Risk and protective factors for physical and sexual abuse of children and adolescents in Africa – A review and implications for practice

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Abstract

There is now conclusive evidence of the major and long-lasting negative effects of physical and sexual abuse on children. Within Africa, studies consistently report high rates of child abuse; with prevalence as high as 64%. However, to date there has been no review of factors associated with physical and sexual child abuse and polyvictimization in Africa. This review identified 22 quantitative studies, all of which showed high levels of child abuse in varying samples of children and adults. Although studies were very heterogeneous, a range of correlates of abuse at different levels of the Model of Ecologic Development were identified. These included community-level factors (exposure to bullying, sexual violence and rural/urban location), household-level factors (poverty, household violence, non-nuclear family), caregiver-level factors (caregiver illness in particular AIDS and mental health problems, caregiver changes, family functioning, parenting, caregiver child relationship, substance abuse) and child-level factors (age, disability, physical health, behaviour, gender).

These findings identify key associated factors that are potential foci of child abuse prevention interventions. In addition, there is a clear need for further rigorous longitudinal research into predictive factors and culturally relevant interventions.

Background

According to estimates by the World Health Organization, each year 40 million children under 14 are victims of abuse and neglect worldwide (WHO, 2006). Within the African continent, all sovereign states are UN Members which have ratified the UN Convention on the Rights of the Child (UNCRC) with the exception of South Sudan and Somalia. This document grants all children and adolescents protection from harmful influences, abuse and exploitation (UNICEF, 1990).

Evidence from Africa demonstrates high rates of child abuse. These rates vary greatly depending on the populations sampled, the countries where the study took place, as well as the measurement tools and definitions used. Reported prevalence rates are as high as 64% for physical abuse (Afifi, El-Lawindi, Ahmed, & Basily, 2003). In the case of sexual abuse, reported rates reach 56% in males and 53% in females (Madu & Peltzer, 2000). The WHO African region also has the highest rates of child homicide for under 5 year olds in the world (World Health Organization, 2002). These prevalence rates are substantially higher than in Western community samples, reported as around 14% for physical abuse (Bardi & Borgognini-Tarli, 2001; Cohen et al., 2006; May-Chahal & Cawson, 2005) and as high as 45% in females and 19% in males for sexual abuse (Goldman & Padayachi, 1997).

Explanations for the elevated prevalence rates of child abuse on the African continent often lack empirical basis. Hypothesized causes include poverty, large numbers of orphaned children, modernisation and negation of traditional values, disruption of community structures and social norms, corruption and the adoption of culturally irrelevant and poorly developed child protective systems (Lachman et al., 2002). Qualitative evidence suggests the influence of some cultural or societal factors such as the acceptance and tradition of harsh physical punishment as a means for discipline. This may be particularly present in patriarchal families, where some studies find that male dominance can include physical punishment or sexual gratification (Richter & Dawes, 2008). Research on social attitudes in South Africa suggests that some cultures report high tolerance for sexual coercion and severe physical punishment of children (Andersson et al., 2004; Peltzer, 1999). Finally, commentators have noted the widely-cited ‘virgin cure’ whereby sex with an infant or young

child is said to cure HIV. However, there is a lack of quantitative evidence to test the prevalence of this (Jewkes, 2004).

In high-income countries, it has been established that experience of childhood abuse can lead to multiple negative outcomes for children, including substance abuse (McCord, 1983), risky sexual behaviour (Cunningham, Stiffman, Doré, & Earls, 1994), mental health problems (Glaser, 2002; Mullen, Martin, Anderson, Romans, & Herbison, 1996), increased risk of victimization (Messman-Moore & Long, 2000), poor physical health (Springer, Sheridan, Kuo, & Carnes, 2003), and death (Sidebotham & Fleming, 2008).

Evidence from Africa demonstrates even stronger linkages and more severe outcomes for child maltreatment. These include a greatly increased risk of re-victimization (Ibanga, 2011; Jewkes, Levin, Mbananga, & Bradshaw, 2002), increased risk of HIV infection and poor physical health (Jewkes, Dunkle, Nduna, Jama, & Puren, 2010; Reza et al., 2009), higher child death rates (Mathews, Abrahams, Jewkes, Martin, & Lombard, 2012), and exposure to transactional sex (Cluver, Orkin, Boyes, Gardner, & Meinck, 2011; Peltzer & Pengpid, 2008). In addition, there are similar outcomes of abuse as those found in the West, such as delinquency, substance abuse (Brown et al., 2009; Jewkes et al., 2006; Morojele & Brook, 2006), depression and suicide (Cluver, Gardner, & Operario, 2009; Fincham, Altes, Stein, & Seedat, 2009; Frank-Briggs & Alikor, 2010; Oladeji, Mkanjoula, & Gureje, 2010; Wondie, Zemene, Tafesse, Reschke, & Schröder, 2011). However, these may have even more severe consequences for children in Africa due to low levels of access to mental health and social services (WHO, 2011b).

Child maltreatment in Africa frequently occurs in a different context to the West due to war, extreme poverty, high levels of HIV and socio-cultural variations in family structures and attitudes. It is thus essential that research on child maltreatment does not rely on evidence from Western samples but instead empirically tests outcomes of abuse, and risk and protective factors for abuse within African societies.

Just as prevalence rates and outcomes of abuse may manifest differently in Africa, so may risk and protective factors. Identifying socio-demographic correlates and risks for abuse is essential to inform preventative evidence-based interventions. Extensive research has examined risk factors in the West (Black, Heyman, & Smith Slep, 2001a, 2001b; Black, Smith Slep, & Heyman, 2001), although research on protective factors remains limited. It is, however, dangerous to assume transferability from Western studies to Africa.

Family structures in African countries are undergoing change. Key traditional clan practices of corporate kinship and extended families where families are taking on childcare for relatives or neighbours are still very dominant but there is a shift towards nuclear households (Lauras Lecoh, 1990). In addition, female single parenthood is becoming very common across sub-Saharan Africa. Female single-parents are generally over-represented in the most poverty stricken groups and have little chance for improvement due to societal changes and migration. In South Africa particularly, apartheid[1] policies led to the disruption of many kinship ties amongst South African families. This resulted in a large number of disadvantaged single-parent families which were often forced to move back home to be supported by grandparents (Preston-Whyte, 1993). In addition, workplace rules restricting children from staying with their working mothers and the HIV/AIDS epidemic have led to an increased importance and sometimes overburdening of grandparents taking on parenting roles in many African countries (Beegle, Filmer, Stokes, & Tiererova, 2010). Due to the HIV/AIDS epidemic large numbers of children are either caring for a sick family member or have been orphaned and are staying with step-parents, relatives or neighbours or in child-headed households. Many of those are subjected to abuse and exploitation (Morantz et al., 2013).

Studies investigating risk and protective factors for child abuse primarily use Bronfenbrenner's Ecological Model of Human Development (Bardi & Borgognini-Tarli, 2001; Bronfenbrenner, 1979). This framework places children at the center of multiple interacting spheres of influence. Closest to

[1] Apartheid: Former politics of racial segregation in South Africa with political, social and economic discrimination of non-European groups from 1948 until 1993 http://www.merriam-webster.com/dictionary/apartheid

the child are relationships with caregivers[2] and family. More distal are the ways in which child and family are influenced by school, community, society and culture. The cumulative and counterbalancing effects of risk and protective factors within and across spheres, depending on their severity and strength, may lead to or prevent child abuse (Belsky, 1980; World Health Organization, 2002).

This ecological theory provides a valuable framework to examine risk and protective factors for child abuse in Africa. However, few studies examine such factors within the African context and a comprehensive review of risk and protective factors has not been previously conducted. This review explores individual, parental, household, and community correlates for physical and sexual abuse amongst children and adolescents in the African context. As there is limited evidence available, surveys and descriptive studies are included, and selected qualitative research is also reviewed. In addition, this review seeks to build upon and update Lalor's (2004) review of sexual abuse in southern Africa.

It is important to be aware that risk and protective influences on child abuse in Africa take place within varied cultural contexts and highly constrained child protective services. The majority of studies included in this literature review were conducted in South Africa and Egypt. These two countries have vastly different histories, living conditions and demographics. The other studies reviewed were from Mauritania, Nigeria, Zimbabwe and Swaziland (see Table 1 for country comparisons).

Across these countries, child protection systems are vastly different. In Egypt and Mauritania for example, structures and procedures are currently evolving, whereas in countries such as Swaziland child protection has not been prioritised on the policy agenda (Human Rights Council, 2010;

[2] The term caregiver refers to the person taking care of a child. It can refer to a parent, family friend, neighbor or other relative. In sub-Saharan Africa, many children are orphaned, have experienced abandonment by their parents, or can't stay with them while they are working. Many children are therefore living in the care of a relative, often aunts and uncles or grandparents, or with neighbours without formal agreements or legalized transfer of guardianship.

UNICEF, 2010). In Zimbabwe, the once renowned welfare system collapsed in 2008 with few social workers acting out statutory duties (UNICEF, 2008). Child protective systems in South Africa, and to some extent Nigeria, have been well developed with child protective laws in place (Save the Children, 2011b). However, when child protective systems are available across the continent, they are overburdened by high prevalence of child abuse, lack of staff, resources, training and poor coordination (Jones, 2011; Lachman, 1996; Lachman, et al., 2002; Save the Children, 2011a).

For this review, definitions for physical and sexual child abuse will first be presented. Secondly, the search methods and inclusion and exclusion criteria will be explained. Thirdly, qualitative studies exploring factors associated with physical and sexual child abuse will be presented, followed by a discussion of the evidence from survey data and studies examining hospital or social work charts. Finally, findings and limitations of this review will be discussed alongside implications for practice.

