African Journal of AIDS Research*, 1, 11-21.

Baker, J.G., Rosenthal, S.L., Leonhardt, D., Kollar, L.M., Succop, P.A., Burklow, K.A. and Biro, F.M. (1999) Relationship between perceived parental monitoring and young adolescent girls' sexual and substance use behaviors. *Journal of Pediatric and Adolescent Gynecology*, 12, 17-22.

Benda, B.B. and DiBlasio, F.A. (1994) An integration of theory: Adolescent sexual contacts. *Journal of Youth and Adolescence, 23, 403-420.*

Berenson, A., Wu, Z., Breitkopf, C. and Newman, J. (2006) The relationship between source of sexual information and sexual behavior among female adolescents. *Contraception, 73, 274-278.*

Bettinger, J.A., Celentano, D.D., Curriero, F.C., Adler, N.E., Millstein, S.G. and Ellen, J.M. (2004) Does parental involvement predict new sexually transmitted diseases in female adolescents?. *Archives of Pediatrics and Adolescent Medicine*, 158, 666-670.

Billy, J.O., Brewster, K.L. and Grady, W.R. (1994) Contextual effects of the sexual behavior of adolescent women. *Journal of Marriage and the Family, 56, 387-404.*

Bonell, C., Allen, E., Strange, V., Oakley, A., Copas, A., Johnson, A. and Stephenson, J. (2006) Influence of family type and parenting behaviours on teenage sexual behaviour and conceptions. *Journal of Epidemiology and Community Health, 60, 502-506.*

Borawski, E.A., Ievers-Landis, C.E., Lovegreen, L.D. and Trapl, E.S. (2003) Parental monitoring, negotiated unsupervised time, and parental trust: the role of perceived parenting practices in adolescent health risk behaviors. *Journal of Adolescent Health*, 33, 60-70.

Browning, C.R., Leventhal, T. and Brooks-Gunn, J. (2005) Sexual Initiation in Early Adolescence: The Nexus of Parental and Community Control. *American Sociological Review*, 70, 758-778.

Cha, E., Kim, K. and Patrick, T. (2008) Predictors of intention to practice safer sex among Korean college students. *Archives of Sexual Behavior, 37, 641-651.*

Chandy, J.M., Harris, L., Blum, R.W. and Resnick, M.D.(1994) Female adolescents of alcohol misusers: sexual behaviors. *Journal of Youth and Adolescence, 23, 695-709.*

Childs, G., Moneyham, L. and Felton, G. (2008) Correlates of sexual abstinence and sexual activity of low-income African American adolescent females. *Journal of the Association of Nurses in AIDS Care,* 19, 432-442.

Choquet, M., Fediaevsky, L.D.P. and Manfredi, R. (1997) Sexual behavior among adolescents reporting chronic conditions: A French national survey. *Journal of Adolescent Health*, 20, 62-67.

Christopher, F.S., Johnson, D.C. and Roosa, M.W. (1993) Family, individual, and social correlates of early Hispanic adolescent sexual expression. *Journal of Sex Research*, 30, 54-61.

Cohen, D.A., Farley, T.A., Taylor, S.N., Martin, D.H. and Schuster, M.A. (2002) When and where do youths have sex? The potential role of adult supervision. *Pediatrics,* 110, e66.

Crosby, R.A., DiClemente, R.J., Wingood. G.M., Rose, E. and Lang, D. (2003) Correlates of continued risky sex among pregnant African American teens: Implications for STD prevention. *Sexually Transmitted Diseases,* 30, 57-63.

Crosby, R.A., DiClemente, R.J., Wingood, G.M., Sionean, C., Cobb, B.K., Harrington, K.F., Davies, S.L., Hook, E.W. and Oh, M.K. (2001) Correlates of casual sex among African-American female teens. *Journal of HIV/AIDS Prevention and Education for Adolescents and Children*, 4, 55-67.

Crosby, R.A., DiClemente, R.J., Wingood, G.M., Lang, D.L. and Harrington, K. (2003) Infrequent parental monitoring predicts sexually transmitted infections among low-income African American female adolescents. *Archives of Pediatrics and Adolescent Medicine*, 157, 169-173.

Crosby, R.A., Leichliter, J.S. and Brackbill, R. (2000) Longitudinal prediction of sexually transmitted diseases among adolescents. *American Journal of Preventive Medicine, 18, 312-317.*

Crosby,R.A., Wingood,G.M., DiClemente,R.J., Rose,E.S., Crosby,Richard A., Wingood,Gina M., DiClemente,Ralph J. and Rose, E.S. (2002) Family-related correlates of sexually transmitted disease and barriers to care: a pilot study of pregnant African American adolescents. *Family and Community Health*, 25, 16-27.

Crouter, A.C., Carson, J.H., Vicary, J.R. and Butler, J. (1988) Parent-child closeness as an influence on the projected life course of rural adolescent girls. *Journal of Early Adolescence,* 8, 345-355.

Cubbin, C., Santelli, J., Brindis, C.D. and Braveman, P. (2005) Neighborhood context and sexual behaviors among adolescents: Findings from the National Longitudinal Study of Adolescent Health. *Perspectives on Sexual and Reproductive Health*, 37, 125-134.

Daugherty, L.R. and Burger, J.M. (1984) The influence of parents, church, and peers on the sexual attitudes and behaviors of college students. *Archives of Sexual Behavior,* 13, 351-9.

Davis, E.C. and Friel, L.V. (2001) Adolescent sexuality: Disentangling the effects of family structure and family context. *Journal of Marriage and Family, 63, 669-681*.

Dilorio, C., McCarty, F., Denzmore, P. and Landis, A. (2007) The moderating influence of mother-adolescent discussion on early and middle African-American adolescent sexual behavior. *Research in Nursing and Health, 30, 193-202*.

Djamba, Y.K. (1997) Financial capital and premarital sexual activity in Africa: The case of Zambia. *Population Research and Policy Review*, 16, 243-257.

Donenberg, G.R., Wilson, H.W., Emerson, E. and Bryant, F.B. (2002) Holding the line with a watchful eye: The impact of perceived parental permissiveness and parental monitoring on risky sexual behavior among adolescents in psychiatric care. *AIDS Education and Prevention,* 14, 138-157.

Doswell, W.M., Kim, Y., Braxter, B., Taylor, J., Kitutu, J. and Hsu, Y.A. (2003) A theoretical model of early teen sexual behavior: what research tells us about mother's influence on the sexual behavior of early adolescent girls. *Journal of Theory Construction and Testing*, 7, 56-60.

Durant, R.H., Pendergrast, R.and Seymore, C. (1990) Sexual behavior among Hispanic female adolescents in the United States. *Pediatrics, 85, 1051-1058*.

Ellis, B.J., Bates, J.E., Dodge, K.A., Fergusson, D.M., Horwood, L.J., Pettit, G.S. and Woodward, L. (2003) Does father absence place daughters at special risk for early sexual activity and teenage pregnancy?. *Child Development*, 74, 801-821.

Fleck, J., Fuller, C. and Malin, S. (1980) Father psychological absence and heterosexual behaviour, personal adjustment and sex-typing in adolescent girls. *Adolescence, 15, 847-860*.

Ford, C., Pence, B., Miller, W., Resnick, M., Bearinger, L., Pettingell, S. and Cohen, M. (2005) Predicting adolescents' longitudinal risk for sexually transmitted infection: Results from the National Longitudinal Study of Adolescent Health. *Archives of Pediatrics and Adolescent Medicine, 159, 657-664.*

Gibson, J.W. and Kempf, J. (1990) Attitudinal predictors of sexual activity in Hispanic adolescent females. *Source: Journal of Adolescent Research,* 5, 414-430.

Gilliam, M., Berlin, A., Kozloski, M., Hernandez, M. and Grundy, M. (2007) Interpersonal and personal factors influencing sexual debut among Mexican-American young women in the United States. *Journal of Adolescent Health,* 41, 495-503.

Gillimore, M.R., Butler, S.S., Lohr, M.J. and Gilchrist, L. (1992) Substance use and other factors associated with risky sexual-behavior among pregnant adolescents. *Family Planning Perspectives,* 24, 255-261+268.

Hahm, H.C., Lahiff, M. and Barreto, R.M. (2006) Asian American Adolescents' first sexual intercourse: Gender and acculturation differences. *Perspectives on Sexual and Reproductive Health, 38,* 28-36.

Hampton, M. R., McWatters, B., Jeffery, B. and Smith, P. (2005) Influence of teens' perceptions of parental disapproval and peer behaviour on their initiation of sexual intercourse. *Canadian Journal of Human Sexuality,* 14, 105-121.

Han, S., Choe, M.K., Lee, M.S. and Lee, S.H. (2001) Risk-taking behavior among high school students in South Korea. *Journal of Adolescence*, 24, 571-574.

Handler, A. (1990) The correlates of the initiation of sexual intercourse among young urban black females. *Journal of Youth and Adolescence,* 19, 159-170.

Hellerstedt, W., Peterson-Hickey, M., Rhodes, K. and Garwick, A. (2006) Environmental, social, and personal correlates of having ever had sexual

intercourse among American Indian youths. *American Journal of Public Health, 96, 2228-2234*.
Henderson, M., Wight, D., Raab, G., Abraham, C., Buston, K., Hart, G. and Scott, S. (2002) Heterosexual risk behaviour among young teenagers in Scotland. *Journal of Adolescence, 25, 483-494*.
Hogan, D.P., Sun, R. and Cornwell, G.T. (2000) Sexual and fertility behaviors of American females aged 15-19 years: 1985, 1990, and 1995. *American Journal of Public Health, 90,1421-1425*.
Hutchinson, M.K. and Cooney, T.M. (1998) Patterns of parent-teen sexual risk communication: implications for intervention. *Family Relations,* 47, 185-194.
Hutchinson, M.K., Jemmott, J.B., Jemmott, L.S.,Braverman, P. and Fong, G.T. (2003) The role of mother-daughter sexual risk communication in reducing sexual risk behaviors among urban adolescent females: a prospective study. *Journal of Adolescent Health*, 33, 98-107.
Hutchinson, M. K. (2002) The influence of sexual risk communication between parents and daughters on sexual risk behaviors. *Family Relation,* 51, 238-247.
Kuzman, M., Simetin, I.P. and Franelic, I.P. (2007) Early Sexual Intercourse and Risk Factors in Croatian Adolescents. *Collegium Antropologicum*, 31, 121-130.
Laflin, M., Wang, J. and Barry, M. (2008) A longitudinal study of adolescent transition from virgin to nonvirgin status. *Journal of Adolescent Health, 42, 228-236*.
Lammers, C., Ireland, M., Resnick, M. and Blum, R. (2000) Influences on Adolescents' decision to postpone onset of sexual intercourse, A survival analysis of virginity among youths aged 13 to 18 years. *Journal of Adolescent Health,* 26, 42-48.
Langille, D., Hughes, J., Tomblin Murphy, G. and Rigby, J. (2005) Socio-economic factors and adolescent sexual activity and behaviour in Nova Scotia. *Canadian Journal of Public Health, 96, 313-318.*
Langille, D.B. and Curtis, L. (2002) Factors associated with sexual intercourse before age 15 among female adolescents in Nova Scotia. *Canadian Journal of Human Sexuality, 11, 91-99*.
Leigh, G.K., Weddle, K.D. and Loewen, I.R. (1988) Analysis of the timing of transition to sexual intercourse for black adolescent females. *Journal of Adolescent Research*, 3, 333-344.
Lenciauskiene, I. and Zaborskis, A. (2008) The effects of family structure, parent-child relationship and parental monitoring on early sexual behaviour among adolescents in nine European countries. *Scandinavian Journal of Public Health, 36, 607-618.*
Locke, T. and Newcomb, M. (2008) Correlates and predictors of HIV risk Among Inner-city African American female teenagers. *Health Psychology, 27, 337-348*.
Loewenson, P.R., Ireland, M. and Resnick, M.D. (2004) Primary and secondary sexual abstinence in high school students. *Journal of Adolescent Health, 34, 209-215*.
Maguen, S. and Armistead, L. (2006) Abstinence among female adolescents: Do parents matter above and beyond the influence of peers?. *American Journal of Orthopsychiatry, 76, 260-264*.
Manlove, J., Logan, C., Moore, K.A. and Ikramullah, E. (2008) Pathways from family religiosity to adolescent sexual activity and contraceptive use. *Perspectives on Sexual and Reproductive Health*, 40, 105-117.
Manlove, J., Terry-Humen, E., Ikramullah, E. and Moore, K. (2006) The role of parent religiosity in teens' transitions to sex and contraception. *Journal of Adolescent Health, 39, 578-587*.

Manlove, J.S., Ryan, S. and Franzetta, K. (2007) Risk and protective factors associated with the transition to a first sexual relationship with an older partner. *Journal of Adolescent Health,* 40, 135-143.

McNeely, C., Shew, M.L., Beuhring, T., Sieving, R., Miller, B. and Blum, R.W.M. (2002) Mothers' influnce on the timing of first sex among 14- and 15- year olds. *Journal of Adolescent Health,* 31, 256-265.

Meekers, D. and Ahmed, G. (1997) Adolescent sexuality in southern Africa: cultural norms and contemporary behavior, the XXIII IUSSP General Conference, Beijing, October 11-17, 1997.

Meschke, L.L. and Silbereisen, R.K. (1997) The influence of puberty, family processes, and leisure activities on the timing of first sexual experience. *Journal of Adolescence,* 20, 403-418.

Meschke, L.L., Zweig, J.M., Barber, B.L. and Eccles, J.S. (2000) Demographic, biological, psychological, and social predictors of the timing of first intercourse. *Journal of Research on Adolescence,* 10, 315-338.

Miller, B.C. and Bingham, C. (1989) Family configuration in relation to the sexual behavior of female adolescents. *Journal of Marriage and the Family, 51, 499-506.*

Miller, B.C., Norton, M.C., Fan, X. and Christopherson, C.R. (1998) Pubertal development, parental communication, and sexual values in relation to adolescent sexual behaviors. *The Journal of Early Adolescence,* 18, 27-52.

Mitchell, C.M., Whitesell, N.R., Spicer, P., Beals, J. and Kaufman, C.E. (2007) Cumulative risk for early sexual initiation among American Indian youth: a discrete-time survival analysis. *Journal of Research on Adolescence, 17,* 387-412.

Moore, M.R. and Chase-Lansdale, P.L. (2001) Sexual Intercourse and Pregnancy among African American girls in high-poverty neighborhoods: The role of family and perceived community environment. *Journal of Marriage and the Family,* 63, 1146-1157.

Moreau-Gruet, F., Ferron, C., Jeannin, A. and Dubois-Arber, F. (1996) Adolescent sexuality: the gender gap. *AIDS Care,* 8, 641-653.

Mosack, K., Gore-Felton, C., Chartier, M. and McGarvey, E. (2007) Individual, peer, and family variables associated with risky sexual behavior among male and female incarcerated adolescents. *Journal of HIV/AIDS Prevention in Children and Youth,* 8, 115-133.

Murray, N.J., Zabin, L.S., Toledo-Dreves, V. and Luengo-Charath, X. (1998) Gender differences in factors influencing first intercourse among urban students in Chile. *International Family Planning Perspectives,* 24, 139-144, 152.

Murry, V.M. (1994) Black adolescent females: a comparison of early versus late coital initiators. *Family Relations,* 43, 342-348.

Murry, V.M. (1996) An Ecological analysis of coital timing among middle-class African American adolescent females. *Journal of Adolescent Research,* 11, 261-279.

Murry, V.M. and Ponzetti Jr., J.J. (1997) American Indian female adolescents' sexual behavior: A test of the life-course experience theory. *Family and Consumer Sciences Research Journal, 26, 75-95.*

Myklestad, I. and Rise, J. (2008) Predicting intentions to perform protective sexual behaviours among Norwegian adolescents. *Sex Education,* 18, 107-124.

Nagamatsu, M., Saito, H. and Sato, T. (2008) Factors associated with gender differences in parent-adolescent relationships that delay first intercourse in Japan. *Journal of School Health,* 78, 601-606.

Newcomer, S.F. and Udry, J.R. (1984) Mothers' influence on the sexual behavior of their teenage children. *Journal of Marriage and Family,* 46, 477-485.

Ngom,P.M. (2003) Parental presence and adolescent reproductive health among the Nairobi urban poor. *Journal of Adolescent Health,* 33, 369-377.

Operario, D., Pettifor, A., Cluver, L., MacPhail, C. and Rees, H. (2007) Prevalence of parental death among young people in South Africa and risk for HIV infection. *Journal of Acquired Immune Deficiency Syndromes, 44, 93-98.*

O'Sullivan, L. F., Jaramillo, B. M. S., Moreau, D. and Meyer-Bahlburg, H. F. L. (1999) Mother-daughter communication about sexuality in a clinical sample of Hispanic adolescent girls. *Hispanic Journal of Behavioral Sciences,* 21, 447-469.

Parera, N. and Surı, J.C. (2004) Having a good relationship with their mother: A protective factor against sexual risk behavior among adolescent females?. *Journal of Pediatric and Adolescent Gynecology,* 17, 267-271.

Paul, C., Fitzjohn, J., Herbison, P. and Dickson, N. (2000) The determinants of sexual intercourse before age 16. *Journal of Adolescent Health,* 27, 136-147.

Pearson, J., Muller, C. and Frisco, M.L. (2006) Parental involvement, family structure, and adolescent sexual decision making. *Sociological Perspectives, 49, 67-90.*

Peres, C.A., Rutherford, G., Borges, G., Galano, E., Hudes, E.S. and Hearst, N. (2008) Family structure and adolescent sexual behavior in a poor area of Sao Paulo, Brazil. *Journal of Adolescent Health,* 42, 177-183.

Peterson, S.H. (2007) The importance of fathers: Contextualizing sexual risk-taking in "low-risk" African American adolescent girls. *Journal of Human Behavior in the Social Environment, 15, 329-346.*

Podhisita, C., Xenos, P. and Varangrat, A. (2001) The risk of premarital sex among Thai youth: Individual and family influences. East-West Centre Working Papers, Population Series, Hawaii: East-West Center, pages 25.

Raine, T.R., Jenkins, R., Aarons, S.J., Woodward, K., Fairfax, J.L., El-Khorazaty, M.N. and Herman, A. (1999) Sociodemographic correlates of virginity in seventh-grade black and Latino students. *Journal of Adolescent Health,* 24, 304-312.