Definitions and parameters of the review

UNICEF defines childhood as every age under 18 (UNICEF 1990), whereas the WHO defines adolescents as young people between ten and 19 years of age (World Health Organization, 2002). Given a lack of clear boundaries regarding age of transition from childhood to adolescence and use of both in the evidence reviewed, terms will be used interchangeably for the purpose of this paper.

It is important to note that definitions of child abuse vary between cultures and societies. For example, studies have reported a widespread acceptance for corporal punishment across the African continent as a means of disciplining children in homes and at school (Global Initiative to End All Corporal Punishment of Children, 2005; World Health Organization, 2010), although some states have outlawed this practice in schools (Dawes & Mushwana, 2007; Finkelhor & Korbin, 1988).

Physical abuse of a child is defined "as those acts of commission by a caregiver that cause actual physical harm or have the potential form for harm" (World Health Organization, 2002, p. 60). This can include being hit with a hand or an object, being kicked, shaken, thrown, burned, stabbed or

choked by a parent or a caregiver (Kaplan, Pelcovitz, & Labruna, 1999). Caregivers can be parents, foster-parents, extended family, family friends or other members of the community.

Sexual abuse is defined as "the involvement of a child in sexual activity that he or she does not fully comprehend, is unable to give informed consent to, or for which the child is not developmentally prepared, or else that violates the laws or social taboos of society" (World Health Organization, 2010, p. 16). This includes any type of inappropriate touching, forced oral, genital or anal penetration, forced exposure of private parts, forced viewing of other people's sexual anatomy or pornography, and sexual harassment by adults, older children or peers who are in a position of power over their victim (World Health Organization, 2010).

Protocol

This literature review uses both published and unpublished studies. Keyword searches were made in the following electronic databases: Primo Central, PsychINFO, EMBASE, Global Health Medline(r) via Ovid, CINAHL and Family and Society Studies Worldwide via EBSCO, ERIC via CSA Illumina, and British Nursing Index from 1998 to April 2012. Grey literature searches were conducted in Interdisciplinary Dissertation and Thesis Database and Dissertation Abstracts International via ProQuest, Index to Theses and SCIRUS Electronic Thesis Database. Searches were made in the online publications of several organisations (UNICEF, Save the Children, World Health Organisation, International Society for the Prevention of Child Abuse and Neglect (ISPCAN), African Network for the Prevention and Protection against Child Abuse and Neglect (ANPPCAN), Childline South Africa, African Network for the Prevention and Protection against Child Abuse and Neglect Uganda (ANPPCANUG), Human and Social Research Council, Medical Research Council), child abuse conferences and government publications (South Africa, Kenya, Zimbabwe, Uganda, Nigeria). Additionally, studies were located through e-mailed request to academics, web searches (Google, Google Scholar, findarticles.com) and existing reviews (Lalor, 2004). No language restrictions were applied (see Figure 1 for search terms)

Inclusion and exclusion criteria

This review focuses on physical and sexual abuse of adolescents and children. All studies had to be carried out on the African continent. For physical abuse or harsh abusive parenting, this review was limited to abuse within the home. Studies were included in this review if they measured occurrence of physical abuse defined as hitting a child with an object, leaving marks on a child's body, burning, slapping or stabbing. There are no studies within the African context which investigate sexual abuse within the home alone. Therefore studies using sexual abuse outcomes including (but not limited to) sexual harassment, forced intercourse and inappropriate physical contact by any perpetrator, were included in this review (see Figure 2 based on (Moher, Liberati, Tetzlaff, & Altman, 2009)).

Studies investigating physical victimization by peers (bullying) or teachers, interpersonal violence, community violence, child labour, child trafficking, child abduction, mental health, substance abuse and delinquency were beyond the scope of this review. However, these are important areas for future research.

Results

Qualitative studies

Qualitative research can be helpful when investigating perceptions of child abuse (Jewkes, Penn-Kekana, & Rose-Junius, 2005; Ogunyemi, 2000), particularly for in-depth exploration of certain victim or perpetrator groups (Abrahams, Mathews, & Ramela, 2006) and to identify barriers to help-seeking behaviour in case of abuse (Smith, Bryant-Davis, Tillman, & Marks, 2010).

Plummer & Njugana (2009) grouped 36 child protection and police professionals in Kenya by tribal association and asked them to identify cultural risk and protective factors for sexual child abuse. Parental divorce, child homelessness, being an AIDS-orphan, patriarchy, culture of silence, perceived unimportance of children, foreign influences (i.e. internet and pornography), social upheavals and poverty were identified as risk factors. Identified protective factors were modesty, family structure,

guidance and supervision by family, religion, separating males and females, valuing children, emphasising the importance of virginity, and harsh punishment for offenders.

Makoae, Dawes, Loeffel and Ward (2008) reviewed 150 court files from Children's Court Inquiry records, child abuse hotline records of children removed from their parents and data from hospital records. They also undertook qualitative research with social workers and other child protection professionals in South Africa. The primary reasons children were subjected to abuse and subsequently removed from their parents were alcohol and substance abuse by primary caregiver. Removal rates were higher for children living in poverty, from single parent homes, children under the age of 4 and teenagers, only-children, those with incarcerated parents, those who experienced poor quality of relationships within the home, and whose parents were dealing drugs, engaging in sex work, and criminal activity.

In a broader-focused study on child vulnerability, Giese, Meintjes, Croke and Chamberlain (2003) interviewed 65 orphans and vulnerable children, 130 caregivers and 80 service providers across South Africa. An emerging theme of this research was the physical and emotional abuse of orphans placed with relatives.

Quantitative studies

There have been relatively few studies investigating correlates for child abuse across the African continent, with the majority of those available focusing on sexual abuse.

Thorough searching revealed a total of 22 quantitative studies investigating correlates of physical and sexual child maltreatment. Sample sizes ranged from 77 to 126,696 respondents. All studies apart from one were published. The vast majority of studies were cross-sectional surveys. Only three studies were based on abuse case files and therefore had no comparison group of non-abused children. In 16 studies, children or adults were interviewed directly regarding their childhood abuse experience, one study interviewed primary caregivers about corporal punishment used with children, and one

study interviewed both children and primary caregivers. Four studies used incident reports or patient files. 14 studies were carried out in South Africa, three in Egypt, and one in Nigeria, Zimbabwe, Swaziland, and Mauritania respectively. All of the studies used cross-sectional data, therefore risk factors are associated factors rather than predictors and causality cannot be assumed. It is important to note that the included studies were highly heterogenic and it is essential not to assume generalizability of studies across the African continent with its diverse cultures, societies and economic backgrounds.

Prevalence rates of abuse (Table 2)

Nine studies investigated the prevalence of child physical abuse. Rates ranged from 7.6% to 45%. However, these were greatly influenced by the measures and definitions used. Most of the studies measured lifetime occurrence of physical child abuse. Prevalence rates ranging from 15.2% to 27% were found by three studies which defined physical abuse as having an adult purposefully hit, punch, cut or push the child so hard that it caused bruises, scratches, broken bones or teeth or made them bleed (Madu, 2003; Madu, Idemudia, & Jegede, 2002; Madu, Idemunda, & Jegede, 2003). While the first two studies used adult retrospective self-report, the third used current adolescent self-report which may account for the higher prevalence rate. Another study focussing on corporal punishment at home defined as any hitting, smacking, burning or tying up, found a prevalence rate of 37.4%. Physical harm such as fractures were reported by 25.8% of respondents in this sample (Youssef, Attia, & Kamel, 1998). In another study 45% of respondents reported having experienced at least one form of kicking, being burned, stabbed, or hit with an object in their childhood (Ibrahim, Jalali, Al-Ahmadi, & Al-Bar, 2008). In a survey in South Africa on parental attitudes of corporal punishment, 23% of respondents reported hitting their child with an object within the last month (Dawes, De Sas Kropiwnicki, Kafaar, & Richter, 2005).

Prevalence rates in samples of particularly vulnerable children also varied. Two studies investigated severe physical abuse which was defined as being hit by an object likely to cause harm or hit so hard that it left marks on a monthly or more regular basis. Both studies looked at a sample of vulnerable children in areas with high HIV-prevalence in South Africa. Physical abuse prevalence rates found in

these samples were 6.8% overall (Meinck, Cluver, Boyes, & Ndhlovu, in press), 5% in healthy families, 6% in AIDS-orphaned children, 11% in children with an AIDS-sick caregivers and 12% in dually[3] affected children (Cluver, et al., 2011). These findings demonstrate high levels of severe child abuse in families affected by AIDS. Another study focussing on orphans and vulnerable children found a 32% prevalence rate of being hit with a stick or other item in the past year; however, there was no indication about the frequency of abuse within the sample (Thurman & Kidman, 2011). A study investigating physical abuse in street girls found that 16% reported having received violent blows which left marks (Ballet, Sirven, Bhukuth, & Rousseau, 2011).

The only study in this review which used verification of reported physical abuse by respondents through physical examination found a prevalence rate of 7.6%. Physical abuse was defined as being beaten to the point of bruising, wounding, fractures or worse (Afifi, et al., 2003). While this study only measured children who experienced on-going physical abuse, these findings appear the most solid due to the confirmation of abuse by physicians.