Ramirez-Valles, J., Zimmerman, M.A. and Juarez, L. (2002) Gender differences of neighborhood and social control processes: A study of the timing of first intercourse among low-achieving, urban, African American youth. *Youth and Society, 33, 418-441.*

Ream, G.L. and Savin-Williams, R.C. (2005) Reciprocal associations between adolescent sexual activity and quality of youth-parent interactions. *Journal of Family Psychology,* 19, 171-179.

Regnerus, M.D. and Luchies, L.B. (2006) The parent-child relationship and opportunities for adolescents' first sex. *Journal of Family Issues,* 27, 159-183.

Rink, E., Tricker, R. and Harvey, S.M. (2007) Onset of sexual intercourse among female adolescents: the influence of perceptions, depression, and ecological factors. *Journal of Adolescent Health,* 41, 398-406.

Roberts, S.T. and Kennedy, B.L. (2006) Why are young college women not using condoms? Their perceived risk, drug use, and developmental vulnerability may provide important clues to sexual risk. *Archives of Psychiatric Nursing, 20, 32-40.*

Roche, K., Ahmed, S. and Blum, R. (2008) Enduring consequences of parenting for risk behaviors from adolescence into early adulthood. *Social Science and Medicine, 66, 2023-2034.*

Rodgers, K.B. (1999) Parenting processes related to sexual risk-taking behaviors of adolescent males and females. *Journal of Marriage and Family, 61, 99-109.*

Romer, D., Stanton, B., Galbraith, J., Feigelman, S., Black, M.M. and Li, X. (1999) Parental influence on adolescent sexual behavior in high-poverty settings. *Archives of Pediatrics and Adolescent Medicine,* 153, 1055-1062.

Rosenthal, S.L., Von Ranson, K.M., Cotton, S., Biro, F.M., Mills, L. and Succop, P.A. (2001) Sexual initiation: predictors and developmental trends. *Sexually Transmitted Diseases,* 28, 527-532.

Santelli, J.S., Lowry, R., Brener, N.D. and Robin, L. (2000) The association of sexual behaviors with socioeconomic status, family structure, and race/ethnicity among US adolescents. *American Journal of Public Health,* 90, 1582-1588.

Silva, M. and Ross, I. (2002) Association of perceived parental attitudes towards premarital sex with initiation of sexual intercourse in adolescence. *Psychological Reports,* 91, 781-784.

Small, S.A. and Luster, T. (1994) Adolescent sexual activity: an ecological, risk-factor approach. *Journal of Marriage and Family, 56, 181-192.*

Small, S.A. and Kerns, D. (1993) Unwanted sexual activity among peers during early and middle adolescence: incidence and risk factors. *Journal of Marriage and Family,* 55, 941-952.

Smith, C.A. (1997) Factors associated with early sexual activity among urban adolescents. *Social Work, 42, 334-346.*

Somers, C.L. and Paulson, S.E. (2000) Students' perceptions of parent-adolescent closeness and communication about sexuality: Relations with sexual knowledge, attitudes, and behaviors. *Journal of Adolescence,* 23, 629-644.

Springer, A., Parcel, G., Baumler, E. and Ross, M. (2006) Supportive social relationships and adolescent health risk behavior among secondary school students in El Salvador. *Social Science and Medicine, 62, 1628-1640.*

Stack, S. (1994) The effect of geographic mobility on premarital sex. *Journal of Marriage and Family,* 56, 204-208.

Teitelman, A.M., Ratcliffe, S.J. and Cederbaum, J.A. (2008) Parent-adolescent communication about sexual pressure, maternal norms about relationship power, and STI/HIV protective behaviors of minority urban girls. *Journal of the American Psychiatric Nurses Association, 14, 50-60.*

Treboux, D. and Busch-Rossnagel, N.A. (1990) Social network influences on adolescent sexual attitudes and behaviors. *Journal of Adolescent Research,* 5, 175-189.

Treboux, D. and Busch-Rossnagel, N.A. (1995) Age differences in parent and peer influences on female sexual behaviour. *Journal of Research on Adolescence,* 5, 469-87.

Tuttle, J., Landau, J., Stanton, M., King, K.U. and Frodi, A. (2004) Intergenerational family relations and sexual risk behavior in young women. *The American Journal of Maternal/Child Nursing, 29, 56-61.*

Usher-Seriki, K., Smith Bynum, M. and Callands, T.A. (2008) Mother-Daughter communication about sex and sexual intercourse among middle- to upper class African American girls. *Journal of Family Issues,* 29, 901-917.

Valle, A.K., Torgersen, L., Roysamb, E., Klepp, K.I. and Thelle, D.S. (2005) Social class, gender and psychosocial predictors for early sexual debut among 16 year olds in Oslo. *European Journal of Public Health,* 15, 185-194.

Voisin, D.R., DiClemente, R.J., Salazar, L.F., Crosby, R.A. and Yarber, W.L. (2006) Ecological Factors Associated with STD Risk Behaviors among detained female adolescents. *Social Work, 51, 71-79.*

Wang, B., Li, X., Stanton, B., Kamali, V., Naar-King, S., Shah, I. and Thomas, R. (2007) Sexual attitudes, pattern of communication, and sexual behavior among unmarried out-of-school youth in China. *BMC Public Health, 7,* 189.

Weinman, M., Small, E., Buzi, R. and Smith, P. (2008) Risk factors, parental communication, self and peers' Beliefs as predictors of condom use among female adolescents attending family planning clinics. *Child and Adolescent Social Work Journal,* 25, 157-170.

Whitbeck, L.B., Conger, R.D. and Kao, M.Y. (1993) The influence of parental support, depressed affect, and peers on the sexual behaviors of adolescent girls. *Journal of Family Issues,* 14, 261-278.

Yang, H., Stanton, B., Li, X., Cottrel, L., Galbraith, J. and Kaljee, L. (2007) Dynamic association between parental monitoring and communication and adolescent risk involvement among African-American adolescents. *Journal of the National Medical Association, 99, 517-524.*

Yoon, G.J (2004) Predicting Korean Adolescents' sexual behaviour. *Marriage and Family Review,* 36, 147-173.

Young, E.W., Jensen, L.C., Olsen, J.A. and Cundick, B.P. (1991) The effects of family structure on the sexual behavior of adolescents. *Adolescence,* 26, 977-86.

Family-involved HIV interventions (n=44)

Akpabio, I., Asuzu, M., Fajemilehin, B. and Ofi, B. (2008) Effects of parental involvement in HIV/AIDS preventive education on secondary student knowledge about transmission and prevention in Akwa Ibom State, Nigeria. *International Quarterly of Community Health Education,* 29, 71-87.

Baptiste, D. R., Bhana, A., Petersen, I., Mckay, M., Voisin, D., Bell, C. and Martinez, D. D. (2006) Community collaborative youth-focused HIV/AIDS prevention in South Africa and Trinidad: preliminary findings. *Journal of Pediatric Psychology,* 31, 905-916.

Baptiste, D. R., Kapungu, C., Miller, S., Crown, L., Henry, D., Da Costa Martinez, D. and Jo-Bennett, K. (2009) Increasing parent involvement in youth HIV prevention: A randomized caribbean study. *AIDS Education and Prevention,* 21, 495-511.

Bartlett, R. and Shelton, T. (2010) Feasibility and initial efficacy testing of an HIV prevention intervention for black adolescent girls. *Issues in Mental Health Nursing,* 31, 731-738.

Beharie, N., Kalogerogiannis, K., Mckay, M. M., Paulino, A., Miranda, A., Rivera-Rodriguez, A., Torres, E. and Ortiz, A. (2010) The HOPE family project: A family-based group intervention to deduce the impact of homelessness on HIV/STI and drug Risk behaviors. *Social Work with Groups,* 34, 61-78.

Bell, C. C., Bhana, A., Petersen, I., Mckay, M. M., Gibbons, R., Bannon, W. and Amatya, A. (2008) Building protective factors to offset sexually risky behaviors among black youths: a randomized control trial. *Journal of the National Medical Association,* 100, 936.

Blake, S. M., Simkin, L., Ledsky, R., Perkins, C. and Calabrese, J. M. (2001) Effects of a parent-child communications intervention on young adolescents' risk for early onset of sexual intercourse. *Family Planning Perspectives,* 33, 52-61.

Caceres, C. F., Rosasco, A. M., Mandel, J. S. and Hearst, N. (1994) Evaluating a school-based intervention for STD/AIDS prevention in Peru. *Journal of Adolescent Health,* 15, 582-591.

Campero, L., Walker, D., Atienzo, E. E. and Gutierrez, J. P. (2011) A quasi-experimental evaluation of parents as sexual health educators resulting in delayed sexual initiation and increased access to condoms. *Journal of Adolescence,* 34, 215-223.

Chen, X., Stanton, B., Gomez, P., Lunn, S., Deveaux, L., Brathwaite, N., Li, X., Marshall, S., Cottrell, L. and Harris, C. (2010) Effects on condom use of an HIV prevention programme 36 months postintervention: a cluster randomized controlled trial among Bahamian youth. *International Journal of STD and AIDS,* 21, 622-630.

Cowan, F. M., Pascoe, S. J., Langhaug, L. F., Mavhu, W., Chidiya, S., Jaffar, S., Mbizvo, M. T., Stephenson, J. M., Johnson, A. M., Power, R. M., Woelk, G. and Hayes, R. J. (2010) The Regai Dzive Shiri project: results of a randomized trial of an HIV prevention intervention for youth. *AIDS,* 24, 2541-52.

Crawford, I., Jason, L. A., Riordan, N., Kaufman, J., Salina, D., Sawalski, L., Ho, F. C. and Zolik, E. (1990) A multimedia-based approach to increasing communication and the level of AIDS knowledge within families. *Journal of Community Psychology,* 18, 361-373.

Dancy, B. L., Hsieh, Y. L., Crittenden, K. S., Kennedy, A., Spencer, B. and Ashford, D. (2009) African American Adolescent Females: Mother-Involved HIV Risk-Reduction Intervention. *Journal of HIV/AIDS and Social Services,* 8, 292-307.

Dilorio, C., Mccarty, F., Resnicow, K., Lehr, S. and Denzmore, P. (2007) R.E.A.L. men: A group-randomized trial of an HIV prevention intervention for adolescent boys. *American Journal of Public Health,* 97, 1084.

Dilorio, C., Resnicow, K., Mccarty, F., De, A. K., Dudley, W. N., Wang, D. T. and Denzmore, P. (2006) Keepin' it R.E.A.L.!: results of a mother-adolescent HIV prevention program. *Nursing Research,* 55, 43-51.

Flay, B. R., Graumlich, S., Segawa, E., Burns, J. L., Holliday, M. Y. and Aban Aya, I. (2004) Effects of 2 prevention programs on high-risk behaviors among African American youth: a randomized trial. *Archives of Pediatrics and Adolescent Medicine,* 158, 377-384.

Forehand, R., Armistead, L., Long, N., Wyckoff, S. C., Kotchick, B. A., Whitaker, D., Shaffer, A., Greenberg, A. E., Murry, V., Jackson, L. C., Kelly, A., Mcnair, L., Dittus, P. J., Lin, C. Y. and Miller, K. S. (2007) Efficacy of a parent-based sexual-risk prevention program for African American preadolescents: a randomized controlled trial. *Archives Pediatrics Adolescent Medine,* 161, 1123-9.

Green, S. K. and Sollie, D. L. (1989) Long-term effects of a church-based sex education program on adolescent communication. *Family Relations,* 152-156.

Guilamo-Ramos, V., Bouris, A., Jaccard, J., Gonzalez, B., Mccoy, W. and Aranda, D. (2011) A parent-based intervention to reduce sexual risk behavior in early adolescence: Building alliances between physicians, social workers, and parents. *Journal of Adolescent Health,* 48, 159-163.

Haggerty, K., Skinner, M., Mackenzie, E. and Catalano, R. (2007) A randomized trial of parents who care: Effects on key outcomes at 24-month follow-up. *Prevention Science,* 8, 249-260.

Huston, R. L., Martin, L. J. and Foulds, D. M. (1990) Effect of a program to facilitate parent-child communication about sex. *Clinical Pediatrics,* 29, 626-630.

Kirby, D. B., Baumler, E., Coyle, K. K., Basen-Engquist, K., Parcel, G. S., Harrist, R. and Banspach, S. W. (2004) The "Safer Choices" intervention: Its impact on the sexual behaviors of different subgroups of high school students. *Journal of Adolescent Health,* 35, 442-452.

Lederman, R. P., Chan, W. and Roberts-Gray, C. (2008) Parent-adolescent relationship education (PARE): program delivery to reduce risks for adolescent pregnancy and STDs. *Behavioral Medicine,* 33, 137-143.

Lefkowitz, E. S., Sigman, M. and Au, T. K. (2000) Helping mothers discuss sexuality and AIDS with adolescents. *Child Development,* 71, 1383-94.

Li, X., Stanton, B., Galbraith, J., Burns, J., Cottrell, L. and Pack, R. (2002) Parental monitoring intervention: Practice makes perfect. *Journal of National Medical Association,* 94, 364-70.

McBride, C. K., Baptiste, D., Traube, D., Paikoff, R. L., Madisonboyd, S., Coleman, D., Bell, C. C., Coleman, I. and Mckay, M. M. (2007) Family-based HIV preventive intervention: child level results from the CHAMP family program. *Social Work in Mental Health,* 5, 203-220.

Messam, T., Mckay, M. M., Kalogerogiannis, K. and Alicea, S. (2010) Adapting a family-based HIV prevention program for homeless youth and their families: the HIV prevention outreach for parents and early adolescents family program. *Journal of Human Behavior in the Social Environment,* 20, 303-318.

Miller, B. C., Norton, M. C., Jenson, G. O., Lee, T. R., Christopherson, C. and King, P. K. (1993) Impact evaluation of facts and feelings: A home-based video sex education curriculum. *Family Relations,* 392-400.

Murry, V. M., Berkel, C., Brody, G. H., Gerrard, M. and Gibbons, F. X. (2007) The Strong African American Families program: Longitudinal pathways to sexual risk reduction. *Journal of Adolescent Health,* 41, 333-42.

Nagamatsu, M., Sato, T., Nakagawa, A. and Saito, H. (2011) HIV prevention through extended education encompassing students, parents, and teachers in Japan. *Environmental Health and Preventive Medicine,* 1-13.

O'Donnell, L., Myint-U, A., Duran, R. and Stueve, A. (2010) Especially for daughters: Parent education to address alcohol and sex-related risk taking among urban young adolescent girls. *Health Promotion Practice,* 11, 70S-78S.

Palen, L. A., Ashley, O. S., Gard, J. C., Kan, M. L., Davis, K. C. and Evans, W. D. (2011) Effects of media campaign messages targeting parents on adolescent sexual beliefs: A randomized controlled trial with a national sample. *Family and Community Health,* 34, 28.

Pantin, H., Prado, G., Lopez, B., Huang, S., Tapia, M. I., Schwartz, S. J., Sabillon, E., Brown, C. H. and Branchini, J. (2009) A randomized controlled trial of Familias Unidas for Hispanic adolescents with behavior problems. *Psychosomatic Medicine,* 71, 987-995.

Phetla, G., Busza, J., Hargreaves, J. R., Pronyk, P. M., Kim, J. C., Morison, L. A., Watts, C. and Porter, J. D. H. (2008) "They Have Opened Our Mouths": Increasing women's skills and motivation for sexual communication with young people in rural South Africa. *AIDS Education and Prevention,* 20, 504-518.

Prado, G., Pantin, H., Briones, E., Schwartz, S. J., Feaster, D., Huang, S., Sullivan, S., Tapia, M. I., Sabillon, E., Lopez, B. and Szapocznik, J. (2007) A randomized controlled trial of a parent-centered intervention in preventing substance use and HIV risk behaviors in Hispanic adolescents. *Journal of Consulting and Clinical Psychology,* 75, 914-926.

Prado, G., Pantin, H., Huang, S., Cordova, D., Tapia, M. I., Velazquez, M. R., Calfee, M., Malcolm, S., Arzon, M. and Villamar, J. (2012) Effects of a family intervention in reducing HIV risk behaviors among high-risk Hispanic adolescents: A randomized controlled trial. *Archives of Pediatrics and Adolescent Medicine,* 166, 127.

Schuster, M. A., Corona, R., Elliott, M. N., Kanouse, D. E., Eastman, K. L., Zhou, A. J. and Klein, D. J. (2008) Evaluation of Talking Parents, Healthy Teens, a new worksite based parenting programme to promote parent-adolescent communication about sexual health: randomised controlled trial. *British Medical Journal,* 337.

Slesnick, N. and Prestopnik, J. L. (2005) Ecologically based family therapy outcome with substance abusing runaway adolescents. *Journal of Adolescence,* 28, 277-298.

Smylie, L., Maticka-Tyndale, E. and Boyd, D. (2008) Evaluation of a school-based sex education programme delivered to Grade Nine students in Canada. *Sex Education,* 8, 25-46.

Stanton, B., Cole, M., Galbraith, J., Li, X., Pendleton, S., Cottrel, L., Marshall, S., Wu, Y. and Kaljee, L. (2004) Randomized trial of a parent intervention: Parents can make a difference in long-term adolescent risk behaviors, perceptions, and knowledge. *Archives of Pediatrics and Adolescent Medicine,* 158, 947-55.

Villarruel, A. M., Cherry, C. L., Cabriales, E. G., Ronis, D. L. and Zhou, Y. (2008) A parent-adolescent intervention to increase sexual risk communication: Results of a randomized controlled trial. *AIDS Education and Prevention,* 20, 371.

Villarruel, A. M., Loveland-Cherry, C. J. and Ronis, D. L. (2010) Testing the Efficacy of a Computer-based parent-adolescent sexual communication intervention for Latino Parents. *Family Relations,* 59, 533-543.

Weeks, K., Levy, S. R., Gordon, A. K., Handler, A., Perhats, C. and Flay, B. R. (1997) Does parental involvement make a difference? The impact of parent interactive activities on students in a school-based AIDS prevention program. *AIDS Education and Prevention,* 9, 90-106.

Winett, R. A., Anderson, E. S., Moore, J. F., Taylor, C. D., Hook, R. J., Webster, D. A., Neubauer, T. E., Harden, M. C. and Mundy, L. L. (1993) Efficacy of a home-based human immunodeficiency virus prevention video program for teens and parents. *Health Education and Behavior,* 20, 555-567.

Appendix 9: Characteristics of the 18 studies included the systematic review of FIHIs

Study	Blake et al. (2001)
Participants and settings	Country: USA (New York). Participants: 8th grade students, middle class, suburban Baseline: N= 389, male 52%, female 48%. Analysis: N= 351 (Intervention: N= 190, Control: N= 161). Setting: School.
Intervention	Name: Managing the Pressures Before Marriage (MPM) enhanced: a modified version of Postponing Sexual Involvement (PSI), a skills-based curriculum. Intervention development: Five homework assignments were developed from focus groups conducted with parents and adolescents. Aim: To address risks of early sexual involvement and social and media pressures to become sexually active, and assertiveness and communication skills. Programme components: Education and information: school-based curriculum and five homework assignments. Programme format: Five weekly one-hour sessions with five homework assignments involving parent participation. -Interactive activities: Homework assignments – activities included structured communications, modeling, demonstration, role play, brainstorming, skill training and rehearsal. Family involvement: Homework assignments developed from empirical research were designed to increase parents' understanding of the changes and pressures that their children face; to facilitate open and receptive parent-child communications about sex and sexuality; to increase parents' ability to encourage their children to avoid or resist peer pressure to become sexually active; and to build parents' and children's skills in identifying and reducing the risk of pregnancy, HIV and other STIs. Family aspects/process that the intervention aims to change: Communication: facilitate open and receptive parent-child communications about sex and sexuality; sexual/HIV/AIDS knowledge: understanding of the changes and pressures that their children

	of middle-school age face; skills: increase parents' ability to encourage their children to avoid or resist peer pressure to become sexually active. Theory: Social Learning Theory and Social Cognitive theoretical constructs. Facilitator: pairs of trained youth leaders recruited from local high schools. Control: school-based curriculum alone (MPM) only. Target: Family.
Methodology	Design: Clustered randomised controlled trial. Unit of allocation: Classroom, N=19. Method of randomisation: Not stated, classrooms stratified by quarter marking period within schools. Group equivalence at baseline: used one-way analysis of variance. -No differences existed between groups in race or ethnicity, age, sex or academic achievement. The significant difference found on the beliefs that substance use increased sexual risk and that media influenced adolescents. Youth in the intervention were also more likely to say that they had gone further than they had wanted to sexually within the previous three months. Students in the MPM group were more likely than others to have been in high-risk sexual situations in the past three months, and to report lifetime alcohol use. Allocation concealment/blinding: Youth leaders were aware that some classes received homework assignments and some did not. Confounding: Controlling for the baseline values of each variable. Intention to treat analysis: No, the analyses included only those who completed both assessments. Timing(s) of follow-up: immediately post-intervention (approximately 7 weeks after baseline assessment). Attrition: 9.8%. Adherence and fidelity: -Additional attempts were made to encourage students to complete homework assignments in the intervention group. There were difficulties when parents and children were talking about sex. Children who felt uncomfortable talking with parents were encouraged to complete homework assignments with project staff or other adults. Staff reminded students to complete homework assignments at

	the end of each lesson. -Facilitators were trained and monitored by project staff. -Incentive: students who completed the assessment form were given one ticket for a raffle at the end of the intervention and a goodies box. Data collection tool: Self-reported questionnaire. Three forms were used to collect data: a) an attendance form b) a homework form c) a form given to students who did not return a homework form. Data analysis: Repeated measures – analyses of variance, analyses of covariance, post hoc analysis to determine dose-response relationships, mixed model analyses to address potential clustering of observations – were performed.
Note	- Number of classrooms available for the study was smaller than expected. To maximise the intervention exposure, 11 classrooms were assigned to the intervention and only 8 classrooms in the control group. - Low prevalence of sexual behaviour among adolescents; only 6% of participants had ever had sexual intercourse, and only 4% had done so in the previous 3 months. -Not all students completed all of the homework assignments and those who did may have been at lower risk.
Quality assessment	Selection bias: High risk of bias. Clustered RCTs; did not state randomisation process; participants drawn from the same population over the same period of time; groups were different at baseline on some variables but baseline values were controlled for; selection bias influenced the completion of homework assignments. Attrition bias: attrition: Low risk of bias. Low attrition rate, did not state reasons for dropout/loss to follow-up and how to address the attrition. Other biases: Youth leaders were aware that some classes received homework assignments and some did not; self-reported outcomes. Overall quality: High risk of bias.

Study	Campero et al. (2011)
Participants and settings	Country: Mexico. Participants: 10th grade students (M= 15.2 years) 41.4% males and 58.6% females, Parents: M= 41 years old. Baseline: Adolescents N= 5,472 and parents N= 2,076 completed the questionnaires. Follow-up: N= 3,395 adolescents and N= 886 parents responded to the follow-up questionnaires. Analysis: Intervention: N= 320, Control: N= 651. Setting: School.
Intervention	Name: An educational intervention for parents. Intervention development: Not stated Aim: aimed to improve communication between parents and adolescents on prevention topics, emphasising information and skill building with a goal of impacting on adolescents' sexual behaviour. Programme components: a) Education and information: workshops, b) Skill training c) Provision and resources: parents received the prevention pack, which contained an information pamphlet, condom and a dose of emergency contraception (EC). Programme format: a) 4 sessions, 3-hour workshop, 30-minute booster after completing the follow-up questionnaire, b) the prevention pack, which contained an information pamphlet, condom and EC. -Interactive activities including role plays, small-group discussions, pair activities, homework assignment. Family involvement: Parents participated in workshops, received information pack, EC and condom, and were given homework assignments to be completed with their child. Family aspects/process that the intervention aims to change: communication, sexual and HIV/AIDS knowledge. Theory: Social Learning Theory, Theory of Planned Behaviour and Theory of Reasoned Action. Facilitator: Trained adult. Control: Active intervention; parents participated in a one-hour session to present the most important elements of the training

	(importance of Sexually Transmitted Infection prevention, adolescent pregnancy, and use of and access to condoms and EC). Target: Parent.
Methodology	Design: Experimental with non-random allocation to groups. Unit of allocation: Not applicable. Method of randomisation: Not applicable. Group equivalence at baseline: Yes, matching parents in the intervention group with similar parents in the control group by using propensity score matching to correct for potential selection bias. Allocation concealment/blinding: Not stated. Confounding: Not stated. Intention to treat analysis: Yes. Timing(s) of follow-up: 6 months. Attrition: 66.9% for adolescents and 57.3% for parents. Adherence and fidelity: A reminder was sent prior the intervention to parents. The baseline questionnaires in the control group were carried out in conjunction with a scheduled obligatory school meeting. Data collection tool: Self-reported questionnaire; each was assigned a unique identification code to protect participant's identify; not piloted or validated. Data analysis: Unit of analysis is parent-child dyad, The kernel method is used, which compares the outcomes in each intervention unit with the average outcome of the closest propensity score in the control group.
Note	- At the beginning, the study was an RCT clustered by school. However, due to high attrition rate, the design was adapted to quasi-experimental analysis using dyads in the intervention groups that attended the intervention matched with dyads in the control group. -There were no difference of characteristics between parents who were in the workshops and those who were not. -There were significant differences in adolescents' pre-intervention characteristics between those who were included in the analysis and those who were not. Those who were not included in the analyses reported a higher proportion of sexual activity and higher

	knowledge about EC than those included. -There was a significantly higher proportion of parents with high-school education or more, a higher proportion of parents with an adolescent girl and a higher proportion of adolescents who were only children or the oldest among the dyads retained in the analysis compared to those who were lost at follow-up. -The analysis used only baseline data from parents.
Quality assessment	Selection bias: High risk of bias. -Not RCT, matching parents between the intervention and control groups, self-selection to participate in the study. Attrition bias: High risk of bias. -High attrition rate; intention to treat analysis to address loss in follow-up; there were differences between those who were included in the analyses and those who were not; reasons for dropping out provided. Other biases: Self-reported outcomes, blinding and allocation concealment information was not given. Overall quality: High risk of bias.
Study	Chen et al. 2010, Link papers Chen et al., 2009, Deveaux et al., 2007, Gong et al., 2009
Participants and settings	Country: Bahamas. Participants: Students Grade 6, M=10.5 years, 47% were male. Baseline: - FOYC + CImPACT: N = 436 - FOYC+ GFI: N= 427 - WW and GFI: N = 497. Follow-ups: -FOYC+ CImPACT: 6 month: N= 420, 12 month N= 399, 36 month N= 350 - FOYC+ GFI: 6 month N= 406, 12 month N= 381, 36 month N= 359

	- WW +GFI: 6 month N= 464, 12 month N= 432, 36 month N= 402. Setting: Multiple (school and community settings).
Intervention	Intervention: Focus on Youth in The Caribbean (FOYC) and Caribbean Informed Parents and Children Together (CImPACT). Intervention development: The interventions were based on Focus on Kids and ImPACT interventions. Focus on Kids had been found to be effective in reducing unprotected sex at long-term assessment. FOYC has two extra sessions added in response to aspects of the HIV epidemic in the Bahamas and feedback from focus groups. The FOYC intervention was supported by the Bahamian Ministry of Health (MOH) and Ministry of Education (MOE). The MOH and MOE conducted a series of community meetings with parents to address concerns about the contamination of control youth. ImPACT+FOK has been found to be effective when compared with US youth who received FOK only and Goal For It (GFI). After receiving the feedback, CImPACT was modified for use in the Bahamas (e.g. filmed in Bahamas, delivered in a community setting rather than at home) Aim: -FOYC: The intervention is designed for youth to improve decision-making, communication and listening skills, as well as to provide knowledge and skills regarding safer sexual behaviour. -CImPACT: The intervention is designed for addressing parent-child communication about sexual decision making, parental monitoring and HIV prevention. Programme components: a) School-based intervention (FOYC) and b) CImPACT: parent intervention, with interactive activities including role plays and a condom demonstration delivered only to parents and in community settings. Programme format: -FOYC: weekly, 10-sessions and two annual boosters delivered after 12 and 24 months post-intervention assessment. -CImPACT: a 20-minute video filmed in the Bahamas followed by a condom demonstration and discussion. Family involvement: Parents involved in CImPACT intervention components addressing parent-child communication. Family aspects/process that the intervention aims to change: communication, monitoring knowledge and skill training. Theory: Protection Motivation Theory.

	Facilitator: Not stated. Control: The control arm did not have core elements of FOYC, including being based on a theoretical model of change, did not emphasise skills in communication and negotiation or condom use, and would not emphasise personal decision making. Wondrous Wetlands (WW) and Goal For It (GFI) -WW is a 10-session curriculum-based intervention on the topic of conservation. The lessons were delivered through field trips, craft projects, and lecture and group discussion. WW served as an attention control for youth. -GFI is a brief educational parenting interventions aiming to improve decision making on future planning and career goals filmed in USA. The intervention is followed by a structured discussion among participants in the community settings. GFI contains no information on HIV/AIDS or sexual health. GFI was delivered in community settings and served as an attention control for parents. Target: Family.
Methodology	Design: Clustered RCT. Unit of allocation: School, 15 schools were selected from 26 schools based on expression of interest, school size and location. Method of randomisation: Used the 15 unique two-digit school identification numbers as a random number table. Group equivalence at baseline: No significant differences in the mean age. There were significant baseline differences in several prognostic factors and outcomes, including gender intention to use a condom, self-efficacy, responses to the cost of condom use, intrinsic rewards, academic performance, rate of sexual initiation, gender. Allocation concealment/blinding: Not stated. Confounding: Age, gender and outcome variables at baseline were adjusted at the analysis. Intention to treat analysis: No. Timing(s) of follow-up: 6, 12, 18, 24, 36 months. Attrition: at 36 months, FOYC+CImPACT =20%, FOYC+GFI = 17%, WW+GFI + 19%, overall 18.3%. Adherence and fidelity:

	-Incentive: $5 voucher was given to students, and a food voucher worth $9 was offered to parents. Data collection tool: Self-reported questionnaires; Cronbach alpha was computed to assess the internal consistency of the measurement scale; students were informed that their answer were confidential; not piloted/validated. Data analysis: Descriptive statistics for summarising the sample characteristics, Analysis of variance, t-test and Chi square were performed to assess the differences in the outcome measures. Cohen's d and odds ratio were used to assessed the effect size of the intervention. A mixed effect model was used to adjust for clustering randomisation at school level.
Note	-The effect of the booster intervention could not be assessed. -The differences in attrition rates were not significant. -Age and gender and outcome-related variables did not differ significantly between participants who completed 36-month assessment and those who were lost at follow-up.
Quality assessment	Selection bias: Low risk of bias. -RCT, using a random table, significant differences at baseline but adjusted at the analysis. Attrition bias: Low risk of bias. Low attrition, age, gender, and outcome-related variables did not differ between participants who remained at 36 months follow-up and those who did not. Other biases: Self-reported outcomes, blinding and allocation concealment information were not given. Overall quality: Low risk of bias.
Study	Cowan et al. (2010), Link paper: Cowan et al., 2008
Participants and settings	Country: Zimbabwe. Young people in- and out-of-school, rural, male M=15.4, female M=14.8 years. Baseline: From 30 communities, pupils in trial schools were eligible for the programme. Intervention N=3,381, Control N=3,410.

	Final survey: Intervention N= 2,419, control N= 2,359. Setting: Multiple (school, health care, community centre).
Intervention	Intervention: *Regai Dzive Shiri* Project. Intervention development: Peer educator model was developed by Students Partnership Worldwide (for the youth intervention); the community component arose from focus group discussions with parents during the feasibility study. Aim: To change social norms within communities. Programme components: a) Education and information: community-based, aimed to improve knowledge and parent-child communication, school-based programme for young people in school, out-of-school programme, b) training: programme for nurse and staff in rural clinics, c) social support: community-based intervention for parents and adolescents to improve community support for adolescent health. Programme format: -Young people: 3-year *MEMA Kwa Vijana* Curriculum adapted for Zimbabwean use; year 1: an additional introductory session on self-awareness and communication was added; year 2: self-belief and gender issues, one-year community-based out-of-school youth programme; year 4, 24 sessions for out-of-school youth. -Clinic: On-site clinic staff training for youth-friendly services. -Community: 22 sessions, two modules delivered by community facilitators. Family involvement: The programme designed for parents and community stakeholders was part of the community-based programme. Family aspects/process that the intervention aims to change: parent-child communication, sexual/HIV/AIDS knowledge. Theory: Social Learning Theory and The Stage of Change Model. Facilitator: Trained school leavers, community facilitators. Control: Delayed intervention. Standard HIV prevention was implemented at the programme site through the District AIDS action committees across both intervention and delayed intervention communities. Target: Family and community.

Methodology	Design: Clustered RCT. -Restricted randomisation to balance the number of schools in each group. Unit of allocation: Community. Method of randomisation: Not stated. Group equivalence at baseline: Unclear. The authors suggested that there was good balance between groups in biological and behavioural factors but no data were reported in the paper. Allocation concealment/blinding: Not stated. Confounding: Age, marital status, education and other potential variables showing an imbalance between groups were adjusted at the analysis. Intention to treat analysis: Yes. Timing(s) of follow-up: 3 and 4 years after baseline assessment. Attrition: High. Adherence and fidelity: -Condom prevention is difficult to deliver in schools in Zimbabwe. Church and local policy makers appeared not to support the intervention that promoted condom use. Delivering intervention in schools proved to be difficult in the existing political environment climate. -High level of mobility of youth and only 55%-68% lived in the intervention communities throughout the 4 years of the project. -Low retention rates of staff; trained staff often left and those remaining had work overload. -Monitoring and evaluation data were collected throughout the study to document activities in the communities, the number of people attending these activities, and frequency of attendance. -Adherence to the programme was low. -54% of participants had attended a trial school.

	-30% of survey participants in the intervention were likely to have received the school-based intervention. -9% of the intervention participants reported attending both in school and out of school. -33% of males and 61% females surveyed did not report receiving any intervention. -Incentive: participants who attended at least 75% of out-of-school youth sessions received an attendance certificate and a project T-shirt; prizes were awarded to clinics that performed well. Data collection tool: Self-reported, using an audio self-administered questionnaire and audio computer-assisted survey instrument; clinical test of biological outcomes. Data analysis: Univariate and multivariate analyses using generalised estimating equations with exchangeable correlation matrix and robust standard errors to account for cluster randomisation. Odd ratios were presented as the effect size. A subgroup analysis was performed.
Note	-The effect of the intervention was evaluated in the wider community using a population-based survey rather than among the original cohorts. - A fall in school attendance for economic reasons made the authors adapt the intervention delivery from school-based to community-based.
Quality assessment	Selection bias: High risk of bias. -Clustered RCT, did not report how the communities were allocated, unclear whether the groups were equivalent at the baseline, controlled for imbalance between groups. However, the study design had changed from a school-based to a community-based intervention. Not all participants from the original cohorts were included in the final evaluation. Attrition bias: Unclear risk of bias. -Attrition rate not reported. -Intention to treat analysis was performed. Other biases: Self-reported outcomes; did not measure outcomes as originally stated from the original cohorts; blinding and allocation concealment information was not given.

	Overall quality: High risk of bias.
Study	Dancy et al. 2009: Link paper Dancy et al., 2006
Participants and settings	Country: USA. Chicago, young women age 11-14 (M= 12.4), African American, rural, low socio-economic status (SES). 553 young women were recruited. Baseline: N= 403. Dropped due to selective attrition (N=130) or listwise deletion (N=20). Analysis: post-intervention N= 403, 6 months N= 412. Setting: Not stated.
Intervention	Intervention: The Mother/Daughter HIV Risk Reduction intervention (MDRR). Intervention development: The MDRR curriculum was designed to actively include mothers as HIV risk reduction educators for their daughters. Focus groups with African American mothers and daughters were conducted to understand HIV risk and to identify effective HIV prevention components for this population. Aim: To train mothers to teach their daughters HIV reduction risk knowledge and skills. Programme components: education and information: a) Mother/daughter HIV risk reduction curriculum taught by trained mothers with interactive activities, b) condom skill training for young women. Programme format: Six weekly classes in a group setting with approximately nine young women in each group. Family involvement: mothers were trained to teach the MDRR curriculum to their daughters and other young women in the group. Family aspects/process that the intervention aims to change: HIV/AIDS/Sexual health knowledge, communication. Theory: Theory of Reasoned Action and Theory of Planned Behavior. Facilitator: Health experts taught the curriculum to mothers and mothers taught the curriculum to their daughters. Mothers received 12 weeks of training in the content and behavioural skills to teach their daughters.