Thirteen studies investigated the prevalence of child sexual abuse. Rates ranged from 1.6% to 77.7%. However, these were greatly influenced by the measures and definitions used and populations sampled. All of the studies measured lifetime occurrence of sexual child abuse. Prevalence rates for any type of contact sexual abuse (kissing, fondling, forced sex) ranged from 25.6% to 54.2% (Madu, 2003; Madu & Peltzer, 2000). Four studies researched unwanted touching of genitals and found prevalence rates ranging from 7% to 33% (Afifi, et al., 2003; Madu, 2003; Madu, et al., 2002; Madu, et al., 2003; Madu & Peltzer, 2000). Three studies investigated unwanted penetration (objects or body parts placed in the vagina or anus) and found prevalence rates ranging from 8.7% to 15.7% (Madu, 2003; Madu, et al., 2002; Madu, et al., 2003; Madu & Peltzer, 2000). One study investigated forced sex and found a prevalence rate of 5.8% (King et al., 2004). Studies focussing exclusively on sexual abuse of boys found 44% of high school students have had forced sex and 28.9% of university

[3] Dually affected by AIDS refers to children who have lost at least one caregiver to AIDS and who are living with a caregiver who is sick with AIDS.

students have experienced contact sexual abuse including forced sex in childhood (Anderson & Ho-Foster, 2008; Collings, 1991). Two studies investigated forced sex during childhood in females and found prevalence rates of 1.6% and 2.9%. One used a nationally representative sample of South African women and the other used a sample of university students in Egypt (Ibrahim, et al., 2008; Jewkes, et al., 2002). One study investigated lifetime contact sexual abuse in female children in Swaziland and found a prevalence rate of 33% (Breiding et al., 2011; Reza, et al., 2009).

Studies with very vulnerable children found prevalence rates of 77.7% for forced sex amongst street girls in Nigeria (Audu, Geidam, & Jarma, 2009), 33.9% for contact sexual abuse amongst patients in a psychiatric treatment centre (Berard & Boermeester, 1999), 53% for contact sexual abuse and 48% for forced sex amongst attendees of a youth stress clinic (Carey, Walker, Roussow, Seedat, & Stein, 2008).

Prevalence rates for multiple abuse victimization were measured by two studies and ranged from 9.7% to 25.8% amongst respondents who reported at least two types of abuse (physical, emotional or sexual) (Afifi, et al., 2003; Ibrahim, et al., 2008). Both studies were carried out in Egypt, one using a sample of high-school students, the other female university students.

Correlates of physical child abuse

Nine studies investigated risk factors for child physical abuse victimization on the African continent. Where available, odds ratios or p-values will be stated in parentheses following the individual risk factors.

Child physical abuse: Community-level correlates

Out of the nine studies that focused on correlates of physical abuse, one study each found sexual abuse victimization (OR 3.28), bullying (OR 2.74) (Meinck, et al., in press), and living in semi-urban compared to urban areas (OR 2.46) (Thurman & Kidman, 2011) to be associated with child physical abuse victimization.

Child physical abuse: Household-level correlates

Two studies found poverty-related factors to be associated with physical abuse victimization. Going to bed hungry (OR 2.40) (Meinck, et al., in press), overcrowding (OR 1.14), sharing the house with strangers (OR 1.69) and insufficient income (OR 2.59) all increased the risk for physical child abuse (Youssef, et al., 1998). One study found that family units with 4-5 members ($p<0.01$)(Collings, 1993), and unequal food distribution (OR 2.96) (Meinck, et al., in press) were also associated with physical abuse victimization.

Child physical abuse: Caregiver-level correlates

Five studies found domestic violence or family conflict to be risk factors for physical child abuse victimization (OR 2.11 - 2.66) (Ibrahim, et al., 2008; Madu, 2003; Madu, et al., 2003; Meinck, et al., in press; Youssef, et al., 1998). Four studies found illness within the household to be a risk for physical abuse victimization. Caregiver AIDS-sickness (OR 2.25), being dually affected by AIDS (OR 3.35) (Cluver, et al., 2011), caregiver disability (OR 1.10), experience of AIDS-related stigma (OR 1.61) (Meinck, et al., in press) and living in a household with an ill adult (OR 1.32) (Thurman & Kidman, 2011) all put children at increased risk of physical abuse. Two studies found that poor caregiver mental health was associated with physical abuse (OR 1.20 and 2.59) (Madu, et al., 2003; Thurman & Kidman, 2011). In addition, caregiver drug and alcohol abuse were also identified as risk factors by two studies (OR 2.26 and 1.45) (Madu, et al., 2002; Youssef, et al., 1998). One study found that more than three caregiver changes (OR 2.38) increased the risk for physical abuse victimization (Meinck, et al., in press), as did poor family functioning (OR 1.49) (Thurman & Kidman, 2011). Factors associated with physical abuse victimization in a single study were maternal disinterest (OR 36.9) (Afifi, et al., 2003), inconsistent discipline (OR 2.01) (Meinck, et al., in press), female single parents, single and previously married parents, as well as attitudes to corporal punishment and attitudes to empathic parenting (Dawes, et al., 2005).

Child physical abuse: Child-level correlates

Four studies found that younger child age (OR 3.02) (Collings, 1993; Dawes, et al., 2005; Thurman & Kidman, 2011; Youssef, et al., 1998) was associated with physical abuse victimization. One study identified child disabilities, birth defects, or chronic health problems as being associated with an increased risk of physical abuse victimization (OR 2.59) (Youssef, et al., 1998). Two studies also found that child school-non achievement was associated with physical abuse victimization (OR 1.82 and 1.91) (Meinck, et al., in press; Youssef, et al., 1998). Child Factors associated with physical abuse victimization in single studies were injury signs (OR 688.3) (Afifi, et al., 2003), male gender ($p<0.01$), white race ($p<0.05$) (Collings, 1993), school non-attendance (OR 2.76) (Meinck, et al., in press), disrespectful behavior towards parents (OR 2.14), being disobedient (OR 2.06), inability to communicate with parents (OR 2.76), and smoking (1.62) (Youssef, et al., 1998).

Child physical abuse: Conflicting results

Having a younger mother ($p<0.01$) and an older father ($p<0.05$) were found to be associated with physical abuse in one study (Collings, 1993), whereas older parental age was found to be a risk factor in another study (Dawes, et al., 2005). It is also unclear whether parental education and living with a step-parent is a risk factor for physical abuse. Two studies found that maternal education less than at university level increased the risk for physical abuse (OR 1.26 and 3.03) (Ibrahim, et al., 2008; Youssef, et al., 1998). One study found that having caregivers with any formal education increased the risk for physical abuse victimization (OR 1.4) (Thurman & Kidman, 2011). Another study found that mothers with higher education were more likely to abuse their children (OR 22.3) (Afifi, et al., 2003) while one found paternal education below university associated with physical child abuse (OR 2.99) (Youssef, et al., 1998). One study found that living with a biological parent and step-parent (OR 4.36) is a risk factor (Meinck, et al., in press), whereas another found that children living with biological caregivers (OR 1.77) were more at risk for physical abuse (Thurman & Kidman, 2011).

One study carried out with female street children found highly conflicting results for factors associated with physical and emotional abuse victimization. Correlates of physical and emotional abuse were: parents living together, father present in the household, father's employment, mother's

employment and living in the city of Nouadhibou (all significant at p<0.005). Factors found to be protective of physical abuse victimization in this study were highly unusual and included parents divorced or deceased, father's absence, father employed as a solider, mother unemployed or working as a prostitute and living in the capital city of Nouakchott rather than the second largest city Nouadhibou (all significant at p<0.005) (Ballet, et al., 2011). These factors might be proxies rather than protective factors, i.e. an unemployed mother may be more likely to be at home to protect children from abuse in cases where the father is the perpetrator. A mother working as a prostitute may suggest maternal autonomy and lower likelihood of having to stay in a relationship with an abusive partner. This study compared risks of physical abuse of street girls in two cities in Mauritania through multiple correspondence analyses and did not carry out regression analysis. It is unlikely that any of these protective factors can be used for future intervention design.

Potential protective factors were also found in one study. Maternal employment (OR 0.68), father temporarily out of the country for employment reasons (OR 0.27), family support (OR 0.5), sharing housing with relatives (OR 0.66) and older child age (OR 0.75) were found to decrease the risk of physical child abuse victimization (Youssef, et al., 1998).

Child physical abuse: Critical appraisal of studies

The studies reviewed were very heterogeneous which makes comparison difficult. Out of the nine studies which reported risk factors for physical abuse, eight did not report the frequency of the experienced abuse (Afifi, et al., 2003; Ballet, et al., 2011; Collings, 1993; Ibrahim, et al., 2008; Madu, 2003; Madu, et al., 2002; Madu, et al., 2003; Thurman & Kidman, 2011). Four studies did not give confidence intervals for their odds ratios (Madu, 2003; Madu, et al., 2002; Madu, et al., 2003; Thurman & Kidman, 2011) and one study had confidence intervals which were so large that a clear statement regarding the results cannot be made (Afifi, et al., 2003). Two studies did not carry out regression analysis but used chi-square tests which did not allow them to control for socio-demographic covariates (Collings, 1993; Dawes, et al., 2005) and one study used factor analysis to investigate relationships between potential risk factors by comparing two cities (Ballet, et al., 2011).

P-values were not reported in one of the studies and it is therefore unclear whether the findings were statistically significant. However, this is the only study in this review examining parental patterns of corporal punishment using parental self-report and this information could be of value for future intervention design (Dawes, et al., 2005). The majority of studies did not discuss the potential for reverse causality i.e. children who are abused experience more bullying rather than bullying causing abuse.

Two studies did not measure correlates of physical and emotional abuse separately. It is therefore unclear whether a certain type of abuse was the actual driver of the significance found for correlated factors. In addition, interviewer guided questionnaires were used and under-reporting might be higher than in self-guided questionnaires. However, using current adolescent-self report, these studies are less likely to be subjected to recall bias (Meinck, et al., in press; Thurman & Kidman, 2011).