	Control: compared with two control curricula: a) the Mother/Daughter Health Promotion Curriculum (MDHP): covers nutrition and exercise. b) the Health Expert HIV Risk Reduction curriculum (HERR): covers the same as the MDRR curriculum but health experts delivered the curriculum. There were no homework assignments and no agreement by participants to practice sexual abstinence. Target: Family.
Methodology	Design: Clustered RCT. Three geographically distinct but environmentally and demographically similar sites were randomly assigned to the three interventions. Unit of allocation: Study site. Method of randomisation: Not stated. Group equivalence at baseline: Sexual activity in the last 6 months differed between the groups. Allocation concealment/blinding: Not stated. Confounding: Age and missing responses were included to control for confounding. Intention to treat analysis: yes, missing responses to 'engaged in sex in the last 6 months' were treated as having had sex and as a control used a dummy variable for 'response group'. Timing(s) of follow-up: immediately post-intervention and at 6 months. Attrition: at 6 months, 23.5%. Adherence and fidelity: Health experts were research staff trained in the MDRR curriculum by the principal investigator. Health experts worked closely with mothers, provided mentoring, training and in- and between-session face-to-face or telephone practice. Mothers received feedback on the delivery. Health experts functioned as on-site consultants to the mothers. -Incentive: Not stated. Data collection tool: Self-reported using an audio computer-assisted self-interview; daughters were assured of confidentiality. Survey instruments were described. Test-retest correlations were performed.

	Data analysis: T-tests between means for each outcome to compare the three intervention groups. Multi-level analysis was used to take clustering into account .
Note	-T-test was performed to compare the drop-offs and those who remained in the study due to selective attrition. The findings found no pre-existing differences between these two groups. -Listwise deletion was used to handle missing data, except for sexual activity. -The number of girls reporting engaging sexual practice in the previous 6 months was too small to allow a comparison among the groups.
Quality assessment	Selection bias: Low risk of bias. Clustered RCT; did not report how the groups were allocated; group equivalence at 6 months, except on sexual activity in the previous 6 months, which was used as a control for the difference. Attrition bias: Low risk of bias. - Intention to treat analysis was performed. -No bias found on selective attrition. Other biases: Self-reported outcomes, unable to measure the effect of risk reduction intervention on safer sex activities, Blinding and allocation concealment information was not given. Overall quality: Low risk of bias.
Study	Dilorio et al. 2006, Link paper Dilorio et al., 2002
Participants and settings	Country: Atlanta, USA. 11-14 year olds (M=12.1-12.4), African American, urban. Mothers only (M=37.7-39.2). Baseline: Social Cognitive-based Intervention (SCT) N= 194, Life Skills programme (LSK) N=187, Control N=201. Analysis:

	4-month: SCT N=192, LSK N=178, Control N=180. 12-month: SCT N=187, LSK N= 174, Control N=183. 24-month: SCT N=180, LSK N=170, Control N= 175. Setting: 11 community centres (Boys and Girls Clubs of Metro Atlanta).
Intervention	Intervention: Keepin' it R.E.AL. Intervention development: Sessions for mothers in LSK were based on Conscious Parenting Circles Parent Support Process Aim: To delay initiation of sexual intercourse for youth who are not sexually active and encouraging the use of condom among sexually active youth. Programme components: a) education and information workshop sessions both in SCT and LSK, including interactive activities such as role plays, group discussions, b) community involvement in LSK. Programme format: Seven 2-hour sessions over 14 weeks. SCT: Mothers and children attended four sessions together. These sessions focused on HIV prevention, living with HIV, communication skills, talking about sex and values. In youth only sessions, the programme focused on peer influences, sexual decision making and consequences of having sexual intercourse at a young age. In mother-only sessions, the programme focused on adolescent development, reproductive health, peer influences, communication about sex, condoms and contraceptives. LSK: mothers and children attended five sessions together. In the first and last sessions, mothers and adolescents attended the sessions separately. The programme focused on stress reduction and discussion on risk behaviours. The programme included community visits, exposure to career opportunities and a college trip to promote community involvement. Sessions for mothers included a relaxation activity, sharing experiences to build community, reflection and homework assignments. Family involvement: In SCT, mothers attended sessions to improve HIV and sexual health knowledge and communication skills. In LSK, mothers a attended parenting programme. Family aspects/process that the intervention aims to change: HIV/AIDS/Sexual health knowledge, communication, parenting. Theory: Social Cognitive Theory (SCT) and Problem Behaviour Theory.

	Facilitator: Trained facilitators. Control: Mothers and adolescents received a one-hour HIV prevention session, using a 20-minute videotape. Target: Family.
Methodology	Design: Clustered RCT. Unit of allocation: Community. Method of randomisation: Computer. Group equivalence at baseline: Youth in LSK group were slightly older than the other two groups. Allocation concealment/blinding: participants were given information about the intervention to which the site was assigned.. Confounding: Age and gender were used to control for confounding in the final model. Intention to treat analysis: Yes. Timing(s) of follow-up: 4, 12, 24 months after baseline assessment. Attrition: at 24 months: SCT 7.2%, LSK = 9.1%, Control 12.9%. Adherence and fidelity: -Process evaluation was carried out to monitor the integrity of the intervention, including facilitator training, weekly meeting with facilitators and written evaluations. -20% of the sessions were videotaped and evaluated. -LSK was modified from the Conscious Parenting Family Circles Parent Support Process but retained the basic nature of the original parenting programme. -Incentive: Not stated. Data collection tool: Self-reported, Cronbach's alpha and Kudar Richardson's analyses were performed. Data analysis: Mixed model, repeated measures analysis of variance, one-way analysis of variance and Chi square for group differences, Intraclass correlation (ICC) was used to adjusted the effect from clustering.

Note	-Mothers who chose not to participate in the programme may have been in greater need of skill development. -Additional exploratory analyses were performed to examine group differences on intention and communication variables.
Quality assessment	Selection bias: Low risk of bias. -Clustered RCT, randomly assigned by computer, participants in LSK were older than in the other groups, age and gender controlled for confounding. Attrition bias: Low risk of bias. - Low attrition. - Intention to treat analysis was performed. Other biases: Self-reported outcomes, participants might know the treatment condition. Overall quality: Low risk of bias.
Study	Dilorio et al. 2007b
Participants and settings	Country: USA, Atlanta. Boys, 11-14 years old (M= 12.8), African American, urban. Fathers (M= 40.1 years). Baseline: 382 agreed to schedule a baseline interview. Fathers N= 277, Fathers and sons N= 554. Analysis: Intervention N= 121, Control N=119. Setting: 7 community centres .
Intervention	Intervention: Responsible, Empowered, Aware, Living (R.E.A.L) Men. Intervention development: Not stated. Aim: To promote the delay of sexual intercourse, to encourage condom use in young men, and to improve communication about

	sexuality between fathers and sons. Programme components: a) education and information on communication, parental monitoring, relationships with peers, and sexual and HIV/AIDS topics. It included interactive activities, such as take-home activities, discussion groups, role plays, games and videotapes. Programme format: Seven weekly 2-hours sessions for fathers delivered in a group format. Fathers and sons attended the final sessions together. Family involvement: Fathers attended the workshop to improve HIV and sexual health knowledge. Family aspects/process that the intervention aims to change: Sexual health/HIV/AIDS knowledge and communication. Theory: Social Cognitive Theory. Facilitator: Not stated. Control: Seven weekly 2-hour sessions on nutrition and exercise. Fathers attended the first six sessions alone. Fathers and sons attended the final sessions together. The control intervention was delivered through lectures, discussion groups, role plays, games and videotapes. Target: Fathers.
Methodology	Design: Clustered RCT. Unit of allocation: Community. Method of randomisation: Not stated. Group equivalence at baseline: The two groups were similar with respect to education level, income level, percentage of biological fathers participating, percentage of fathers indicating discussion of sex-related topics, percentage of adolescents indicating that they had never had sexual intercourse, age of both fathers and adolescents. However, the control group was different in term of the percentage of participating fathers living with their sons. Allocation concealment/blinding: Not stated. Confounding: Living arrangement was included as a covariate in the analysis.

	Intention to treat analysis: Yes. Timing(s) of follow-up: 3, 6, 12 months after baseline interview. Attrition: 20%. Adherence and fidelity: -Low attendance rate; on average, fathers in the intervention group attended 45% of sessions with 44% in control group. -Participants were given a participant manual to assist with the homework assignments and adherence to personal goals set each week. -Incentive: dinner was served and a small non-monetary incentive was given to both fathers and sons. All participants received $25 for completing each of the four assessments. Data collection tool: Self-reported questionnaire using audio computer assisted format, interview. Cronbach alpha analysis was performed. Data analysis: Independent sample T-tests and Chi square tests for group difference at the follow-ups; clustering was accounted for in the analysis strategy by using the allocation unit as the unit of analysis.
Note	- At each assessment period, the two groups were roughly equal in size. -The two smallest sites, located in similar neighbourhoods and not far from each other, were combined and randomised as one unit. -At the recruitment stage, of 400 families who agreed to complete the screening questionnaire, 6 were ineligible, 12 declined to participate.
Quality assessment	Selection bias: Low risk of bias. -Clustered RCT, group not equivalent at baseline on living arrangement, but this was controlled for at the analysis. Attrition bias: Low risk of bias. -Attrition rate was 20%; did not state reasons for dropout/loss to follow-up. -Intention to Treat analysis was performed. Other biases: low attendance rate, no information on facilitators was given, self-reported outcomes, blinding and allocation

	concealment information was not given. Overall quality: Low risk of bias.
Study	Flay et al. 2004
Participants and settings	Country: USA, Chicago. 5th to 8th grade students, urban, African American, low SES. 12 schools. Baseline: Grade 5, N= 667. Analysis: N=1,153 students in one or more waves. Setting: School.
Intervention	Intervention: the Social Development Curriculum (SDC) and the School/Community intervention (SCI). Intervention development: Activities and materials were adapted from other theoretically derived prevention curricula. The activities were piloted before being added to the programme. Aim: Two experimental interventions targeted the risk behaviours of violence, provoking behaviour, substance misuse, delinquency, and sexual behaviours. SDC focused on social competence skills necessary to avoid high-risk behaviours. SCI aimed to impact on all social domains that influence children. Programme components: a) education and information: in both SDC and SCI, classes were designed to teach cognitive-behavioural skills, a sense of self and purpose, culture, values and history, b) parent training workshops: in SCI, the parent support programme reinforced skills taught in SDC, improved parental monitoring and discipline skills, enhanced anger and stress management and promoted parent-child communication, c) in SCI, school staff and school-wide support programmes integrated skills into the school environment, d) In SCI, community engagement: a community programme developed linkages among parents, schools and local businesses. Programme format: SDC was classroom-based, delivered in 16-21 lessons per year in grades 5 to 8. SCI included SDC and parental support, school climate and community components.

	Family involvement: attended parent-training workshops in SCI intervention. Family aspects/process that the intervention aims to change: parent communication, parenting skills, parental monitoring, stress and anger management, and cognitive-behavioural skills Theory: Theory of behaviour change. Facilitator: Health educators; in SCI, schools formed a local school task force to implement the programme components, propose changes in school policy and develop community engagement. Control: Health Enhancement Curriculum (HEC), which consisted of the same number of lessons as the SDC. Target: Family and community
Methodology	Design: Clustered RCT. Unit of allocation: School. Method of randomisation: Randomised black design stratified into four quartiles of risk based on risk scores. Group equivalence at baseline: There were differences at baseline between conditions: boys in SCI engaged in more violence than boys in the SDC. Allocation concealment/blinding: Not stated. Confounding: Not stated. Intention to treat analysis: Unclear. Timing(s) of follow-up: 12, 24, 36 months. Attrition: - Survey completion rates were between 89.5% and 92.7%. - Non-completions were due to absenteeism or opting out. -Turnover in study schools was high (20% each year). - Only 51% of the 668 grade 5 students were still present at the end of grade 8.

	-1.7% of parents denied consent at grade 8. Adherence and fidelity: -Two training sessions were held before each lesson. Health educators role-played each activity and senior staff provided feedback. -Weekly debriefings were held to discuss issues on implementation. -Senior staff monitored the implementation to ensure fidelity. -Each year the regular classroom teachers received a four-hour workshop to provide an overview of the programme philosophy and curriculum content, and clarification of their support roles. -Incentive: Each school received $250 for each participating classroom, up to $1,000 each year of study. Data collection tool: self-reported questionnaire, staff read the survey aloud, students were assured of confidentiality, measures were previously used with inner-city populations, survey was modified for readability and cultural sensitivity, reliability coefficient tests were performed. Data analysis: Hierarchical statistical models that accommodate nested observations and missing data for mean responses at baseline and in response to the programme. Inference was based on tests of regression coefficients and contrasts among estimated means.
Note	-Students who transferred into study schools were similar to students who transferred out. Students who transferred out were not followed up but data collected before the transfer were included in the analysis. -Sample size (number of schools was small) led to low statistical power to detect differences. -The intervention promoted African American cultural values, history and literature. -The major analyses included data from all students who completed the assessments at at least one point.
Quality assessment	Selection bias: High risk of bias. -Clustered RCT; there was a significant difference at baseline, unclear whether the study addressed or minimised confounding. Attrition bias: High risk of bias. -Lost to follow-up on those transferred out of school; attrition on the final assessment was approximately 10%; due to absenteeism and

	opting out, however, only 51% of those in the intervention at grade 5 presented at grade 8. Other biases: Self-reported outcomes; blinding and allocation concealment information was not given. Overall quality: High risk of bias.
Study	Guilamo-Ramos et al. (2011)
Participants and settings	Country: USA, New York City. African American and Latino American 11-14 years (M=12.9 years), urban. Baseline: Intervention N= 133, Control N= 131. Analysis: Intervention N= 124, Control N=126. Setting: Health care setting.
Intervention	Intervention: Family Talking Together. Intervention development: The content of the written manual about parent-child communication was based on research conducted by the research team. Aim: To prevent sexual risk behaviour. Programme format: 30 minutes: a brief intervention delivered to parents when adolescents visited their physician for a physical examination; 2 booster calls at 1 and 5 months after intervention. Programme components: a) written manuals with two communication aids for parent-child communication and parenting strategies, b) face-to-face meeting with social worker focusing on how to use the written manual and parent-child communication; c) Physician provided a brief endorsement of the intervention programme to mothers. Family involvement: Mothers had a face-to-face meeting with social workers and received a written manual and communication aids package to use with the children. Mothers also met the physician, who endorsed the intervention programme. Mothers received two booster calls to encourage them to complete the assigned tasks and homework. Family aspects/process that the intervention aims to change: Sexual health knowledge: parenting skills, parent-child communication, parent-child relationship

	Theory: Not stated. Facilitator: Healthcare professional, Social worker, physician. Control: Standard care. Target: Parents.
Methodology	Design: RCTs. Unit of allocation: Mothers. Method of randomisation: Not stated. Group equivalence at baseline: No statistically significant differences were observed. Allocation concealment/blinding: Not stated. Confounding: Not stated. Intention to treat analysis: No, attrition did not significantly vary by condition, and was not associated with any of the variables measured at the baseline. Timing(s) of follow-up: 9 months. Attrition: 5.4%. Adherence and fidelity: -Booster calls aimed to encourage the mother to complete the assigned activities. -Incentive: mothers received $15 for each survey and adolescents received $10. Data collection tool: Self-reported questionnaire, participants were informed that their answer were confidential or they could skip any questions that made them uncomfortable; trained interviewers collected data at home. Data analysis: means and percentage of key outcomes.
Note	-Reasons for refusal included not having time or not being interested (3%). - During the booster calls, the research team did not assess the percentage of the mothers who had completed the assigned tasks, nor

	did they assess which the tasks they had completed.
Quality assessment	Selection bias: Low risk of bias. -RCTs, no significant difference found at baseline. Attrition bias: Low risk of bias. -Low attrition rate, ITT was not performed. Other biases: Self-report outcomes; did not discuss how the participants were randomly assigned; data analysis information was not given; only key outcomes were reported. Overall quality: Low risk of bias.
Study	Kirby et al. (2004), Link papers: Basen-Engquist, 1997; Coyle, 2001; Coyle, 1999
Participants and settings	Country: USA, California and Texas. 9th grade (14-15 years old). 20 schools: 10 from Texas, and 10 from California. Baseline: N= 3,869. Analysis: N=3,057. Setting: School.
Intervention	Intervention: Safer Choices. Intervention development: Not stated. Aim: To reduce the number of students engaging in unprotected sex by reducing the number who begin or have sex during the high school years. Programme format: A sequential, 20-session classroom-based curriculum for the 9th and 10th grade students. Programme components: a) School organisation to support and coordinate project activities, b) curriculum and staff development, c) peer resources and school environment, d) parent education, e) school and community linkages.

	Family involvement: School sent newsletter to parents three time each year; homework assignments for students and their parents; parent education activities conducted by school. Family aspects/process that the intervention aims to change: parent-child communication, sexual health/HIV/AIDS knowledge. Theory: Social Cognitive theory, Social Influence Theory, Models of School Change. Facilitator: Peers and in-class teachers. Control: Five sessions of a knowledge-based curriculum and a small number of other school activities that varied from school to school. Target: Multiple.
Methodology	Design: Clustered RCT. Unit of allocation: School. Method of randomisation: Blocked RCT: schools were ranked based on an index score of possible confounding variables; adjacent schools in the ranking were then paired and randomly assigned to the groups. Group equivalence at baseline: For 10 of 13 psychosocial variables, the difference in the mean between intervention and control groups was statistically significant. Students in the intervention group were more likely to report ever having sex, being tested for HIV and being tested for other STIs than were students in the control group. Allocation concealment/blinding: Not stated. Confounding: The differences between intervention and control groups at baseline were included in each analytic model, and as a set of outcome-specific covariates to control for confounding. Intention to treat analysis: No, students who left school and did not return during the following year were not included in the cohort. Timing(s) of follow-up: 7, 19, 31 months after baseline. Attrition: 5% at 7 months, 17% at 19 months and 21% at the final assessment. Adherence and fidelity: Not stated. Data collection tool: Self-reported questionnaire, but as the authors stated, several approaches were used to create an environment for

	completing the survey, for example using trained, data collectors, and providing assurance of confidentiality. The psychosocial scale's reliability was assessed. Data analysis: Two-tailed tests, Poisson multi-level regression model, logistic regression model. Multi-level statistical models were used to control for clustering.
Note	- Participants who dropped out or were lost at follow-ups were older, less likely to live with both parents, more likely to be males and engage in more risky behaviours at baseline and more likely to have low psychosocial scores than those who remained in the study. -441 students were dropped from the cohort based on cohort eligibility criteria. -There were demographic characteristics and psychological differences between eligible students who completed the follow-up assessments and those who did not. The difference was not significantly difference in any sexual behaviour reported. -At 31-month follow-up, the study reported on five important sexual behaviours.
Quality assessment	Selection bias: Low risk of bias. -Clustered RCT, there were significant differences between groups at baseline, controlled for confounding at the analysis stage. Attrition bias: Low risk of bias. -Attrition 5%-21%. Other biases: Self-reported outcomes, blinding and allocation concealment information was not given, only five important sexual behaviour were reported at 31-month follow-up. Overall quality: Low risk of bias.
Study	Li et al. (2002), Link paper: Stanton et al., 2000
Participants and settings	Country: USA. 12-16 year olds (Median = 13.6 years) youth with their parents, African American, urban, low SES. Recruited from eight public housing developments. Baseline: 237 dyads.

	Analysis: 179 dyads. Setting: Home.
Intervention	Intervention: Informed Parents and Children Together (ImPACT). Intervention development: the intervention was informed by previous interventions and research. It was developed through intensive qualitative research, including focus groups with parents and youth and individual interviews. Aim: To increase monitoring (supervision and communication) by parents of youth regarded as high risk and to increase protective behaviours. Programme components: a) education and information using home-based video with interactive activities, including role plays, b) resource provision: parents were given a video and written material. Programme format: A 22-minute video was shown at home. After viewing the video, there were activities, including discussion sessions and role plays. The entire session lasted approximately 60-90 minutes. Family involvement: Parents viewed the video that had been developed to provide information on monitoring, communication and sexual health/HIV knowledge. Parents also received skill training, a copy of the video and a written manual. Family aspects/process that the intervention aims to change: Sexual health/HIV/AIDS knowledge, parent-child communication, monitoring and supervision. Theory: Social Cognitive Theory. Facilitator: Trained facilitators. Control: Goal For It (GFI) consisted of a 22-minute video produced by the researcher with the local community and a 40-minute workbook activity. The programme focused on the process and steps for planning for education and career training. Parents were given a copy of the video and written manuals. GFI had no discussion on monitoring, communication, HIV risk and prevention or skill training. Target: Parents.
Methodology	Design: RCTs.

	Unit of allocation: Individual. Method of randomisation: The family's identification number, through the use of a random number table, was used for assigning to the groups. Group equivalence at baseline: Agreement between mothers and youths on youth involvement in risk behaviours did not differ on the basis of intervention status. Allocation concealment/blinding: Youth and parents were not aware of their assignment. Confounding: Age and gender were controlled in the analyses. Intention to treat analysis: Only dyads in which both parents and youth provided data were include in the analyses. Timing(s) of follow-up: 2, 6 and 12 months post-intervention. Attrition: 24% (both mothers and youth) at 12-month follow-up. Adherence and fidelity: Interventionists attended four-day training course.before implementing the intervention Data collection tool: the research team developed a Parent-Adolescent Risk Behaviour Concordance scale – correlation coefficients of test and retest scores of the risk assessment were high in previous research. Internal consistency analyses measured by Cronbach alpha were performed. Self-reported questionnaire using talking Macintosh. Data analysis: Intervention impact on the concordance between dyads was assessed by paired Student's t-test. Intervention impact on risk and protective factors was assessed by Chi square analysis.
Note	- The study used parent-youth similarity of risk reporting as a proxy of intervention impact on parental supervision and communication. The study also assessed the effect of intervention on a long-term indirect effect of the intervention on adolescent risk involvement.
Quality assessment	Selection bias: Low risk of bias. -RCT, using random number table, no significant difference at baseline, controlled for age and gender Attrition bias: Low risk of bias. -Attrition at 2 and 6 months was 12% and 14%, respectively. At 12 month assessment, attrition was 24% and intention to treat analysis

	was not performed; no information or reasons for drop-outs and loss to follow-up were provided. Other biases: self-reported outcomes. Overall quality: Low risk of bias.
Study	Murry et al. (2007), Link papers: Brody et al., 2004, Brody et al., 2005, Murry et al., 2005, Brody et al., 2006
Participants and settings	Country: USA, Georgia. 11 years old (M=11.2), African American, rural, low SES. Participants from 9 counties. Baseline: 332 families agreed to participate and completed pre-test. Intervention: N=172 families, Control N= 150 families. Analysis: 284 families provided data at all times. Setting: Community centre .
Intervention	Intervention: The Strong African American Families (SAAF). Intervention development: SAAF was based on Brody and Murry's longitudinal development research. It also built on another family-centred intervention – the Strengthening Family Programme. The intervention cam from theory, research and community stakeholders. Aim: To deter adolescent sexual behaviours such as early sexual initiation and alcohol use through adaptive parenting Programme components: Education and information: SAAF curriculum and interactive activities. Programme format: Seven two-hour sessions delivered weekly. Youth and parents attended the sessions separately for one hour and attended together for another hour. Family involvement: Parents attended the sessions. Family aspects/process that the intervention aims to change: Communication, sexual health/HIV/AIDS knowledge, parenting skills, monitoring, beliefs, skills, relationships. Theory: Cognitive Model of Adolescent health risk behaviour

	Facilitator: Trained facilitators. Control: Three educational pamphlets about health and development. Target: Family.
Methodology	Design: clustered RCT. Unit of allocation: County. Method of randomisation: The counties were matched and one county from each matched pair was randomly assigned to the groups. Group equivalence at baseline: No significant differences between the group on socio-demographic variables. Parent-child communication about sex was not equivalent between intervention and control groups. Allocation concealment/blinding: Not stated. Confounding: All pre-test scores were controlled in the analyses. Intention to treat analysis: No. Timing(s) of follow-up: 7, 29 months after pre-test. Attrition: at 29 months, 14.5%. Adherence and fidelity: -Several measures were taken to encourage programme attendance, for example, the researcher considered the best day for families to attend the session. -Sessions were videotaped and coded to assess adherence. -Weekly postcards and community liaisons encouraged attendance. -Programme facilitators received 40 hours training on programme content and delivery and received $75 per intervention session. -Incentive: Transportation and childcare of siblings, and a catered meal were offered; family received $100 at each data assessment. Data collection tool: Self-reported questionnaire; interviewers read aloud the questionnaires to reduce literacy issues. The interviews were conducted in private.

	Data analysis: Structural equation model; Intraclass correlation analysis was performed to assess the possible effects of clustering and found that analyses conducted at the individual level were not statistically biased.
Note	- No statistically significant differences at the pre-test between families who dropped out and those who remained in the study - At baseline, participation rates and demographics were similar for the intervention and control counties.
Quality assessment	Selection bias: Low risk of bias. -Clustered RCT, groups were not equivalent on parent-child communication; pre-test scores were controlled for at the analysis. Attrition bias: Low risk of bias. -Attrition was 14.5%; Intention-to-treat analysis was not performed at 29 months after pre-test. Other biases: Self-reported outcomes, blind and allocation concealment information was not given. Overall quality: Low risk of bias.
Study	Nagamatsu et al. 2011
Participants and settings	Country: Japan. Students aged 13-14. Baseline: N=423. Analysis: N=371. Setting: School.
Intervention	Intervention: Extended education programme. Intervention development: Not stated. Aim: To prevent HIV infection in young people by delaying the initiation of sexual activity among Japanese junior high school students. Programme components: Education and information: parent education with homework assignment, to improve self-esteem and self-protection of students, b) teacher education with small-group discussions, c) student education and counselling.

	Programme format: - Parent education: 2 sessions of parents received training (60 min) before working with students on homework assignments. - Teacher education: 2 sessions of teacher received training (60 min) before conducting two small-group discussions (two sessions of 50 minutes) with students. - Student education: group education, two sessions (50 minutes); 1-2 sessions of individual counselling (20-30 minutes). Family involvement: Parents received parent education component and worked with the adolescents on homework assignments. Family aspects/process that the intervention aims to change: Sexual health/HIV/AIDS knowledge, communication. Theory: The concept of self-esteem and social cognitive theory. Facilitator: healthcare professional – school nurses, midwife, gynaecologist; teachers. Control: A gynaecologist or a midwife gave two group education sessions. After 3-month follow-up survey, the information was provided to parents and teachers and individual counselling was provided for students who requested it. Target: Multi-level.
Methodology	Design: Experimental, with non-random allocation to groups. Four schools were selected at random and were divided between the control and intervention groups. Unit of allocation: School. Method of randomisation: Not relevant. Group equivalence at baseline: Not stated. Allocation concealment/blinding: Not stated. Confounding: Not stated. Intention to treat analysis: Not performed. Timing(s) of follow-up: 3 months.

	Attrition: 12.3%. Adherence and fidelity: Not stated. Data collection tool: Self-reported questionnaire; reliability was assessed. Data analysis: Repeated measures were treated as additional levels in multi-level analysis. Student T-test and Chi-square were used to compare baseline and 3 months after intervention in both groups. When logistic regression analysis was performed, the odds ratio and the 95% confidence interval were calculated.
Note	-Participants in the control group received the intervention after the 3-month follow-up. -Group education by a health professional was provided for students in both the intervention and control groups. -Intervention was carried out in 2 waves: with 2nd grade from December 2007 to March 2008 and then with 3rd grade from April to July 2008. The follow-up survey was carried out in December 2008. -Students could receive the education if they wanted or they could refuse. Students were not made to provide data if they refused.
Quality assessment	Selection bias: High risk of bias. -Non RCT; did not state whether the group was equivalent at baseline, no information provided on confounding. Attrition bias: Low risk of bias. -12.3% attrition rate; Intention to treat was not performed. Other biases: Self-reported outcomes; student education was given to both intervention and control group. Overall quality: High risk of bias.
Study	Pantin et al. (2009) Link: Coatsworth et al., 2002
Participants and settings	Country: USA, Miami. Young people (Median age = 13.8), Hispanic, urban, low SES, problem behaviours. Mother (Median age = 40.0).

	Baseline: Intervention N= 109; control N= 104. Analysis: At 6-months: Intervention N=101, control N= 94. At 18-months: Intervention N=98, control N=87. At 30-months: Intervention N= 93, control N= 87. Setting: Multiple.
Intervention	Intervention: *Familias Unidas*. Intervention development: The intervention was piloted and evaluated in an earlier study. Aim: To prevent substance use and unsafe sexual behaviour, and externalising disorders in Hispanic adolescents with behaviour problems. Programme components: a) home visits, b) Parent Support Network (PSN), c) parent-child discussion circles, d) adolescent activity groups, e) supervised peer activities, f) parent-teacher/parent-counsellor meetings, g) brief structural family therapy. Programme format: nine two-hour sessions; 10 one-hour family visits; four one-hour booster sessions. Family involvement: trained facilitators visited each family's home prior to the formal intervention activities. PSNs were formed to deliver the intervention. The trained facilitators built relationships between participants in which parents shared information and experience about their lives. The cognitive and skill building phase took place within the Parent Support Network using a problem-posing and participatory approach. Moreover, once a month during the intervention, the trained facilitators conducted a family meeting/home visit with each family, aiming to reinforce skills and knowledge acquired from the PSNs. Family aspects/process that the intervention aims to change: communication, family support, monitoring and supervision, parent-child relationships. Theory: Ecodevelopmental framework. Facilitator: trained facilitators. Control: Standard care; families were given three referrals to agencies in their area.

	Target: Parents.
Methodology	Design: RCT. Urn randomisation; the samples were balanced on adolescent gender, years in the US, having initiated substance use, and having initiated oral, vaginal or anal sex. Unit of allocation: Individual. Method of randomisation: Not stated. Group equivalence at baseline: No significant differences at baseline by condition on any demographic characteristics, lifetime sexual behaviour, unprotected sexual behaviour in the previous 90 days and externalising behaviour. However, family functioning scores were different at baseline between the groups. Allocation concealment/blinding: Not stated. Confounding: Variables that had a significant test p values <0.25 were controlled for at the analysis. Intention to treat analysis: Intention to treat analysis was performed. Timing(s) of follow-up: 6, 18, and 30 months. Attrition: 14.6%-16.3%. Adherence and fidelity: -Facilitators were trained and certified with *Familias Unidas* by the programme developer. -During the home visit before the intervention, trained facilitators talked with the family to address barriers to programme participation. -All session were videotaped. Independent evaluators rated all the videotaped session and 25% of the family visits to assess adherence. -Incentive: Families were compensated with $20, $25, $30 and $35 for completing the assessments at each follow up. The families were also compensated with $30 for transportation at each assessment. Data collection tool: Self-reported questionnaires; the assessments were conducted in the language of choice and used audio computer-

	assisted self-interviews. Data analysis: Test of the hypotheses were conducted using growth curve modeling. Data from all four assessment points were used.
Note	-Samples included those who had a least mild problems on at least one of three revised behaviour problem checklist (RBPC) subscales: conduct disorder, socialised aggression and attention problem. -The authors indicated that the study might be at risk of self-selection bias. Participants who enrolled in the programme may have had better family functioning than those who did not enroll. -There were no significant differences between ineligible and eligible participants on any of the variables investigated.
Quality assessment	Selection bias: Low risk of bias. RCT, groups was equivalent at baseline except on family functioning. Attrition bias: Low risk of bias. 14.6%-16.3% attrition rate, ITT was performed. Other biases: Self-reported outcomes, recruiting bias – the participants who had mild problems using RBPC subscales were identified by school counsellors. Overall quality: Low risk of bias.
Study	Prado et al. (2007) Link study: Prado et al., 2006
Participants and settings	Country: USA, Miami. 8th grade students (M=13.4 years), Hispanic, 60% immigrant families. Baseline: 266 adolescents and primary caregivers. *Familias Unidas* + PATH = 91; ESOL + PATH = 81; ESOL + HEART = 91. Analysis: at 36 month assessment. *Familias Unidas* + PATH = 71; ESOL +PATH = 70; ESOL + HEART =70. Setting: Multiple.

Intervention	Intervention: *Familias Unidas* + Parent-preadolescent Training for HIV prevention (PATH). Intervention development: From existing interventions, *Familias Unidas* and PATH. Aim: The combination of two interventions aimed to prevent both substance use and unsafe sex in Hispanic adolescents. *Familias Unidas* focused on family functioning; PATH focused on parent-child communication about sex and HIV risks. Programme components: *Familias Unidas*, a parent-centred intervention programme, has seven main components: home visits, Parent Support Network, parent-child discussion circles, adolescent activities groups, supervised peer activities, parent-teacher/parent-counsellor meeting, and brief structural family therapy. PATH provided training for parents to become effective HIV educators. (Details of PATH were not given). Programme format: *Familias Unidas* + PATH = 15 group sessions, 8 family visits, 2 parent-adolescent circles. Family involvement: Home visits by trained facilitators, sessions for parents to improve HIV knowledge, PSN, discussion groups with adolescents. Family aspects/process that the intervention aims to change: Communication, parenting skills, sexual health/HIV/AIDS knowledge. Theory: Ecodevelopmental Theory and Bronfenbrenners' social ecological framework. Facilitator: Trained facilitators. Control: a) English for Speakers of Other Languages (ESOL) + PATH= 8 ESOL classes, 6 group sessions and 2 family visits. b) ESOL+ Heart Power for Hispanics (HEART) = 8 ESOL classes, 7 group sessions. Target: Parents.
Methodology	Design: RCT. Unit of allocation: Individual. Method of randomisation: Urn randomisation computer programme that balanced on gender, years in the US, having initiated substance use and having initiated oral, vaginal or anal sex.

	Group equivalence at baseline: No significant differences by intervention on any of the demographic characteristics. Allocation concealment/blinding: Not stated. Confounding: Not stated. Intention to treat analysis: Intention-to-treat analysis was performed. Timing(s) of follow-up: 6 and 12 months post-intervention and 24 and 36 months post-baseline. Attrition: at 36-months post-baseline, 16.6% -23%. Adherence and fidelity: - The facilitators were trained to conduct the intervention sessions in *Familias Unidas*, PATH and HEART, and the sessions were piloted. ESOL classes were conducted by certified ESOL instructors from the local public school system. -All interventions were videotaped. Independent assessors rated the videotaped group sessions and parent-adolescent discussion circles, and 25% of family visits. No significant differences in adherence rating by intervention modules. -Incentive: families were compensated wsith $20, $25, $30, $35 and $40 for completing the baseline assessment and follow-ups and were eligible for transportation compensation. Data collection tool: Self-reported questionnaire, completed on laptop with an audio-assisted self-interview system. Data analysis: The hypotheses were tested using growth curve modelling.
Note	-All three conditions were delivered in a dosage of 49 hours, although the number and type of sessions varied. -The samples might be at risk of self-selection bias – participants who enrolled in the intervention may have had better functioning families than those who did not enrol.
Quality assessment	Selection bias: Low risk of bias. RCT, no significant differences between groups at baseline. Attrition bias: Low risk of bias. 16.6%-23% attrition rate at 36 months after baseline; ITT was performed.