Six studies were classroom based but it was unclear in four of them how confidentiality was granted within the classroom setting (Afifi, et al., 2003; Ibrahim, et al., 2008; Madu, 2003; Madu, et al., 2002; Madu, et al., 2003; Youssef, et al., 1998). In one study it was unclear whether data were collected in the classroom or whether students were allowed to take the questionnaires home with them (Ibrahim, et al., 2008). While all of these studies give valuable indications about the severity of child abuse in populations of school and university students, it would be interesting to see whether these findings are similar in a community-based sample that includes children who do not attend school or university.

Four of the studies did not clearly describe the development of the questionnaire items or the construction of some of the variables (Afifi, et al., 2003; Ballet, et al., 2011; Thurman & Kidman, 2011; Youssef, et al., 1998). Two studies lacked description of the theoretical framework or research hypothesis. Multivariate models were presented but reasons for inclusion and exclusion of variables and covariates were not given (Afifi, et al., 2003; Ibrahim, et al., 2008). Two of the studies lacked a description of whether ethical approval was granted or not (Ibrahim, et al., 2008; Madu, 2003). One study only sampled orphans and other vulnerable children (OVC) who were part of an intervention for

OVC and their families (Thurman & Kidman, 2011). Two studies used a community-based sample and oversampled orphans and child headed households through NGOs and schools since the main aim was to investigate the impact of familial AIDS on children (Cluver, et al., 2011; Meinck, et al., in press). While these are the first studies investigating abuse in orphans, vulnerable children and children affected by AIDS and make an important contribution to the evidence for this population group, future research could valuably identify whether these results hold in community-based samples. As these studies found high prevalence rates of abuse in the group of orphans and vulnerable children, it will be important to identify whether OVC are at higher risk of abuse compared to groups of non-OVC. One study examined physical abuse in female street children sampled through NGOs (Ballet, et al., 2011). While this study investigated the risk for physical abuse victimization in another group of highly vulnerable children and makes an important contribution to the literature, it would be of great value to also include street children who are not accessing services in future studies.

Correlates of sexual child abuse (Table 1)

Child sexual abuse: Community-level correlates

Out of 16 studies investigating risk factors for sexual abuse victimization, one study found living in less developed provinces and rural areas (OR 1.7) to be correlated (Anderson & Ho-Foster, 2008), whereas another study found that living in the Western Cape (one of the most developed provinces in South Africa) increased the risk for sexual abuse victimization ($p<0.001$) (Jewkes, et al., 2002). However, the first study examined school boy sexual victimization while the second investigated childhood rape in a nationally representative sample of women and therefore, they might not be comparable.

Child sexual abuse: Household-level correlates

Three out of 16 studies found that emotional abuse (OR 2.06) and verbal insults ($p<0.001$) were associated with sexual abuse victimization (Anderson & Ho-Foster, 2008; Breiding, et al., 2011; Carey, et al., 2008). Another two found physical abuse correlated with sexual abuse experience (OR

4.17 and p=0.013) (Anderson & Ho-Foster, 2008; Carey, et al., 2008). Two studies found large family units (p<0.01) and a greater number of people in the household to be associated with sexual abuse (OR 1.04) (Breiding, et al., 2011; Collings, 1993). Other household-level factors associated with sexual abuse victimization were living in a non-nuclear family (p<0.001) (Berard & Boermeester, 1999), and receiving a disability grant (OR 6.69) (Carey, et al., 2008).

Child sexual abuse: Caregiver-level correlates

Four studies found caregiver status such as living with a single parent (OR 1.74) (Carey, et al., 2008; Collings, 1991; King, et al., 2004), and parents not living together (OR 1.58 and 1.82) (Carey, et al., 2008; Ibrahim, et al., 2008) correlated with sexual abuse victimization. Three studies found domestic violence to be associated with child sexual abuse victimization (OR 2.04 and 2.02 and p<0.05) (Ibrahim, et al., 2008; Madu, et al., 2002; Madu & Peltzer, 2000). Living with a step-parent during childhood was a risk factor for child sexual abuse (OR 2.59 and 2.01 and p<.05) was associated with sexual abuse in three studies (King, et al., 2004; Madu, 2003; Madu & Peltzer, 2000). Another three studies investigated the relationship between child and mother and found maternal disinterest (OR 48.6), parental rejection, and not having a close relationship with one's mother (OR 1.88) to be risk factors (Afifi, et al., 2003; Breiding, et al., 2011; Collings, 1991). Three studies found parental drug or alcohol addiction to be associated with child sexual abuse (OR 2.11 to 2.4) (Berard & Boermeester, 1999; Ibrahim, et al., 2008; Madu, et al., 2003). Parental mental health problems were found to be correlated with sexual abuse victimization in childhood by two studies (OR 2.69 and 3.02) (Madu, et al., 2002; Madu, et al., 2003). Other caregiver-level factors associated with sexual abuse victimization were mother's education less than university (OR 1.57) (Ibrahim, et al., 2008), older father (p<0.05) and older mother (p<0.01) (Collings, 1993), mother employed above the level of labourer (p<0.05) (Madu & Peltzer, 2000), and parental punitiveness (Collings, 1991).

Child sexual abuse: Child-level correlates

Three studies found females to be at higher risk for child sexual abuse (OR 1.85 and p<0.01, and OR 3.85) (Carey, et al., 2008; Collings, 1993; King, et al., 2004). Being part of a younger age group (OR

3.55) was conflictingly found to be associated with child sexual abuse in one study whereas the majority of females reporting rape were part of an older age group in another study (Audu, et al., 2009; Jewkes, et al., 2002). However, the second study interviewed women about their childhood rape experiences up to age 15 and younger women were been more likely to report rape (OR .074), possibly due to the incident being more recent. One study found orphanhood to be a significant risk factor for sexual abuse victimization. For female abuse victims, double orphanhood (OR 1.8), maternal orphanhood (OR 3.9) and paternal orphanhood (OR 1.3) were found to be associated with sexual abuse victimization (Birdthistle et al., 2011). However, another study did not find significant association between orphanhood and reported sexual child abuse (Cluver, et al., 2011).

Ethnicity was also found to be associated with sexual child abuse. One study found children of coloured[4] background to be at higher risk of abuse ($p<0.05$) (Collings, 1993) another found white females to be at highest risk (OR 2.57) (Jewkes, et al., 2002), one found black race to be a risk factor (Collings, 1991) and yet another found ethnicity other than Northern Sotho[5], i.e. white, coloured or other ($p<0.05$) to be associated with sexual victimization (Madu, et al., 2002). However, this association might be due to sampling bias as more than 50% of the children in one study were coloured whereas less than a quarter of children in the other study were not Northern Sotho. In addition, two of these studies were carried out in South Africa during the years of apartheid where black youth were less likely to access tertiary education.

Child factors which were also found to be associated with sexual victimization were child hyperactivity (OR 11.8), child disability (OR 9.1), and wasting[6] (OR 481.8) (Afifi, et al., 2003).

[4] Under Apartheid rule this term referred to a group of people of mixed race who had native African or Asian and European ethnic ancestries. Coloured people had higher social and economic status under apartheid than blacks and were mainly used as skilled workers by the white South African population. (http://www.britannica.com/EBchecked/topic/126829/Coloured, 22/01/2011).

[5] Northern Sotho is a Nguni Language spoken by the Basotho people in South Africa. It is one of 11 official languages. In this study, Tsonga and Venda (two other official languages) speakers were also included in the group of Northern Sotho speakers.

[6] Wasting syndrome is defined as ongoing involuntary weight loss, particularly of muscle mass, due to chronic illness such as AIDS, cancer or diabetes http://medical-dictionary.thefreedictionary.com/cachexia

Externalizing and internalizing child factors associated with abuse victimization were antisocial behaviour (OR 1.44), having consumed alcohol (OR 2.00), and suicide attempts (OR 3.22) (King, et al., 2004). However, as all of these were cross-sectional studies causality cannot be assumed. Children might show antisocial behaviour as a result of sexual abuse rather than antisocial behaviour leading to sexual abuse victimization. One study found that children's knowledge of peers who were assaulted (OR 1.59) and knowledge of someone having sex with a teacher (OR 1.68) were associated with sexual abuse victimization (Breiding, et al., 2011). Other child factors were: not attending school (OR 2.12) (Birdthistle, et al., 2011), working more than two jobs (OR 16.09), working more than 8 hours (OR 4.43) and having no formal education (OR 4.79) (Audu, et al., 2009).

Three studies found factors protective against sexual abuse victimization. These were: high birth order of child (OR 0.6) (Afifi, et al., 2003), father's employment as a trader (OR 0.05) or senior civil servant (OR 0.14), mother's employment as a senior civil servant (OR 0.26) (Audu, et al., 2009), living with at least one biological parent (OR .016) (Collings, 2005) and living with the biological mother before turning 16 (OR .039) (Madu, 2003).

Child sexual abuse: Critical appraisal of studies

Of the 16 studies focussing on correlates of sexual child abuse, three investigated victimization in boys alone (Anderson & Ho-Foster, 2008; Collings, 1991, 2005). Four of the studies investigated victimization only in girls (Audu, et al., 2009; Breiding, et al., 2011; Ibrahim, et al., 2008; Jewkes, et al., 2002) and eight investigated victimization in males and females. Three studies investigated particularly vulnerable groups such as children hawking on the street or children attending outpatient mental health units (Audu, et al., 2009; Berard & Boermeester, 1999; Carey, et al., 2008). Nine studies were carried out in schools or universities (Afifi, et al., 2003; Anderson & Ho-Foster, 2008; Collings, 1991; Ibrahim, et al., 2008; King, et al., 2004; Madu, 2003; Madu, et al., 2002; Madu, et al., 2003; Madu & Peltzer, 2000), two had a community-based sample (Audu, et al., 2009; Breiding, et al., 2011), one used a nationally representative sample (Jewkes, et al., 2002), and four reviewed case files alone (Berard & Boermeester, 1999; Birdthistle, et al., 2011; Collings, 1993, 2005).