	Other biases: Self-reported outcomes; no information given on blind and allocation concealment; no information given on reasons why participants dropped out. Overall quality: Low risk of bias.
Study	Prado et al. (2012)
Participants and settings	Country: USA, Miami. 12-17 years old, Hispanic, Delinquent youth. Baseline: Intervention N= 120, Control N= 122. Analysis: Intervention N =113, Control N= 119. Setting: Multiple.
Intervention	Intervention: *Familias Unidas*. Intervention development: Not stated. Aim: to prevent HIV by increasing family functioning between parents and adolescents. Programme components: a) home visits, b) Parent Support Network (PSN), c) parent-child discussion circles, d) adolescent activity groups, e) supervised peer activities, f) parent-teacher/parent-counsellor meetings, g) brief structural family therapy. Programme format: eight two-hour group sessions and four one-hour family visits. Family involvement: trained facilitators visited each family's home prior to the formal intervention activities. PSNs were formed to deliver the intervention. The trained facilitators built relationships between participants in which parents shared information and experience about lives. The cognitive and skill building phase took place within the Parent Support Network using a problem-posing and participatory approach. Moreover, once a month during the intervention, the trained facilitators conducted a family meeting/home visit with each family, aiming to reinforce the skills and knowledge acquired from the PSNs. Family aspects/process that the intervention aims to change: Communication; sexual health/HIV/AIDS knowledge; parental

	monitoring; parenting skills, parental relationships. Theory: Ecodevelopmental Theory. Facilitator: Trained facilitators. Control: Standard care available to youth and parents in the area. Target: Parents.
Methodology	Design: RCT. Unit of allocation: individual. Method of randomisation: A random-number table to generate the allocation sequence. Group equivalence at baseline: Not stated. Allocation concealment/blinding: As participants completed baseline assessment, sealed envelopes were used to execute the assignments. Individuals who collected data were blinded to condition assignments. Confounding: HIV sexual risk behaviour and family functioning variables were controlled for at the analysis. Intention to treat analysis: Not stated. Timing(s) of follow-up: 6 months. Attrition: 4.14%. Adherence and fidelity: - All sessions were videotaped. Independent assessors rated all the group sessions and 25% of the family visits. -Incentive: participants were compensated with $60 and $70 for completing the baseline and follow-up assessments. Data collection tool: Self-reported questionnaire; an audio self-interviewing system was used for questionnaire completion. Data analysis: Generalised linear models, Chi square test.
Note	-Participants in both the intervention and control groups received the HIV prevention curriculum offered by the public school system in

	Miami-Dade county. -There was no differential attrition across the two conditions. -Participants had to be a delinquent youth. -15.2% of eligible participants refused to participate .
Quality assessment	Selection bias: Low risk of bias. RCT; used a random table; allocation concealment was performed; group equivalence assessment at baseline was not reported; HIV risk behaviours and family functioning variables were controlled for at the analysis. Attrition bias: Low risk of bias. - Low attrition rate, approximately 4.14%. Other biases: Self-reported outcomes. Overall quality: Low risk of bias.
Study	Stanton et al. (2004) Link paper: Wu et al., 2003
Participants and settings	Country: USA, Baltimore, Maryland. 13-16 years old (Median = 14 years old), low SES, urban. Baseline: N= 817. Analysis: at 24 months, N= 494. Setting: Multiple.
Intervention	Intervention: Focus of Kids (FOK) + Informed Parents and Children Together (ImPACT). Intervention development: The intervention components (FOK and ImPACT) were evaluated in earlier studies. Aim: To determine whether the addition of a parental monitoring intervention could impact on risk behaviour in youth. FOK is a risk reduction intervention that focuses on decision making, goal setting and communication skills relating to abstinence, safe sex, and alcohol and drug use. ImPACT is a home-based intervention, focusing on parent-child communication and parental monitoring.

	Programme components: a) FOK ; b) ImPACT; c) FoK boosters. Programme format: -FOK: 1 small-group and face-to-face HIV intervention delivered in eight sessions over two months. -ImPACT: 20-minute video delivered at family home and skill training activities- – a total of 60-90 minutes. - FOK Boosters were delivered at 7, 10, 13, 16 months after intervention to youth only. Family involvement: parents involved in ImPACT component. Facilitators delivered the intervention at home to parent and youth. Family aspects/process that the intervention aims to change: Communication, monitoring, sexual health/HIV/AIDS knowledge. Theory: FOK was based on cognitive theory and protective motivation theory. Facilitator: Peers and trained facilitators. Control: FOK only (control for parent attention). Target: Family.
Methodology	Design: Clustered RCT. Unit of allocation: Community. Method of randomisation: 35 sites were randomly assigned using a random table. Group equivalence at baseline: Groups were equivalent at baseline. Allocation concealment/blinding: Not stated. Confounding: Baseline scores were included in the model to adjust for any initial differences between the groups. Intention to treat analysis: Not performed. Timing(s) of follow-up: 6, 12, 18, 24 months after intervention. Attrition: at 24 months, 40%. Adherence and fidelity: Not stated.

	-Incentive: Not stated. Data collection tool: Self-reported questionnaire, using Talking Macintosh computer. Data analysis: LSDs multiple comparisons; Interclass correlation coefficient was performed; a corrected independent sample T test adjusted for ICC was performed. GLM was used to conduct the analysis of covariance and obtain the least square means.
Note	-Youth were recruited over three waves from three different sites and randomly assigned to three groups: a) FOK +ImPACT , b) FOK + ImPACT + Boosters, c) FOK only. -At 24 months, the follow-up rates were comparable among the intervention groups. -The demographic and risk profiles of the youth at baseline did not differ significantly from those who were absent for the follow-ups at 6, 12, 24 months. -Baseline data on youth absent at 24 months compared with those present revealed that those who dropped out were older, more likely to be male, and had higher rates of risk behaviour.
Quality assessment	Selection bias: Low risk of bias. Cluster RCT, using a random table; group equivalence at baseline; baseline scores were included for any differences between the groups. Attrition bias: High risk of bias. -attrition rate at 24 months was 40%; ITT was not performed. Other biases: Self-reported outcomes, information on blinding and allocation concealment was not reported. Overall quality: High risk of bias.
Study	Weeks et al. (1997) Link paper: Weeks et al., 1995
Participants and settings	Country: USA. 7th and 8th grades (M=12.6 years), urban, low SES. Baseline: 7th grade, N=2,392.

	Analysis: 9th grade, N= 1,229. Setting: School.
Intervention	Intervention: The Youth AIDS Prevention Project (YAPP). There were two experimental groups: a) parent interactive group and b) parent non-interactive group. Intervention development: Not stated. Aim: To prevent STIs, HIV/AIDS and substance use among youth. Programme components: a) education and information: classroom lectures for students, b) parent involvement activities. Programme format: A) Parent interactive group: A total of 15 38-50 minute lessons for students (10 in 7th grade and 5 boosters in 8th grade) + extra homework assignments with parents (two extra in the 7th grade and one in 8th grade + parent meeting and additional parent activities. B) Parent non-interactive group: A total of 15 38-50 minute lessons for students (10 in 7th grade and 5 boosters in 8th grade) + homework assignment for students + parent meeting and parent activities. Family involvement: Parents participated in a parent meeting for the programme introduction and up-to-date AIDS information; work with youth on homework assignments; parents participated in parent networks. Family aspects/process that the intervention aims to change: communication Theory: Social Cognitive Theory and the Theory of Planned Behaviour and the social influences model of behaviour change. Facilitator: Trained facilitators. Control: Standard care – AIDS school-based education with no parental involvement during the year of the intervention. Also, the intervention was delivered to students one year younger than student reported in the study (delayed intervention). Target: Family.

Methodology	Design: Clustered RCT. Unit of allocation: School district. Method of randomisation: Not stated. Group equivalence at baseline: Racial differences between the groups at baseline. Groups were equivalent on gender and age. Allocation concealment/blinding: Not stated. Confounding: Racial gender, attrition differences were controlled at the analyses. Intention to treat analysis: Intention to treat analysis was performed. Timing(s) of follow-up: at 8th and 9th grade. Attrition: at 9th grade 50.9%-60.2%. Adherence and fidelity: -Facilitators were trained in delivery of the programme. -Parents in the parent interactive group were encouraged to participate through several channels including their children, report card pick-ups, attendance at student presentation, calls from classroom teachers. -Between 8th and 9th grade, the research team attempted to maintain contact with the samples by sending them a card for 8th grade graduation. -Incentive: Students were given a $10 gift certificate for a local music/video store. Data collection tool: 8th grade: survey; 9th grade: 57% phone interview and 43% mail survey. Data analysis: Random effects regression with observed means were examined at each time point. Post-hoc comparisons were conducted using ANOVA with a Tukey adjustment to contrast group differences at each time point.
Note	-Students who dropped out of the study were more high risk at baseline in sexuality and illicit drug use than who remained in the study. - Random-effects regression was performed to minimise the potential bias due to attrition. It allowed use of all the data.
Quality	Selection bias: Low risk of bias.

assessment	-CRCT; did not describe how school districts were allocated to the groups; groups were not equivalence at baseline on race; possible confounding variables were controlled for at the analyses. Attrition bias: High risk of bias. -Attrition rate was very high. Random effects regression was performed to minimise a potential bias due to attrition. Other biases: Self-reported outcomes; no information was given on blinding and allocation concealment. Overall quality: High risk of bias.

References of linked studies to FIHI studies

Basen-Engquist, K., Parcel, G. S., Harrist, R., Kirby, D., Coyle, K., Banspach, S. and Rugg, D. (1997) The safer choices project: methodological issues in school-based health promotion intervention research. *Journal of School Health,* 67**,** 365-371.

Brody, G. H., McBride Murry, V., Mcnair, L., Chen, Y. F., Gibbons, F. X., Gerrard, M. and Ashby Wills, T. (2005) Linking Changes in Parenting to Parent–Child Relationship Quality and Youth Self-Control: The Strong African American Families Program. *Journal of Research on Adolescence,* 15**,** 47-69.

Brody, G. H., Murry, V. M., Chen, Y. F., Kogan, S. M. and Brown, A. C. (2006) Effects of family risk factors on dosage and efficacy of a family-centered preventive intervention for rural African Americans. *Prevention Science,* 7**,** 281-291.

Brody, G. H., Murry, V. M., Gerrard, M., Gibbons, F. X., Molgaard, V., Mcnair, L., Brown, A. C., Wills, T. A., Spoth, R. L., Luo, Z., Chen, Y. F. and Neubaum-Carlan, E. (2004) The Strong African American Families Program: translating research into prevention programming. *Child Development,* 75**,** 900-917.

Chen, X., Lunn, S., Deveaux, L., Li, X., Brathwaite, N., Cottrell, L. and Stanton, B. (2009) A cluster randomized controlled trial of an adolescent HIV prevention program among Bahamian youth: effect at 12 months post-intervention. *AIDS and Behavior,* 13**,** 499-508.

Coatsworth, J. D., Pantin, H. and Szapocznik, J. (2002) Familias Unidas: A family-centered ecodevelopmental intervention to reduce risk for problem behavior among Hispanic adolescents. *Clinical Child and Family Psychoogy Review,* 5**,** 113-132.

Cowan, F. M., Pascoe, S. J. S., Langhaug, L. F., Dirawo, J., Chidiya, S., Jaffar, S., Mbizvo, M., Stephenson, J. M., Johnson, A. M. and Power, R. M. (2008) The Regai Dzive Shiri Project: a cluster randomised controlled trial to determine the effectiveness of a multi‚Äêcomponent community-based HIV prevention intervention for rural youth in Zimbabwe‚ A study design and baseline results. *Tropical Medicine and International Health,* 13**,** 1235-1244.

Coyle, K., Basen-Engquist, K., Kirby, D., Parcel, G., Banspach, S., Collins, J., Baumler, E., Carvajal, S. and Harrist, R. (2001) Safer choices: reducing teen pregnancy, HIV, and STDs. *Public Health Reports,* 116**,** 82-93.

Coyle, K., Basen-Engquist, K., Kirby, D., Parcel, G., Banspach, S., Harrist, R., Baumler, E. and Weil, M. (1999) Short-term impact of safer choices: a multicomponent, school-based HIV, other STD, and pregnancy prevention program. *Journal of School Health,* 69**,** 181-188.

Dancy, B. L., Crittenden, K. S. and Talashek, M. L. (2006) Mothers' effectiveness as HIV risk reduction educators for adolescent daughters. *Journal of Health Care for the Poor and Underserved,* 17**,** 218-239.

Deveaux, L., Stanton, B., Lunn, S., Cottrell, L., Yu, S., Brathwaite, N., Li, X., Liu, H., Marshall, S. and Harris, C. (2007) Reduction in human immunodeficiency virus risk among youth in developing countries. *Archives of Pediatrics and Adolescent Medicine,* 161**,** 1130-1139.

Dilorio, C., Resnicow, K., Thomas, S., Wang, D. T., Dudley, W. N., Van Marter, D. F. and Lipana, J. (2002) Keepin' it R.E.A.L.!: program description and results of baseline assessment. *Health Educaton and Behavior,* 29**,** 104-123.

Gong, J., Stanton, B., Lunn, S., Deveaux, L., Li, X., Marshall, S., Brathwaite, N. V., Cottrell, L., Harris, C. and Chen, X. (2009) Effects through 24 months of an HIV/AIDS prevention intervention program based on protection motivation theory among preadolescents in the Bahamas. *Pediatrics,* 123**,** e917-928.

Murry, V., Brody, G. H., Mcnair, L. D., Luo, Z., Gibbons, F. X., Gerrard, M. and Wills, T. A. (2005) Parental Involvement Promotes Rural African American Youths' Self-Pride and Sexual Self-Concepts. *Journal of Marriage and Family,* 67**,** 627-642.

Prado, G., Pantin, H., Schwartz, S. J., Lupei, N. S. and Szapocznik, J. (2006) Predictors of Engagement and Retention into a Parent-Centered, Ecodevelopmental HIV Preventive Intervention for Hispanic Adolescents and their Families. *Journal of Pediatric Psychology,* 31**,** 874-890.

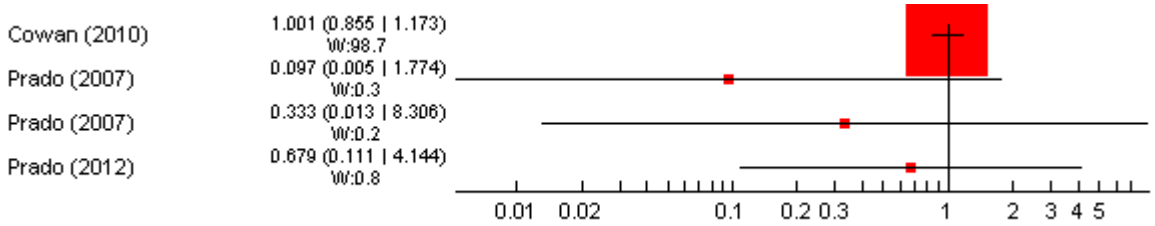
Stanton, B. F., Li, X., Galbraith, J., Cornick, G., Feigelman, S., Kaljee, L. and Zhou, Y. (2000) Parental underestimates of adolescent risk behavior: a randomized, controlled trial of a parental monitoring intervention. *Journal of Adolescent Health,* 26**,** 18-26.

Weeks, K., Levy, S. R., Zhu, C., Perhats, C., Handler, A. and Flay, B. R. (1995) Impact of a school-based AIDS prevention program on young adolescents' self-efficacy skills. *Health Education Research,* 10**,** 329-344.

Wu, Y., Stanton, B. F., Galbraith, J., Kaljee, L., Cottrell, L., Li, X., Harris, C. V., D'alessandri, D. and Burns, J. M. (2003) Sustaining and broadening intervention impact: a longitudinal randomized trial of 3 adolescent risk reduction approaches. *Pediatrics,* 111**,** e32-e38.

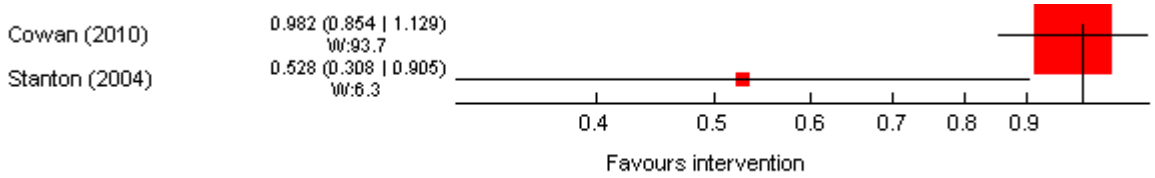
Appendix 10: Further findings of the FIHI studies

Figure H: Forest plot of the findings of the FIHI studies on self-reported STI incidence at the longest follow-ups



Random effects model: 0.953 (0.696, 1.31)

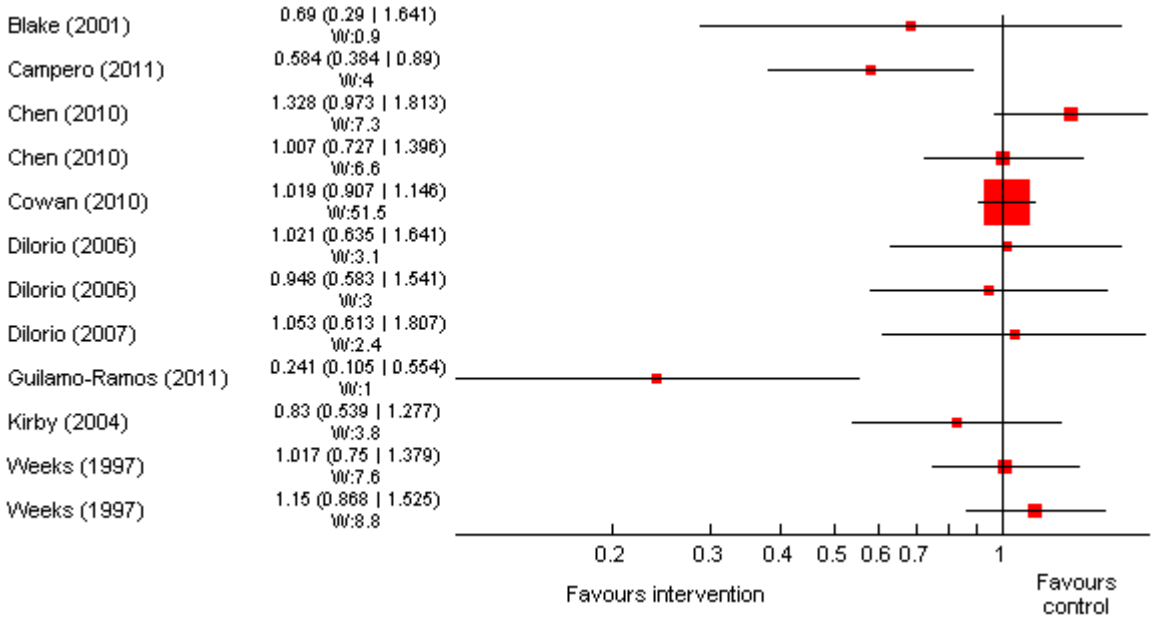
Figure I: Forest plot of the findings of the FIHI studies on pregnancy at the longest follow-ups



Random effects model

Heterogeneity: Q = 4.78; df = 1; p = 0.0288; I-squared = 79.1%; tau-squared = 0.153.