13 studies did not report a theoretical framework (Afifi, et al., 2003; Anderson & Ho-Foster, 2008; Audu, et al., 2009; Berard & Boermeester, 1999; Birdthistle, et al., 2011; Carey, et al., 2008; Collings, 1991; Ibrahim, et al., 2008; Jewkes, et al., 2002; Madu, 2003; Madu, et al., 2002; Madu, et al., 2003; Madu & Peltzer, 2000). Six studies did not report whether they had obtained ethical approval (Afifi, et al., 2003; Berard & Boermeester, 1999; Carey, et al., 2008; Collings, 1991; Ibrahim, et al., 2008; Madu, 2003; Madu, et al., 2003). Ten studies did not discuss reverse causality or the fact that causality cannot be assumed in cross-sectional studies, although many were careful not to insinuate causality (Afifi, et al., 2003; Audu, et al., 2009; Berard & Boermeester, 1999; Breiding, et al., 2011; Collings, 1991; Ibrahim, et al., 2008; Madu, 2003; Madu, et al., 2002; Madu, et al., 2003; Madu & Peltzer, 2000). 14 studies did not report the frequency and time period of abuse (Afifi, et al., 2003; Anderson & Ho-Foster, 2008; Audu, et al., 2009; Birdthistle, et al., 2011; Breiding, et al., 2011; Carey, et al., 2008; Collings, 1991; Ibrahim, et al., 2008; Jewkes, et al., 2002; King, et al., 2004; Madu, 2003; Madu, et al., 2002; Madu, et al., 2003; Madu & Peltzer, 2000). Seven studies administered the questionnaire within the classroom (Afifi, et al., 2003; Anderson & Ho-Foster, 2008; King, et al., 2004; Madu, 2003; Madu, et al., 2002; Madu, et al., 2003; Madu & Peltzer, 2000) but only two studies discussed issues of confidentiality within a classroom setting (Anderson & Ho-Foster, 2008; Collings, 1991). In one study it was unclear whether data were collected in the classroom or whether participants were allowed to take the questionnaire home (Ibrahim, et al., 2008). Only four studies which interviewed minors discussed referral processes for children asking for help or at risk of significant harm (Breiding, et al., 2011; Carey, et al., 2008; Madu, et al., 2002; Madu & Peltzer, 2000)

Out of 16 studies investigating child sexual abuse victimization, four used current child self-report (Afifi, et al., 2003; Anderson & Ho-Foster, 2008; Audu, et al., 2009; King, et al., 2004), three used retrospective adult self-report (Collings, 1991; Ibrahim, et al., 2008; Jewkes, et al., 2002), and four had samples which used both (Breiding, et al., 2011; Madu, 2003; Madu, et al., 2002; Madu, et al., 2003). Three studies reviewed charts of children and adolescents attending sexual abuse clinics (Birdthistle, et al., 2011), or social work services (Collings, 1993, 2005). Whilst these studies are

limited because they do not contain a non-abused comparison group, they provide useful indications for correlates of abuse in cases where health and social services were notified. Children who experienced abuse are more likely to be suffering from mental health problems and are therefore more likely to access psychiatric care. In addition, the abuse could have been and in some cases clearly was the traumatic event which caused the child to seek help. It is important to consider these studies as they focus on a particularly high-risk group.

Three studies investigated subgroups of especially vulnerable children such as street hawkers and children with mental health problems (Audu, et al., 2009; Berard & Boermeester, 1999; Carey, et al., 2008). Whilst these cannot provide generalizable findings, they provide valuable indications of a group of children who are at particularly high risk for sexual abuse victimization. Three studies, two involving chart reviews and one using a sample of university psychology students, were carried out in South Africa before the end of apartheid. These therefore used biased samples (Berard & Boermeester, 1999; Collings, 1991, 1993) as black citizens had much less access to social and psychosocial services, or university education than other population groups.

Multiple abuse victimization (Table 2)

Out of the 22 studies included in this review, two also investigated multiple abuse victimization in children (Afifi, et al., 2003; Ibrahim, et al., 2008). Both studies investigated household-level factors and found domestic violence or family problems to be associated with multiple abuse victimization (OR 2.54 and 53.7 respectively). Caregiver-level factors were also investigated in both studies. Both studies found parental illness or mental health problems to be factors associated with multiple abuse victimization (OR 1.77 and 71.6). Caregiver-level factors identified in a single study were parents which quarrel with their child (OR 18), maternal cruelty (OR 135.8) (Afifi, et al., 2003), mother's education less than university (OR 1.83), and parents not living together (OR 1.62) (Ibrahim, et al., 2008). Protective factors were found to be high birth order of child and parental predominance (Afifi, et al., 2003).

Discussion

Empirical research on risk and protective factors for child abuse on the African continent remains limited, although sexual abuse has been investigated more extensively than physical abuse. There is severe heterogeneity of studies in terms of sample, recruitment, scales used and definitions of physical and sexual child abuse. This heterogeneity together with the very diverse contexts in which these studies are nested make cross-comparisons difficult.

However, despite these differences in cultures, samples and countries, some patterns seem to be emerging. Prevalence rates across all studies and abuse types are consistently high despite heterogeneous measuring tools, differing definitions of child abuse used and the very different populations sampled. The sample populations varied from primary and high-school students to psychology students and community members.

Prevalence rates of physical abuse within these studies varied greatly between 7.6% and 45% depending on definitions and measures used. In general, studies from Egypt found considerably higher prevalence rates of physical abuse than studies from South Africa. This may be due to greater acceptability of corporal punishment, stricter discipline, and more traditional family settings with clear hierarchical family structures in Egypt. However, this remains speculative as there is no research evidence to support this. Corporal punishment appears to be less acceptable in South Africa as the country has abolished all corporal punishment in schools in 1996. Whereas in Egypt, where corporal punishment in school is legal, a study showed that between 60% and 80% of school children had experienced it in their lifetime (Pinheiro, 2006). One study compared particularly vulnerable children to other children; those affected by AIDS and those orphaned by AIDS were at greater risk of severe abuse (Cluver, et al., 2011). Studies used various definitions of physical abuse and few reported the severity and frequency of the abuse. Many studies therefore included children who had been hit once in the abuse category with children who experienced regular and severe physical abuse.

Prevalence rates of sexual abuse within the studies varied greatly between 1.6% and 77.7% depending on the definition and measures used. In general, studies from South Africa found higher prevalence rates for all variations of sexual abuse compared to studies from Egypt. This corresponds with higher rates of reported sexual violence within South Africa with 62,514 annually reported sexual assault cases to the police (European Institute for Crime Prevention and Control, 2010; South African Police Service, 2012). However, numbers of reported sexual abuse generally do not reflect the prevalence and incidence of sexual abuse. Anecdotal and qualitative evidence from both Egypt and South Africa suggests that under-reporting is rife and post abuse services often re-victimize survivors and children which makes their families hesitant to report sexual abuse victimization (Abdelhadi, 2008; Roehrs, 2011). Studies using current child self-report tended to report higher prevalence rates for child sexual abuse compared to studies using adult retrospective self-report which might suggest recall bias. In addition, the age range of adults interviewed varied from 18-24 to 15-49 with one study reporting that older women were less likely to report child rape experience (Jewkes, et al., 2002). Studies investigating sexual abuse in particularly vulnerable children found very high rates of reported child sexual abuse as could be expected. Girls on the street seem to be a group at particularly high risk of sexual abuse. Children recruited from psychiatric clinics might be subjected to sampling bias as it is possible that they sought psychiatric support in order to deal with trauma from sexual abuse victimization.

For some studies, particularly sexual abuse studies, prevalence rates were lower in African samples compared to those observed in high income countries. However, there is a dearth of research and many methodological problems reported, particularly in questionnaire design and lack of description of its development as well as potential lack of confidentiality in school-based studies. Therefore, it is likely that this has led to an increase in underreporting of abuse. In addition, disclosure and discussion of issues such as child abuse victimization may be culturally affected. In societies where sexuality or sexual matters are taboo and not discussed and no sex education is available, disclosure may be more difficult for victims (Fontes & Plummer, 2010). In particular, evidence suggests that where loss of virginity may mean never being able to marry or dishonouring the family, victims may be more

hesitant to disclose sexual abuse (Baker & Dwairy, 2003). Further methodologically rigorous research is crucial to establish whether this is indeed the case.

In addition, studies which found lower prevalence rates of child physical abuse on the African continent used very strict definitions. In one study a physician needed to confirm the physical abuse through examination (Afifi, et al., 2003). In two other studies only children who experienced on-going abuse monthly or more frequently were categorised as abuse victims (Cluver, et al., 2011; Meinck, et al., in press).

Findings demonstrate correlates of abuse in all levels of the ecological framework (Belsky, 1993; Bronfenbrenner, 1979). For physical child abuse, some caregiver-level factors appear to be more influential on risk of victimization than others. Domestic violence was the factor most commonly associated with physical child abuse (5 studies). This corresponds with evidence from high income countries where a considerable co-occurrence between child abuse and children's exposure to domestic violence appears to exist which might have a compounding effect on children with even higher risk for negative outcomes (Herrenkohl, Sousa, Tajima, Herrenkohl, & Moylan, 2008). Physical illness of the caregiver appeared to be another influential risk factor within the caregiver-level (4 studies). In particular, children living with someone sick with AIDS, chronic illnesses or with a physical disability appeared to be at higher risk for physical abuse victimization. This may be caused by increased family stress due to high levels of experienced stigma which impact on caregiver mental health. Stigma and poor mental health have been found to be major risk factors for child abuse victimization within this review. AIDS-related stigma is common in many countries and might be inflicted by the community or within the family by gossiping, maltreating or disowning affected family members (Campbell et al., 2005). Mothers suffering from chronic pain report poorer mother-child relationship and more inconsistent parenting which in itself is a risk factor for child abuse victimization (Black, Heyman, et al., 2001a; Evans, Shipton, & Keenan, 2006; Stith et al., 2009). As mentioned before, caregiver mental health was also associated with physical abuse victimization. This corresponds with findings from reviews from high income countries which find strong links between

parental mental health problems and child maltreatment (Black, Heyman, et al., 2001a). Correspondingly, there are strong links between poor maternal mental health and domestic violence (Ellsberg, Jansen, Heise, Watts, & Garcia-Moreno, 2008). In addition, households with caregivers with chronic illnesses are at higher risk for income deprivation, particularly if they come from communities with high burdens of diseases and restricted access to health care.

At the household-level, poverty was found to be associated with physical child abuse victimization (2 studies). This corresponds to evidence from high income countries where poverty often co-occurs with an increased risk for physical abuse victimization. The underlying causes for this i.e. increased family stress or higher likelihood of living in a violent area are not entirely understood. Depending on the underlying causes, an increase in family income may decrease the risk for physical child abuse victimization, however further research is needed to address this question (Berger, 2004; Cancian, Shook Slak, & Yang, 2010).

At the child-level, younger age was found to be associated with physical child abuse victimization in Africa (4 studies). This was also found to be the case in high-income countries where younger and smaller children and those in early stages of development appear to be more at risk (World Health Organization, 2002). However, young children are also at higher risk for very severe outcomes such as fatal injuries following physical child abuse (Keenan et al., 2003). Another child-factor associated with physical abuse victimization was school-non achievement (2 studies). However, it is unclear whether children who are physically abused attend school less or whether skipping school may result in physical abuse in the home. In addition, not being able to attend school might be part of an abuse pattern rather than the child's choice. School non-attendance and poor performance were also found to be associated with physical abuse in high income countries (Kurtz, Gaudin Jr, Wodarski, & Howing, 1993).

Conflicting results were found regarding the caregiver-level factors age, education and biological versus non biological caregiver. Findings from reviews in high income countries are also unclear.

Some find no relationship between caregiver age and physical abuse victimization (Stith, et al., 2009) and others find a higher risk for physical child abuse in younger parents (Black, Heyman, et al., 2001a). Conflicting results have also been found regarding education in high income countries. More research is needed to understand how caregiver education is associated with physical child abuse and which factors might influence this relationship (Black, Heyman, et al., 2001a). Living with a non-biological caregiver was not associated with physical abuse victimization in a review of studies from high income countries (Stith, et al., 2009). However, not many studies have investigated this factor in high or low and middle income countries.

Other factors associated with physical abuse on all levels of the Ecological Framework were also identified by this review (see results section). However, their findings were limited to single studies and need to be investigated further.

Correlates of child sexual abuse were particularly dominant on the caregiver-level of the Ecological Framework. Relationship status of the caregiver i.e. single parent or parents divorced was found to be associated with sexual abuse victimization (4 studies). This was also found by evidence from high income countries (Black, Heyman, et al., 2001b; Finkelhor, Hotaling, Lewis, & Smith, 1990). It is unclear whether children in single parent families are more vulnerable because they are less supervised, have poorer relationships with their caregivers, or whether this is due to the involvement of step-parents. Living with a step-parent was also found to be a risk factor for sexual abuse victimization although it is unclear whether there step-parent was the perpetrator (3 studies). There is some evidence also from high income countries which suggests that living with a non-biological parent increases the risk for sexual abuse victimization although the pathway of this is yet unclear (Black, Heyman, et al., 2001b).

Domestic violence was also found to be a common risk factor for child sexual abuse victimization (3 studies). Evidence from the US showed that domestic violence in the household increased the risk for incestuous sexual abuse fivefold (Stroebel et al., 2013). However, the studies in the African context

measured all types of sexual abuse experience, not only incestuous incidents. Children who witness domestic violence seem to be at higher risk of engaging in risky sexual behaviours and might therefore also be at higher risk for sexual abuse victimization (Elliott, Avery, Fishman, & Hoshiko, 2002).

Poor parent-child relationship was also found to be a risk factor for sexual abuse victimization (3 studies). In particular, poor mother-daughter relationships increased the risk for sexual child abuse. This corresponds to evidence from high-income countries which describes exactly the same phenomenon (Black, Heyman, et al., 2001b). Parental drug and alcohol use were also found to be associated with sexual child abuse (3 studies). This was found also in studies from high income countries; however, different types of substances may predict different types of child maltreatment (Famularo, Kinscherff, & Fenton, 1992; Walsh, MacMillan, & Jamieson, 2003). It is also unclear thus far what the mechanisms between parental substance abuse and sexual child abuse victimization are.

Parental mental health was also found to be a caregiver-level risk factor (2 studies). This was also reported from high income countries. It is, however, generally unclear whether poor mental health precedes or succeeds child sexual abuse (Black, Heyman, et al., 2001b). Some evidence from prospective longitudinal studies suggests that mothers of sexually abused children report being more stressed and anxious than mothers of non-abused children (Pianta, Egeland, & Erikson, 1989).

Factors for sexual abuse victimization were also identified on the child-level. Being female (3 studies) was a risk factor for being sexually victimized. Many of the studies included in this review used male or female only samples and it is therefore impossible to be conclusive. However, when males and females were compared, females were at much higher risk for sexual abuse victimization, in particular rape. This corresponds to global evidence on sexual child abuse victimization (Pereda, Guilera, Forns, & Gómez-Benito, 2009). However, gender may also play a role in the disclosure and reporting of sexual abuse, with boy's fearing higher levels of stigma following the disclosure of victimization (Spaventa, 2007).

Factors for sexual abuse victimization were also identified at the household-level. Emotional abuse (3 studies) and physical abuse (2 studies) were identified as risk factors. It is unclear whether emotional and physical abuse victimization preceded sexual abuse and made children more vulnerable or whether emotional and physical abuse were reactions to sexual abuse victimization. A recent review found that it is common for multiple types of child-abuse to co-occur and they are often correlated with each other. Knowledge of this is important for intervention design as shared variance between abuse types may considerably influence the risk factors for abuse (Herrenkohl & Herrenkohl, 2009). Another household-level factor identified was large family units (2 studies). There is some debate in sub-Saharan Africa whether overcrowding may facilitate sexual abuse due to the necessity of co-sleeping and little privacy (Dawes, 2002).

This review found conflicting results regarding ethnicity and race of sexual abuse victims as well as their location (rural versus urban). There appears to be unclear evidence regarding sexual abuse victims' age in studies within this review and in those from high income countries (Black, Heyman, et al., 2001b). These could be important areas of future risk factor research.

Other factors associated with sexual child abuse on all levels of the Ecological Framework were also identified by this review (see results section). However, their findings were limited to single studies and need to be investigated further.

Two of the reviewed studies also investigated multiple-abuse victimization. Risk factors spanned all levels of the ecological-framework. No reviews have been undertaken in high-income countries regarding correlates of poly-victimization and further research is needed to identify factors associated with multiple-victimization.

Limitations of this review

Surveys found in this review reported sample sizes from 94 to 126,696 adolescents. The sample sizes were in most cases adequate to large and powerful enough to yield statistical significance; however, some of the studies did not report p-values or odds ratios. The majority of studies were carried out with populations of high-school or university students. While these are very valuable to establish prevalence and risk factors within this particular population, they can be potentially problematic because they exclude the most vulnerable children and adolescents who might not be able to attend school or qualify for university. The gross enrolment ratio in 2008 for youth in secondary school in sub-Saharan Africa was 40% and 6% for tertiary education (UNESCO, 2010, 2012) suggesting that these are indeed non-representative samples in some of the countries studied. These studies also exclude children who are too poor to pay for school fees, school uniforms or books in countries where they are mandatory.

Only three of the reviewed studies addressed language and literacy issues within their sample population, had translated and back-translated questionnaires in the local languages and piloted questionnaires for comprehensibility of the sample population (Anderson & Ho-Foster, 2008; Cluver, et al., 2011; Meinck, et al., in press). All other studies did not mention efforts of addressing literacy or language barriers. Low literacy rates in some of the surveyed populations may impact on the understanding of questions by participants.

A further limitation of this review is the way abuse and the hypothesized associated factors were measured. Researchers used different scales, some validated for the context in which they were used, some self-constructed. Often there was no reasoning given behind the development of child abuse scales. Many of the surveys did not distinguish between intra-familial and extra-familial abuse and frequency of abuse but only measured abuse occurrence. It was therefore not possible to distinguish children who experienced one incident of abuse from children who experienced regular severe abuse. In light with this, abuse was defined differently in each study - which may also account for some of the variance in prevalence rates. A number of experiences which may be closely linked to child abuse such as bullying victimization, intimate-partner violence, and corporal punishment in schools were

excluded from this review. In addition, emotional abuse was not included in this review due to the paucity of studies available. Further reviews could valuably synthesize the existing research evidence for these other important forms of violence against children.