Figure J: Forest plot of the findings of the FIHI studies on sexual initiation at the longest follow-ups.



Measure: Binary: odds ratio; Heterogeneity: Q = 23.3; df = 11; p = 0.0161; I-squared = 52.7%; tau-squared = 0.0318.

Table B: Summary of family-involved HIV interventions and outcomes reported in studies included in the review

Study	Intervention	Biological and sexual behavior outcomes (Odd Ratios, CI 95%, unless stated otherwise)	Other risk behavior outcomes	Family outcomes
Blake (2001)	Managing the Pressures Before Marriage (MPM), a school-based abstinence only with homework assignments. 5, weekly, 1-hour sessions	Sexual initiation: 0.69, CI (0.29-1.64) Recent sexual intercourse: 0.71, CI (0.24-2.18)	Lifetime alcohol use: Mean score= 1.9(0.08) vs. 2.2 (0.08), p< 0.05 Alcohol use in the past 30 days: Mean score = 0.4(0.06) vs. 0.6(0.06), p<0.05 Went further sexually that wanted in the past 3 months: Mean score = 1.7(0.26) vs. 1.5(0.22), NS	Comfort talking with parent about sex and drug: Mean score = 2.7 (0.06) vs. 2.6 (0.07), NS Frequency of communicating about AIDS to parents: Mean score = 7.2 (0.37) vs. 5.8 (0.39), p≤ 0.01
Campero (2011)	Parent education to improve parent-child communication skills. Parents received a prevention pack. 4, 3-hr sessions, and a 30-minute booster	Sexual initiation: 0.58, CI (0.38-0.89)	Smoking: Male: 26.8% vs. 30.8%, NS; Female: 18.7% vs. 19.3%, NS Drinking alcohol: Male= 43.6% vs. 51.4%, NS; Female = 38% vs. 39.9%, NS Has used drugs: Male: 6% vs. 5.5%, NS; Female: 2.9% vs. 4%, NS Has tried to have sexual	Communication about sex with parent: Male: 83.2% vs 81.8%, NS; Female: 83% vs 80.4%, NS Good communication with parent: Male: 83.2% vs 81.8%, NS; Female: 83% vs 80.4%, NS

			relations: Male: 25.5% vs. 31.2%, NS; Female: 11.1% vs. 13.8%, NS	
Chen (2010)	Focus on Youth in the Caribbean (FOYC) + Caribbean Informed Parents and Children (CImPACT) FOYC + Goal For IT (GFI) FOYC, a school-based HIV intervention, 10 sessions, weekly with two boosters CImPCT, a parent-based HIV programme One, 20-min, video session with condom demonstration and discussion GFI, a brief video educational programme for parents focusing on career planning	Sexual initiation:1)1.33, CI (0.97-1.81); 2) 1.00, CI (0.73-1.39) Frequency of sexual intercourse: Mean of frequency = 0.02 vs. 0.02 vs. 0.02, NS Consistent condom use: 1) 1.69, CI (1.05-2.73); 2) 1.15, CI (0.68-1.94) Unprotected sex: adjusted means of frequency 0.03 vs. 0.02 vs 0.02, NS		
Cowan (2010)	Regai Dzive Shiri Project, a community based HIV intervention aiming to changing social norms for adolescents 22, 3-hr, sessions	HIV: adjusted OR = 1.20, CI (0.66-2.18) for boys; adjusted OR =1.15, CI (0.81-1.64) for girls HSV-2 prevalence: adjusted OR= 1.23, CI (0.69-2.18) for boys: adjusted OR =1.24, CI (0.93-1.65) for girls Self-reported STIs: 1.00, CI (0.86 -		

		1.17) Pregnancy (overall): 0.98, CI (0.85-1.13) Sexual initiation: 1.02, CI(0.90-1.14) Did not use condom at last sex: 1.02, CI (0.89-1.16) Two or more lifetime partner: 1.12, CI (0.95-1.32) Two or more parents in last 12 months: 0.95, CI (0.75-1.21) No pregnancy prevention used with any partners: 0.94 CI (0.79-1.11)		
Dancy (2009)	The Mother/Daughter HIV Risk Reduction (MDRR), HIV risk-reduction curriculum delivered by mothers 6, weekly, sessions	Recent sexual intercourse: Mean difference between groups (MDRR vs HERR)= -0.46, NS		
DiIorio (2006)	Keepin' it R.E.A.L: Social cognitive intervention (SCT) and Life Skill programme (LSK) 7, 2-hr, sessions over 14 weeks SCT provided HIV and reproductive health knowledge LSK, three components: parenting, young people, and community	Sexual initiation: 0.95, CI (0.58-1.54)[c]; 1.02, CI(0.64-1.64)[d] Condom use at last sex: X^2 =6.89, p<0.05 Use condom in the previous 30 days: p=0.02[j] Use condom in the previous 3 months:	Intimate sexual behaviours: NS	Comfort talking with parent about sex and drug: NS Communication about sex, NS

	involvement	p=0.05[j] Use condom in the previous 6-12 months; p = 0.01[j]		
DiIorio (2007b)	R.E.A.L Men, aiming to delay sexual initiation, encourage condom use and improve communications about sexuality between fathers and sons. 7, weekly, 2-hr, sessions	Sexual initiation: 1.05, CI (0.61–1.81) Ever had sexual intercourse without a condom: 23% vs. 57%, p = 0.04	Intimate behaviours: Mean score = 4.42 (2.67) vs. 4.61(2.96); p= 0.217	Discussion of sex-related topic: Adjusted mean = 23.63(12.50) vs. 20.02 (13.73), p=0.08
Flay (2004)	Social Development Curriculum: (SDC) and School/community Intervention (SCI) SDC, a classroom-based intervention, 16-21 lessons per year from grade 5 to 8 SCI consisted of SDC curriculum with parent training workshops and community components	Recent sexual intercourse: 0.96, CI(0.71-1.29)[g]; 0.87, CI(0.66-1.18)[h]	Substance use: Boys: effect size=0.45, p=0.05; Girls: p=0.86 Violence: Mean score: Boys: effect size =0.41, p=0.02; Girls: p=0.35 Provoking behaviours: Mean score: Boys: effect size=0.41, p=0.03; Girls: p=0.36 School delinquency: Mean score: Boys: effect size=0.41, p=0.03; Girls: p=0.30	
Guilamo-Ramos (2011)	Family Talking together, a brief, parent-based intervention with four main components: a 30-min, face-to-face session, a written manual, two booster sessions, physician endorsement	Sexual initiation: 0.24, CI (0.11-0.55) Frequency of sexual intercourse: Mean scores =1.08 vs. 1.53, p =0.05		

Kirby (2004)	Safer Choices, a multi-component, school-based, HIV, STIs, and pregnancy prevention. The intervention consisted of five components: school organisation, curriculum and staff development, peer resources, parent education and school-community linkage.	Sexual initiation: 0.83, CI (0.54-1.27) Frequency of sexual intercourse: Ratio of adjusted mean = 0.81, p=0.12 Condom use at last sex: 1.68, CI (1.03-2.74) Condom use at first sex: 1.44, CI (0.85-2.45) Intercourse without a condom in the last 3 months: Ratio of adjusted means = 0.63, p=0.05 Number of sexual partners in the last 3 months: Ratio of adjusted mean = 1.02, p = 0.89 Contraceptive use at last sex: 1.76, CI (1.01-3.07)	Use of alcohol and other drugs before sex in the last 3 months: Mean score = 0.04 (SE=0.04), p=0.33	Parent-child communication: Adjusted mean = 0.05 (SE=0.03), p=0.06
Li (2002)	ImPACT, a parent monitoring intervention. A 22-min video was viewed by parents and young people at home, followed by discussions and role plays	Recent sexual intercourse: 0.96, CI (0.49-1.88)		Open communication: Mean score = 4.06 (0.75) vs. 4.13(0.83), NS Problem communication: Mean score = 2.94 (0.81) vs. 2.74(0.81), NS Parental monitoring: Mean score = 4.34 (0.69) vs. 4.31(0.62), NS
Murry (2007)	Strong African American Families	Overall sexual behaviour risk (e.g.		

	(SAAF), a skill-building curriculum aiming to deter young people's sexual behaviours 7, weekly, 1-hr, sessions	combination of sexual intercourse, condom use or sexual partners measures), Mean score, d = 0.01, NS		
Nagamatsu (2010)	An extended HIV intervention for students in Japan, designed for students, parents and teachers. Parent education: parents received training-two times, one session (60 min) Teacher education: teacher received training- two times, one session (60 min) before conducting two small group discussions (two times, on session of 50 min) with students - Student education: group education, two times one session (50 min) with 1-2 individual counseling (20-30 min)	Recent sexual intercourse: 0.90, CI(0.16-4.99)	Cigarettes use in the past 3 months: 1.5% vs. 3.9%, p=0.86 Alcohol use in the past 3 months: 15.2% vs 17.7%, p=0.46	Frequency of communicating about AIDS to parents: Mean score = 1.2 (0.6) vs 1.3 (0.6), p= 0.77)
Pantin (2009)	Familias Unidas, a parent-centred intervention aiming to prevent substance use, unsafe sexual behaviours and externalizing disorders 9, 2-hr, sessions, 10, 1-hr, family visits, 4 booster sessions	Recent sexual intercourse: effect size d =0.05 based on growth curve modeling, b= -0.03, z = -0.17,p = 0.86 Frequency of condom use: F test= 0.30, p<0.03	Substance use in the past 30 days: percentage growth curve= d=0.25 p<0.02 Externalizing disorder: Percentage growth curve, NS	Parent-child communication (parent report): Factor score = =9.168, p<0.004 Parental monitoring (parent reported): Factor score = 21.552, p<0.001 Family functioning (parent

				reported): Factor score = 17.5, p<0.001 Positive parenting(parent reported): Factor score = 9.32, p<0.05 Parental involvement (parent reported): Factor score = NS Family support (parent reported): Factor score = NS
Prado (2007)	Familias Unidas plus PATH, a parent-centred, aiming to prevent substance use and unsafe sexual behaviour. 15 group sessions, 8 family visits, 2 parent-adolescent discussion circles	Self-reported STIs: 0.09, CI (0.01-1.67) [a] and 0.34, CI (0.01- 8.41) [b] Did not use condom at last sex: X^2 = 3.87, p<0.05	Cigarettes use in the past 3 months: d =0.8, p <0.008[a]; d =0.54, p<0.002[b] Cigarettes initiation: X2 = 6.79, p<0.04 Alcohol use in the past 3 months: NS Alcohol initiation: NS Illicit drug use in the past 90 days:d= 0.58, p<0.05[a]; d= 0.05, p=0.28[b] Drug use initiation: NS	Parent-child communication (parent reported): Mean trajectory = NS[a]: d= 0.26, p<0.02[b] Family functioning (parent reported: Mean trajectory = d = 0.38; p<0.0005; d=0.38[a]; d= 0.28, p<0.02[b] Positive parenting(parent reported): Mean trajectory = d=0.12, p<0.05[a] d= 0.21, p<0.05[b] Parental involvement (parent reported): Mean trajectory = NS[ab] Family support (parent

				reported):Mean trajectory = NS[ab]
Prado (2012)	Famlias Unidas, a parent-centred intervention aiming to prevent substance use, unsafe sexual behaviours and externalizing disorders 8, 2-hr sessions, 4, 1-hr family visits	Self reported STIs: 0.68, CI (0.11-4.14) Inconsistent condom use: Relative risk = 0.61, CI (0.39-0.87) Did not use condom at last sex: 0.57, CI (0.24-1.37) Number of sexual partners in the past 3 months: Incidence Rate Ratio = 0.35, CI(0.28,0.44)		Parent-child communication (parent reported): Adjusted mean =2.51 (95% CI= 2.31-2.72) Parental monitoring (parent reported): Adjusted mean difference = 0.77 (95% CI= −0.09, 1.62) Family functioning: Adjusted mean = 0.29 (95% CI= 0.08, 0.50) Positive parenting (parent reported): Adjusted mean difference= 0.77 (95% CI= 0.09, 1.46)
Stanton (2004)	ImPACT + FOK, -FOK: 1 small group and face-to-face HIV intervention delivered in eight sessions over two months -ImPACT: 20-minute video delivered at family home and skill training activities- a total of 60-90 minutes - FOK Boosters was delivered at 7,	Pregnancy: 0.53, CI (0.31-0.91) Recent sexual intercourse: 0.96, CI(0.63-1.48) Unprotected sexual intercourse in the last 6 months: Means = 0.28 vs. 0.26, NS Condom use at last sex= 1.23, CI(0.55-2.74) Use birth control during last sexual	Cigarette use in past six months: 25% vs. 22.7%, p=0.003 Alcohol use in the past 6 months: 26.3% vs. 27.3%, p= 0.84 Marijuana in the past 6 months: 18.3% vs. 26.8%, p= 0.06	Open communication: Mean score = 3.53 vs. 3.44, NS Problem communication: Mean score = 3.08 vs. 2.97, p= 0.04 Talk with family and other adults about HIV/AIDS: 48.2% vs 42.1%, p= 0.21 Parental monitoring: Mean

	10, 13, 16 months after intervention to youth only	encounter: 1.586, CI (1.04-2.43) Overall sexual risk behaviour: Mean score =0.44 vs. 0.40, NS	Crack/cocaine in the past 6 months: Mean score = 0.02 vs. 0.02, NS Other illicit drugs in the past 6 months: 1.4% vs. 5.6%, p= 0.02 Sold or deliver drug: 3.5% vs. 5.0%, p= 0.43 Carried knife in the past 6 months = 12.5% vs. 14.6%, p=0.52 Fought in the past 6 months: 11.4% vs. 13.1%, p=0.57 Beat up someone: Mean score =0.11 vs. 0.11, NS Mean number of days suspended: Mean score = 0.65 vs. 1.17, p=0.04 Carried a bat or stick to use as a weapon: 4.1% vs. 9.6%, p=0.02	score = 3.73 vs 3.67, NS
Weeks (1997)	Youth AIDS prevention Project (YAPP), school-based HIV intervention: two components Parent interactive group	Sexual initiation: 1.01, CI (0.75-1.37) [e]; 1.15, CI (0.86-1.52) [f] Frequency of sexual intercourse: NS[i] Condom use at last sex: 0.78, CI	Alcohol use in the past 30 days: NS	Comfort talking with parent about sex and drug: NS The importance of parents'feeling: Observed

	15, 38-50 min, lessons for students (10 in 7th grade and 5 boosters in 8th grades) + extra homework assignment with parents (two extra in the 7th grade and one in 8th grade + parent meeting and additional parent activities Parent non interactive group 15, 38-50 min, lessons for students (10 in 7th grade and 5 boosters in 8th grades) + home work assignment for students + parent meeting and parent activities	(0.42-1.44)[e]; 1.00, CI(0.55-1.82)[f]		mean = NS Parents' feeling if they youth was having sex or using drug: observed mean = NS

[a] Familias Unidas +PATH vs. ESOL + HEART (attention control for Familias Unidas+ PATH); [b] Familias Unidas + PATH vs. ESOL+PATH (control for dosage and participants' contact with Familias Unidas; [c]Life Skills programme (LSK): mothers and daughters met 7 times over a 14-week period

*[d] Social cognitive-based intervention (SCT): 2-hour session, mothers and children attended 4 sessions together ;[e] Parent non-interactive intervention; [f]Parent-interactive intervention; MDRR =Mother/Daughter Risk Reduction; HERR = Health Expert risk Reduction; [g] School/community intervention (SCI) vs. Health enhancement curriculum (HEC) [h] School/community intervention (SCI) vs. Social development curriculum (SDC; [i] Time (7th year vs. 9th year) * Treatment (non-parent interactive and parent interactive interventions vs. control;[j] Report only significance level of 3 (groups)*4 (times) repeated measures analysis of variance F test*

Appendix 11: Key concepts coded in the systematic review of studies exploring perceptions

Main concepts	Studies	Quotations
1) Parent-child communication	Averett et al., 2008, Bakopanos and Gifford, 2001, Bowling and Werner-Wilson, 2000, Hennink et al., 1999, Hertzog, 2008, Manderson et al., 2002, Peterson, 2007, Roye and Seals, 2001, Shoveller et al., 2004	"I wish my dad would have been open earlier, had told me I was beautiful and I don't have to have sex to be beautiful. Now he only talks to me about sex because I have a boyfriend and just told me not to do it." (Peterson, 2007, p.339-340) "I do think that I had sex too early. And I think that maybe had I heard more from him [father] that he wanted me to wait, I think I would have … At the time I didn't think it was too early. But now I do, I wish I was still a virgin today." (Bowling and Werner-Wilson, 2000, p.20) "So I would say that maybe there is a link between my relationship with my father and my sexual relationships. For a long time I really didn't care about having sex – maybe because we never talked about it. And having sex didn't seem like any big thing to me because it had never been made a big deal to me. I never thought much about it. Not only that, but I didn't enjoy it. And I think if he had said, 'You know sex is something that is really great and that you'll really enjoy, but you really should wait,' I might have. I don't know if that would have changed my decision-making or not, but I know that he didn't try to help my decision making at all. And I've often wondered how different it would have been had someone talked to me about it. And I assume I probably would have made better choices." (Bowling and Werner-Wilson, 2000, p.20) "…My mom would always say, 'Don't go and get yourself pregnant.' But it's like she was always hinting at it. Never talking about it directly…" (Shoveller et al., 2004, p.480) "He was not comfortable talking to me about sex, he didn't approach that. Neither did my mom, and I think it goes back to just, they were afraid that if they talked about sex with me, then they would be condoning it. And so they thought, if we don't really talk about it and just kind of say, premarital sex is wrong, and leave it as that then I won't question that, and that's OK. That was probably a disservice to me." (Bowling and Werner-Wilson, 2000, p.22)