For the majority of surveys it was unclear why certain factors were tested and others were not. They did not provide theoretical frameworks or hypothesized theories of risk and protective factors. It would be of great value for future research to utilise empirical theoretical models in selecting and testing risk and protective factors. This would facilitate comparison of the data as studies would measure similar or the same risk factors rather than choosing random ones. It is also important to note that there are methodological challenges associated with different approaches to reporting abuse. Five of the surveys reviewed had used adult retrospective-self-report. Evidence suggests this method may be subject to recall bias as participants may block out abusive memories or recall incidents incorrectly. If anything, there is a higher likelihood of underreporting when using retrospective self-report (Hardt & Rutter, 2004).

There are also methodological concerns with privacy for participants: Nine out of 22 surveys were classroom based and used child or adolescent self-report, but only two reported how they ensured confidentiality within the classroom setting whilst participants were filling in surveys. This again raises concerns about biased reporting in non-confidential settings. Incidents of abuse are therefore likely to be even more under-reported than in other types of abuse research. In addition, no paper discussed the role of potential cultural factors which may play a role in abuse disclosure. It is possible that family structure, perpetrator-victim relationship and societal norms impact on likelihood of disclosing abuse in the African context, as has been found in the West and future research could valuably investigate this (Kenny & McEachern, 2000).

In addition, all of the surveys identified were cross-sectional. They could not detect whether children had been subjected to abuse throughout their childhood or whether the abuse was caused by a change in caregiver or family circumstances. Cross-sectional data do not allow for the establishment of causal

inferences, although for most of the identified factors in these surveys causality was very unlikely to be reversible (i.e. child abuse would not be a cause of parental low education, parental sickness or parental HIV-status). However, causality of risk factors was only addressed by a few surveys. Some of the identified associated factors such as child helplessness, child disability, mental health problems or learning difficulties could be outcomes of child abuse rather than risk factors. Other parental factors such as parental cruelty and parental indifference might be part of the abuse pattern rather than risk factors. In addition, visible injuries on the child's body, described as a risk factor in one study, are almost certainly an outcome. In addition, one study found protective factors against physical or emotional abuse victimization were mother employed as a prostitute or father employed as a trader. These may not be actual protective factors but may be proxies for other protective factors which were not measured, such as higher family income or parental absence.

Of the hospital and social service case records reviewed, many were old and only described cases which had been reported to officials. These are therefore likely to be biased samples in light of the fact that low reporting of abuse occurs in all countries (Finkelhor, 1993). No comparison with children who did not report abuse was possible.

There was a paucity of studies investigating correlates of physical abuse. The majority of surveys (15/22) examined sexual abuse. Due to the unavailability of research on correlates of physical abuse, few patterns could be identified for intervention design. In addition, few studies investigated protective factors and no patterns for protective factors for child abuse could be identified.

Implications for research, policy and practice

The findings of this review have implications for researching risk and protective factors for child maltreatment in general in Africa. The following recommendations for research are suggested by this review: i) Further research is needed with community-based samples using longitudinal data to establish prevalence rates and causal factors in child abuse. In particular, physical abuse remains a

little-understood area. ii) Protective factors against abuse within both developing and developed world samples have been severely understudied. It is essential that protective factors are rigorously investigated in order to inform intervention design and understanding of how factors interact with each other. iii) The majority of large scale studies within this review were carried out in South Africa and Egypt, two countries which are hardly representative for the majority of populations within Africa. Further investigation of risk and protective factors in other African countries is needed to establish whether and how country specific events such as epidemics, conflicts or wars, natural disasters, availability of social services and different societal structures influence the child abuse burden of countries and the risk and protective factors for child abuse (Cluver, et al., 2011; McCrann, Lalor, & Katabaro, 2006; UNICEF, 2011). iv) Further research is required to establish cultural correlates of child abuse and to identify modifiable risk and protective factors for child abuse on the African continent. v) To fully understand the context in which child abuse is occurring, future research could valuably focus on the relationship between child, perpetrator and the general family environment, particularly in cases where children are orphaned or have experienced abandonment. vi) Multiple abuse victimization is vastly understudied in African samples. Research from high-income countries shows that many victims of child abuse experience more than one type of victimization. These children are at higher risk of negative outcomes than children who have experienced a single traumatic event (Finkelhor, Ormrod, & Turner, 2007). Future research could valuably examine risk and protective factors for poly-victimization in order to help protect the most vulnerable of children. vii) Improving and standardizing methodological design of studies and reporting of results would facilitate future synthesis of available studies. viii) Strengthening and evaluating the available child protection systems within Africa is vital. Each state could develop a national strategy to address violence against children and prohibit all acts of violence against minors. Allocating resources to the prevention of child abuse and addressing the underlying causes of child maltreatment are important steps forward, and these could include the development of systematic training programmes for professionals and non-professionals working with children and families. Child participation in the process of developing child protection frameworks should be encouraged (United Nations, 2006). viv) It is also unclear whether children know how to access services when available and seek help to stop

the re-occurrence of abuse. Further research is needed regarding the knowledge and help-seeking behaviour of child abuse victims and the response of professionals to referrals in abuse cases. vv) Future research could valuably investigate the development and effectiveness of prevention interventions and services available for child victims of abuse. It is important that any parenting or child abuse prevention interventions developed for countries within Africa should be culturally sensitive, accessible and scalable to use with general and high-risk populations. In addition, it may be important to consider contextual factors such as patriarchal family structures, migrant labour, culturally specific traditions, HIV or other chronic illnesses, extreme poverty or war.

The findings of this review also have implications for child protection policy and programming in Africa. Studies were too diverse to draw extensive evidence-based conclusions; however, it is clear that the high levels of child abuse shown in all studies require immediate attention by policy makers and child protection professionals.

Some indications about potential focus areas for interventions in many levels of the Ecological Framework were given by this review. Poor caregiver health and mental health may be mitigated by improving availability, quality and access to primary health care which provides holistic trauma informed-care (Ko et al., 2008). Improved caregiver health and mental health may also reduce the burden of substance abuse within families and communities. Furthermore, it might provide better treatment to victims of violence and their families. In addition, a functioning primary health service may be able to put screening processes in place to identify children at risk and those who have already been victimized. African governments have already pledged to allocate at least 15% of their annual budget to health care to achieve the Millennium Development Goals, a undertaking which the vast majority have yet to achieve (WHO, 2011a).

Poor caregiver-child relationships can be addressed by parenting interventions. There is a strong evidence-base from high income countries for the effectiveness of small group parenting programmes in reducing harsh parenting and child maltreatment (Mikton & Butchart, 2009). However, a recent

systematic review of parenting interventions in the developing world found that few interventions to reduce harsh parenting have been tested in low income countries. Only four randomized-controlled trials have been completed in African countries, all with small samples, although these show promising results (Knerr, Gardner, & Cluver, 2011). Currently, there are few culturally sensitive child abuse interventions within African countries. Apart from state social services, a number of NGOs such as Childline, a free telephone hotline for children, or Child Welfare South Africa provide services for young people in crisis[7]. A small number of child abuse prevention programs focussing on family functioning, communication and parenting skills, such as the Sinovuyo Caring Families Project (http://www.cwbsa.org/sinovuyo), Africa Parenting Programme (http://www.aho.org.uk/africa_parenting.html), Win-Win Parenting (http://www.winwinparenting.org/) and Injabulo Families Programme exist or are being developed (http://www.cwbsa.org/families). However, such services remain scattered and have thus far not been scientifically evaluated. An on-going study in Burundi of the Urwaruka Rushasha Project showed a reduction of harsh parenting in its mid-term evaluation (Bundervoet, Annan, & Armstrong, 2011). However, final results are not yet available.

Prevention and treatment of child abuse can be costly. In countries where war, poverty and HIV/AIDS epidemics are highly concerning issues, limited resources may be available to deal with violence against children. However, a recent study carried out by the Centres for Disease Control found that in the US alone, the estimated average cost per child abuse victim throughout their lifetime for child and adult health care, special education, criminal justice, productivity losses and child welfare is $210,000 (Fang, Brown, Florence, & Mercy, 2012). The Australian Government estimated that they spend 0.45% of their GDP on the costs incurred by new incidents of child abuse in 2007 (Taylor et al., 2008). The costs of child abuse are therefore a considerable burden and comparable to the burden of infectious diseases on a country's economy. It is in the economic and ethical interest of policy makers to invest in prevention and treatment (Bonnel, 2000). However, in countries where no or few services

[7] Child hotlines are free to call from many mobile phones and landlines. Within sub-Saharan Africa, the majority of communities have standard pay phones in market squares operated by locals. In addition, according to the International Telecommunications Unit 63% of Africans have a mobile phone subscription (http://www.itu.int/en/ITU-D/Statistics/Pages/stat/default.aspx, 10/05/2013).

are provided, it will be difficult to calculate the costs of child maltreatment. It is therefore vital to carry out these types of analyses within African countries to increase policy makers' awareness of the problem and to present them with clear evidence of the economic importance of the prevention of child abuse.

Training of professionals, para-professionals and lay-people to identify children at risk and situations of child abuse as well as providing trauma-informed care to parents and children is vital in preventing and treating child abuse. To aid countries in setting up child maltreatment prevention systems, the World Health Organization has developed a screening tool which helps governments assess their readiness for implementation of child abuse prevention strategies. This is currently being trialled in a number of developing countries and available online at no cost (WHO, 2013).

Implementation of screening for child abuse and child abuse response will take time and will not be universal across the African continent. In general, protocols and guidelines should be established and implemented detailing what services should be provided, how they should be provided and by whom. Protocols and standards will enable monitoring and evaluation of services. In addition, they will provide health care workers with knowledge about child abuse and important issues in treating survivors. Once protocols and guidelines are in place, wide dissemination through training of health care workers, community outreach workers and the population can take place. Partnerships between primary health care facilities and specialist care, if available, should be established for further referrals. There is currently little evidence from Africa regarding successful attempts to implement child protection services. However, the successful rollout of other programmes, such as testing and treatment campaign for HIV/AIDS, may present an excellent role model for child abuse prevention efforts.