Main concepts	Studies	Quotations
		"Parents should be friends to their kids; and that way they can open up to them and tell them more instead of just going out there and being sneaky." (Roye and Seals, 2001, p.83) " You shouldn't have sex until you are married." (Averett et al., 2008, p.337) "When I was little, it was more of waiting until marriage. And my mom and dad, they were very open about it. They bought us books when we were little about development and everything, and as we got older, other books. By the time we started dating and \got into our teens, they tried to focus on abstinence still, but then they started to talk about safe sex and condoms and birth control and everything." (Hertzog, 2008, p.316) "They could have talked more about things like orgasm and masturbation. They didn't teach me about that stuff or about how sex is not all of it, or even that it is pleasurable." (Averett et al., 2008, p.335) " My mom said you won't have [sex] until you're married and like when you're in love and it was just something you don't do until that time. Like I did not know people had sex out of marriage when I was younger, like I didn't know that was an option." (Averett et al., 2008, p.337) "Dads should teach daughters to be independent because my dad taught me to be independent. Some girls rely on that relationship with a guy and they think of themselves in terms of, I am so-and-so and I have a boyfriend, and I think that if fathers don't encourage that kind of thing and encourage independent thinking, then daughters won't define themselves in terms of their boyfriend." (Bowling and Werner-Wilson, 2000, p.17) "They don't talk about ways to release it like masturbation or whatever. As a matter of fact, as far as that topic goes, it was just like that's a bad thing. We didn't even talk about that at all. It was just understood. I guess you just kind of found that out once you started growing up, and you know you had those desires, and you just felt bad for having those feelings. It just wasn't talked about." (Hertzog, 2008, p.318) "That's all she [mom] said was, 'you don't have sex'. She was trying to scare me, 'You're gonna get pregnant' or she was like, 'You're gonna go to hell if you have sex.'" (Averett et al., 2008, p.335) "I get the impression that she thinks that you should wait until marriage. That's the idea I always got from

Main concepts	Studies	Quotations
		my parents. That you should wait until marriage to do that. But other than that, it just wasn't really talked about in my house. I've had a couple of serious boyfriends, my mom had no clue. She never asked me, you know, 'Do you need to talk about anything? Do you need to go to the doctor to get on the pill?' Never anything like that. I know some of my friends' parents were like that, but mine just really didn't talk about it." (Hertzog, 2008, p.316-317) "They could have talked more about sex drive and not just on the act of sex and what will go wrong but more on the emotions." (Averett et al., 2008, p.335) "Well, my mom's always said, 'Abstain until marriage.' And that's really good advice that I follow, but I also think that what they don't tell you, like everything between there … There's a really big gray area that, you know, includes oral and everything else, that, you know, no one ever talks about. It's just always abstain, you know. But, what about the gray area? So, that was never addressed, which it should have been. (Jaclyn agrees.) They just say, 'abstain,' you know. And they don't talk far about everything in between and what's going too. Like I think that should have been addressed at my house but it was not." (Hertzog, 2008, p.317-318) "… Neither did my mom and I think it goes back to just, they were afraid that if they talked about sex with me then they would be condoning it. And so they thought if we don't really talk about it and just kind of say, premarital sex is wrong, and leave it as that then I won't question that, and that's OK. That was probably a disservice to me." (Bowling and Werner-Wilson, 2000, p.21) "…I grew up in sort of a quiet family that didn't really talk about that sort of thing … So, I guess she may not be as open as some people are today, you know I'm sure it's not because she doesn't want to know what's going on in my life, but … just … she just feels that it's sort of an embarrassing topic. And my dad doesn't talk to me about it [sex] at all." (Shoveller et al., 2004, p.480-481) "Felly described sex as a forbidden topic with her parents." (Manderson et al., 2002, p.316) "They pretend I don't have any, and I pretend I don't have any, and we're both happy." (Hertzog, 2008, p.316)

Main concepts	Studies	Quotations
		"They'd kill me. My mum would be really shocked, it would be like you'd gone to university to study not to get off with boys and things like that, she would not approve at all, so there was no way I was going to tell her." (Hennink et al., 1999, p.886-887) "I don't think they're [safe sex practices] discussed … I think … that Greek girls say of my generation, they're not exactly encouraged to engage in pre-marital sex by their parents … So they're already feeling a little bit, almost maybe guilty perhaps that they're engaging in this sort of activity, you know, guilty, I mean when they're facing their parents … and that could influence them and perhaps not make them open up as much about the use of contraceptives or … condoms." (Bakopanos and Gifford, 2001, p.367) "Parents were the last to know. Anna said that she wouldn't be able to ask her parents about STIs because 'they would freak out'. Christina contracted an STI and told her parents and 'they hit the roof 'cause they thought it could never happen to their daughter." (Manderson et al., 2002, p.386) "My dad always said that sex isn't just an act – it has a lot of emotional involvement. He would say, 'I know you. You're very emotional.' And just from him knowing me, I think it really positive affected me, because I always incorporated what he said into the things that I did". (Bowling and Werner-Wilson, 2000) p. 20 "She [mom] scared us really on into just not, we never did anything. She just did a really good job of frightening us early enough that we never thought of questioning what she said until high school." (Averett et al., 2008, p.335)
Family relationships	Averett et al., 2008, Bowling and Werner-Wilson, 2000, Manderson et al., 2002, Peterson, 2007, Shoveller et al., 2004	"I didn't seek acceptance from other guys because I got it all from dad. I got just as much attention as I needed. And I don't feel like I needed to go seeking acceptance from guys … But I think if my dad wasn't a part of my life. I would have been a lot more interested in boys." (Bowling and Werner-Wilson, 2000, p.14) "So I would say that maybe there is a link between my relationship with my father and my sexual relationships. For a long time I really didn't care about having sex – maybe because we never talked about it. And having sex didn't seem like any big thing to me because it had never been made a big deal to me. I never thought much about it. Not only that, but I didn't enjoy it. And I think if he had said, 'You know sex

Main concepts	Studies	Quotations
		is something that is really great and that you'll really enjoy, but you really should wait,' I might have. I don't know if that would have changed my decision-making or not, but I know that he didn't try to help my decision making at all. And I've often wondered how different it would have been had someone talked to me about it. And I assume I probably would have made better choices." (Bowling and Werner-Wilson, 2000, p.20) "I think that his not being there was a significant factor in my sexual relationships. Or not just sexual relationships but relationships in general. I kind of always felt like I needed to have a boyfriend. I went from one long-term relationship to another one within a span of two weeks, every time. So I think that filled a void for me." (Bowling and Werner-Wilson, 2000, p.13) "My dad saying to be careful has a lot to do with my sexuality. His caring influenced the choices I made." (Peterson, 2007, p.339) I have a strange relationship with my father. He has yet to say the word 'boy' to me. Like, he has never referred to the opposite sex. We don't talk any more. [Sex] was definitely taboo; it was not touched upon at all." (Shoveller et al., 2004, p.480) "That hardly ever happened with any man in my life. And it was just so fun. And at the end of the night, I would just be glowing. But it didn't happen very often. And I think dads should spend more time with their daughters, I think spend more quality time shopping, talking, or whatever. My mom and I are best friends. But I wish I would have had half of that with one of my dads." (Bowling and Werner-Wilson, 2000, p.15) "My dad would always tell me how proud he was of me, and I remember we would have a father-daughter night and he would say I could pick anywhere I would want to go. I would pick to go usually to a ballet or something, and he would get tickets. We would go to the ballet and he would compliment me on what I was wearing. He would tell me I was beautiful or exquisite or something like that. Our relationship was good, and so I think in turn my self-esteem was good then and now." (Bowling and Werner-Wilson, 2000, p.16) "He's been a good father but when I was younger we had such a close relationship that when I really

Main concepts	Studies	Quotations
		needed him that's when he backed away. And I think that was the wrong time to back away and that was when I was a teenager. So if I could give any advice to upcoming fathers, it would be to try to stick it out through the worst years of your kids' lives which is the teen years when they are faced with all the decisions that will affect their future. And I think a lot of girls need that influence in their life, their fathers influence when they are going through sexual decisions and puberty and growing – they really need their father to not back away from it." (Bowling and Werner-Wilson, 2000, p.14) "If I do get myself in a bad situation that they would still support me, which I think is very important, it's not like they are gonna disown me." (Averett et al., 2008, p.338) "It was evident from the interviews that many subjects felt a sense of agency that could be seen as coming from feeling of being ultimately loved and supported by their parents" (Averett et al., 2008, p.338) "Emphasis placed in Filipino households on family cohesiveness, honour and loyalty is reflected in our interview data with a Filipino's concept of self intertwined with their identification with her family. In this context while Australian pressures of individuation, independence and sexual expression are important, they are not privileged over the need to maintain family relationship." (Manderson et al., 2002, p.388-389) "I don't have any male role models in my life. So I think sometimes I'm looking for male companionship. Not so much sexual, but maybe a role model. I always believed that I would wait until I got married (to have sex). And that has definitely not happened. And I regret being with some of my past. But I definitely think a lack of male role model has affected my sexual relationships with men, as well as friendships and working with men." (Bowling and Werner-Wilson, 2000, p.15) "I'm still looking for somebody a lot like my dad. I respect him so much because he lived out what he said, and because of the way he treated my mom … Now that they have been married for almost 26 years they love each other more than they did before. And I see that and it really makes me want to find somebody like my dad for the fact that I know that he doesn't mind changing as long as it's better and doesn't mind growing closer to my mom." (Bowling and Werner-Wilson, 2000, p.21-22) "That my [older sister] believed that you can sleep with a whole bunch of people affected my [sexual] practices. I believe that 'No, you shouldn't sleep with a whole bunch of people.' And because I heard how

Main concepts	Studies	Quotations
		people talk about her, I didn't want people to talk about me like that. So, [her behaviour] affected me quite a bit." (Shoveller et al., 2004, p.482)
Parental monitoring	Farrow and Arnold, 2003, Hennink et al., 1999, Manderson et al., 2002, Morrison, 2004	"I mean, at home I couldn't bring a bloke back to my house … whereas here you've got your house, you've got your nice double bed, whatever happens … you've got that sort of freedom and therefore I think sex is more expected … It's just the fact that everybody's got their own place there's nobody to sort of hold you back or you don't have to go home to mum and dad at the end of the night. I found that a bit scary at the start of university, it's just like snog some bloke and you're expected to go back to their room or whatever…" (Hennink et al., 1999, p.884) "…cause I can come home with who I want, if I wanted to bring somebody back for the night and do whatever, I've got nothing stopping me. Before it was like where are we going to go, what are we going to do, somebody might see me, now I just get a cab and come home and just sit in my flat and do whatever I want, there's no problem that somebody's going to come knocking at my door, or my aunt's going to walk in…" (Hennink et al., 1999, p.884) "Most of them (students) are from other provinces because Chiang Mai University is the only one big university in the north so they are quite far away from their parents. There is no one to control them so sometimes they can do this and this with other people. There is no big brother watching them…" (Morrison, 2004, p.336) "More freedom so have less reason to say no. I have my own place, so more partners than if I lived at home." (Farrow and Arnold, 2003, p.349). "Have been able to do more than if I was at home. My parents are not prudes, they just don't encourage sex before marriage." (Farrow and Arnold, 2003, p.349) "The majority of Filipinas who lived at home felt that they were restricted in terms of their mobility, personal behaviours and sexual activity." (Manderson et al., 2002, p.383)
Parental expectations	Averett et al., 2008, Bowling and	"I was dreadfully scared that if I had sex I would get pregnant. And I did not want to have to come home and tell my parents, that. His opinion matters to me. It still does. I think it'll matter when I'm ninety-two."

Main concepts	Studies	Quotations
	Werner-Wilson, 2000, Hennink et al., 1999, Manderson et al., 2002, Morrison, 2004, Shoveller et al., 2004	(Bowling and Werner-Wilson, 2000, p.19) "Just I guess to like really make sure I don't become something they [parents] don't want me to become. I guess a slut, provocative, a hoochie." (Averett et al., 2008, p.337) "…I really study hard because my parents send me to study. If I do not study, I am not good Thai…" (Morrison, 2004, p.336). "I need to help my father to pay for the house, then I think that's better that I study and work as well … because right now I have to support my younger brother as well." (Morrison, 2004, p.336). "Christina contracted an STI and told her parents and 'they hit the roof 'cause they thought it could never happen to their daughter'. Young women feel that they cannot talk to their parents because of their parents' disapproval and shame". (Manderson et al., 2002, p.386) "While overt and dramatic forms of rejection (e.g., being kicked out of the house; being disowned by their parents) were more prominent in young women's stories, both male and female study participants, regardless of their social standing or geographic location, described how their desires to make their parents proud of them had affected their choices regarding sexual behaviour during their teenage years. They explained that their desire to please their parents was influenced primarily by: (1) The perception that their parents had invested considerable resources in raising them and therefore deserved to have their standards about sexual behaviour respected; and (2) The understanding that their parents did not want them to repeat sexual 'mistakes' made by parents when they were teenagers." (Shoveller et al., 2004, p.482) "A lot of my friends will more readily sleep with people than me or my other Asian friends will and that's quite a big difference, it's just probably 'cause we know we're not meant to, well our parents wouldn't like it, so that you do hold back 'cause you do think about it a lot more…" (Hennink et al., 1999, p.886) "They would freak out." (Manderson et al., 2002, p.386) "Well, my family imposed the so called 'culture of the community', it seems that it's not just your immediate family that you sort of have to obey or whose roles you have to abide by but the whole

Main concepts	Studies	Quotations
		community, and it seemed that if we were going to go out and somebody saw us in the rest of community in which we lived it would be worse for my family…" (Hennink et al., 1999, p.884-885)
Gender roles	Averett et al., 2008, Bakopanos and Gifford, 2001, Hennink et al., 1999, Manderson et al., 2002	"I think that they did come across as having a double standard just cause my mom would always be like, whenever I would talk to a boy or when we would talk about boys, she would always say 'Don't have sex' or she would always assume that the guy would want to have sex more than girl. She always was like well teenage boys just want sex but it was never about teenage girls want sex." (Averett et al., 2008, p.337) "There is a double standard because he [brother] gets to do way more. They are more concerned about me because of the fact that a girl can get pregnant. It is not focused on my brother. It is more focused one me." (Averett et al., 2008, p.337) "She felt her life would have been much easier if she were a boy, for her brother 'get away with everything." (Manderson et al., 2002, p.383) "I think a lot of Greek women. Um … like their, like their partners to be stronger than them … to be more dominant in the relationship, and that's just the way they've been brought up with their parents, that the male one is the more dominant of the two. And so that could be the case … in terms of their sexual practices … that the woman is more submissive and the male is the more dominant one … so that the female can give in ….Yeah, and because I think it stems from the way we've been brought up that the female is the more submissive one." (Bakopanos and Gifford, 2001, p.367) "There's a lot of pressure on girls being virgins before they get married and there is actually a ritual that involves the sort of deflowering of the bride and stuff like that so I would imagine most of them would be involved in anything but sexual intercourse itself … so that if they did get married to somebody else and it wasn't the person they were with and their virginity was intact so their family's name was still preserved, these are all strategies geared towards the future … pretty much like a safeguard." (Hennink et al., 1999, p. 886) "When talking to young Greek women about relationships, sexuality, and health, it is apparent that one of their key dilemmas is reconciling the strong positive values they hold about their gender roles within the family while at the same time embracing a set of more flexible gender identities, especially in relation to

Main concepts	Studies	Quotations
		sexual relationships and life aspirations" (Bakopanos and Gifford, 2001, p.364) *"*My decision to stay a virgin, it has a lot to do with me being brought up ladylike." (Averett et al., 2008) p. 336. "Filipino youths living in Australia face conflicting pressures related to sexuality from many sources, parents, friends, potential partners, and the media." (Manderson et al., 2002) p.387.
Religious beliefs	Bowling and Werner-Wilson, 2000, Hertzog, 2008, Shoveller et al., 2004	"It was her Christian beliefs that primarily influenced her to wait for so long." (Bowling and Werner-Wilson, 2000, p.13) "I grew up in a Catholic family, so we have our values. Basically, I was taught that it is for when you are married. They pretty much … I don't know, they expect that from us. Just how we've been raised. I feel strongly about that. I think that's how they raised me with strong Catholic values." (Hertzog, 2008, p. 317) "…But getting back to my religious views and how I try to melt the two [sex and religion] together. Well, I don't see how it [sex] is offensive to God because when I was a teenager, I made up in my mind that I was not going to lose my virginity because of alcohol. And I was not going to lose my virginity in a one-night stand. I did want it to be in the context of a relationship where I had definite strong feelings for my partner and I felt that we loved each other. If sex is a sign of our love and we are not abusing it and we are not hurting anyone else and being safe about it and taking the necessary precautions [i.e., being on the pill], then I don't see it as morally wrong. But on the other hand, I still have the 'Catholic guilt' in the back of my mind. It's there. I acknowledge it, but what can I do?" (Shoveller et al., 2004, p.483)
Internalisation of parents' attitudes	Bakopanos and Gifford, 2001, Bowling and Werner-Wilson, 2000, Hennink et al., 1999, Shoveller et	"I would tell fathers to establish a medium between a friendship and a respectful relationship. So that daughters respect you enough to obey you, and yet, they consider you a friend enough to confide in you." (Bowling and Werner-Wilson, 2000, p.15) "There was no way I would have got into something like that at home … because I would be scared that it would come back to my parents and there was no way I was risking that, I don't want my parents to find out anything at all … now they're more liberal anyway but I still wouldn't tell them if I had a relationship

Main concepts	Studies	Quotations
	al., 2004	… there's no way I could do it at home." (Hennink et al., 1999, p.884) "I felt like there was nobody I needed to answer to, there was no threat of somebody's name being dragged through the mud or no shame on my family like that…" (Hennink et al., 1999, p.885) "Yeah, I'm sure a lot of Greek girls would feel guilty. Like … not because of religion, but because they'd probably feel that … they were being bad. But bad because of what their parents have told them … I think because of that they're less likely to say 'let use condom' … , or because of the guilt they're probably less likely to educate themselves." (Bakopanos and Gifford, 2001, p.367) "I don't think they're [safe sex practices] discussed … I think … that Greek girls say of my generation, they're not exactly encouraged to engage in pre-marital sex by their parents … So they're already feeling a little bit, almost maybe guilty perhaps that they're engaging in this sort of activity, you know, guilty, I mean when they're facing their parents … and that could influence them and perhaps not make them open up as much about the use of contraceptives or ... condoms."(Bakopanos and Gifford, 2001, p.367) "They described severe emotional and social costs of 'shameful' behaviour (e.g., promiscuity) and sexual outcomes (e.g., teenage pregnancy)." (Shoveller et al., 2004, p.482) 'I think everything revolves around your parents. What your parents want you to do, you know what you do has to respect your parents' views … we do get our own say but it does revolve around your parents … '(Hennink et al., 1999, p.889)