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Table 1: Country Information

Country	Location	History	Population	Life expectancy	Economic profile	HIV-Prevalence	Orphans
South Africa	Country located in the southernmost tip of Africa bordering on Namibia, Mozambique, Zimbabwe, Botswana, the Indian Ocean and the South Atlantic Ocean	South Africa is a multi-ethnic democracy and former British colony. To this day South Africa struggles with the remnants of its Apartheid past	51 million, 80% of which are of black African ancestry and predominantly Christian religion. There are approximately 9% whites and 9% coloureds as well as 2% Asians within the population. There are an estimated 5 million illegal immigrants in the country (CIA, 2013)	53.4 years (UNDP, 2013)	Upper middle-income country but one of the countries with the highest income inequality with a Gini-coefficient of 63.1 (World Bank, 2010). 13.8% of the population live on less than US$1.25 a day (UNDP, 2013)	17.3% (UNAIDS, 2013)	3.5 million (UNICEF, 2013)
Egypt	Country on the north-eastern tip of the African continent also comprising a part of the Asian continent, bordering on Mediterranean Sea, Gaza Strip, Israel, Red Sea, Sudan and Libya	Semi-presidential republic and one of the oldest inhabited countries in history. Egypt gained independence from Britain in 1922, first to become a kingdom and then a republic in 1952. There have been ongoing protests since 2011 over legal and political issues calling for reforms (CIA, 2013).	84 million inhabitants, 90% of them of Muslim faith with 10% Coptic and other Christian groups, 99% of the population are Egyptians (CIA, 2013)	73.5 years (UNDP, 2013)	Middle income country with a Gini-coefficient of 30.8 suggesting medium income inequality (World Bank, 2010). 1.7% of the population live on less than US$1.25 a day (UNDP, 2013)	No data (UNAIDS, 2013)	1.7 million (UNICEF, 2013)
Mauritania	Country in West Africa bordering the Western Sahara, Algeria, Mali and Senegal as well the Atlantic Ocean	Islamic republic, former French colony in West Africa, ruled by military governments since the 1980s, elected president since 2009 (CIA, 2013)	3.4 million inhabitants, majority of the population depend on agriculture and livestock, nearly 100% of the population are of Muslim faith, population groups are 30% Black, 30% Arab and 40% mixed (CIA, 2013)	59 years (UNDP, 2013)	Low-income country with a Gini-coefficient of 40.5 suggesting medium income inequality, 23% of the population live on less than US$ 1.25 (UNDP, 2013)	1.1% (UNAIDS, 2013)	170,000 orphaned children (UNAIDS, 2004)

Zimbabwe	Landlocked country surrounded by Botswana, Zambia, and Mozambique	Semi-presidential republic in southern Africa, former British colony which declared independence as Rhodesia in 1965 and became an unrecognized state, since 1980 de jure independence from the UK (CIA, 2013)	12.6 million, 98% of the population are bantu-speaking ethnic groups, majority follow Christianity (CIA, 2013)	47 years for men and 45 years for women (UNDESA, 2011)	Low-income country with a Gini-coefficient of 50.1 showing high income inequality (World Bank, 2010), 72% of the population live under the national poverty line (UNDP, 2013)	15% in the general population (UNAIDS, 2013)	25% of children (UNICEF, 2006)
Swaziland	Landlocked country surrounded by Mozambique and South Africa	Constitutional monarchy in southern Africa, previous British protectorate, independent since 1968	1.3 million, vast majority Swazi, the predominant religion is Christianity (CIA, 2013)	47 years for both males and females (UNDESA, 2011)	Lower-middle income country with a Gini-coefficient of 51.5 showing high income inequality (World Bank, 2010), 75% of the population work in subsistence farming and approximately 40% live on less than US$1.25 per day (UNDP, 2013)	26% in the general population (UNAIDS, 2013)	70,000 (Li, 2005)
Nigeria	Country in West Africa bordering on Benin, Chad, Cameroon and Niger.	Federal constitutional republic and former British colony, gained independence from Britain in 1960s, a civil war following independence killed between 1 and 3 million people, since its independence Nigeria has alternated between democratic and military governments with democratic rule since 1999 (Library of Congress, 2008)	7th most populous country in the world, population of approximately 150 million with over 250 ethnic groups, approximately half of which follow the Muslim and half the Christian faiths, a small minority practices traditional religions (CIA, 2013)	52.3 years (UNDP, 2013)	Middle income country with a Gini-coefficient of 48.8 showing high income inequality, 68% of the population live on less than US$1.25 per day (UNDP, 2013)	3.7% (UNAIDS, 2013)	8.6 million (UNAIDS, 2004UNAIDS, 2004)

Table 2: Description of included studies and hypothesized correlates

Author/Date	Country	Sample Characteristics	Type of study	Risk and protective factors	Prevalence	Definition of Abuse
Afifi, 2003	Egypt	555 children aged 12-18 years (mean 15.6)	Cross-sectional sample of school students	*Physical Abuse:* Maternal disinterest OR 36.9 (CI 2.6-527), maternal education OR 22.3 (1.7-295), injury signs OR 688.3 (40.8-11614.1) Non-associated factors: gender, child hyperactivity, wasting, sharing bed with others, mistreatment by teacher, maternal employment, maternal illness, maternal cruelty, paternal cruelty, paternal incarceration, paternal disinterest, paternal predominance, paternal bad attitude towards mother, parental quarrels with child, disagreements between parents, problems in family, reward system child helplessness, child illness, child disability, child learning difficulties, living away from family father average education, father unwell and parental smoking	7.6%	beaten to the point of bruising, wounding, fractures or burns inflicted by an adult caregiver and confirmed through examination
				Sexual Abuse: Child-hyperactivity OR 11.8 (2.5-57.8), child disability 9.1 (1.6-50.6), maternal disinterest OR 48.6 (6.5-262.9), wasting OR 481.8 (10.7-21 734.1) Protective factors: high birth order of child OR 0.6 (0.4-0.9) Non significant factors: child helplessness, gender, living away from the family, child illness, child disability, child learning difficulty, sharing bed with others, mistreated by teacher, mother unwell, maternal education, maternal employment, maternal cruelty, paternal education, paternal illness, paternal cruelty, paternal predominance, paternal bad attitude towards mother, parental quarrelling with child, domestic disagreements, problems in the family, smoking, reward system, mother disinterested in child, father in prison, father disinterested in child	7%	Unwanted touching of private parts
				Multiple-victimization: Parents quarrel with child OR 18 (2-164.3), paternal illness 30.6 (1.7-558.6), maternal illness OR 71.6 (3.3-1546.1), maternal cruelty OR 135.8 (0.9 – 19760.9), problems in family OR 53.7 (3.6-791.5), teacher maltreatment OR 40.3 (2.3-713.5), injury signs OR136.2 (5.8-3202.1) Protective Factors: high birth order of child OR 0.2 (0.1-.07), paternal predominance OR 0.0 (0.0 – 0.01) Non significant factors: gender, wasting, child disability, maternal education, maternal employment, paternal education,	9.7%	experienced at least two types of abuse (physical, emotional or sexual) in one child

				paternal disinterest, parental smoking, child helplessness, child hyperactivity, child unwell, child learning difficulty, child living away from family, child sharing bed with others, visible injuries, maternal disinterest, paternal cruelty, father imprisoned, father has bad attitude towards mother, parents quarrel with child, arguments between parents		
Anderson et al., 2008	South Africa	126,696 male school children aged 10-19 (mean age 15)	Cross sectional survey: adolescent self-report	*Sexual Abuse:* Living in rural site areas OR 1.7 (1.42-1.99), living in less developed provinces (no OR), verbal insults (no OR), physical abuse OR 4.17 (3.1-5.18) Perpetrators: other schoolchildren, teachers, family members, other adults Non-significant factors: type of school, age, attitudes about sex, age at sexual debut, frequency of talk about sex, ever forced sex with someone else, believe condoms prevent HIV/AIDS, belief about personal HIV status	44%	Forced sex
Audu, et al., 2009	Nigeria	316 employed girls under the age of 18 (mean age 14.9)	Community based cross sectional sample of females involved in commercial activity	*Sexual Abuse:* Being younger than 12 OR 3.55 (1.38-9.14), having more than 2 jobs OR 16.09 (4.19-61.69), working more than 8 hours OR 4.43 (1.59-12.29), having no formal education OR 4.79 (1.63-14.16) Protective factors: father's employment as a trader OR 0.05 (0.01-0.24) or senior civil servant OR 0.014 (0.001-0.31) and mother's employment as senior civil servant OR 0.26 (0.22 – 0.96) Non-significant factors: awareness of contraception, enrolment in school, wanting to go to school, living arrangements, relationship status of employer, place o employment and type of employment	77.7%	Forced sex
Ballet, et al., 2011	Mauretania	77 female street children (age not reported), recruited at two NGOs helping destitute children	Cross-sectional study, current self report	*Physical and Emotional Abuse:* parents living together, father present in the household, father's employment, mother's employment, living in the city of Nouadhibou (no odds ratios given) Protective factors: absence of father, father employed as soldier, mother unemployed, mother working as prostitute, parents divorced or deceased, living in the city of Nouakchott	45.5% 16.9%	emotional harassment and ill-treatment by one's family Beatings which left marks

Berard et. al, 1999	South Africa	934 adolescents (15-22 years old)	Retrospective analysis of patient records at WSC adolescent outpatient psychiatric treatment centre admitted from February 1990 to April 1997	*Sexual Abuse:* Living in a non-nuclear family and history of family alcohol abuse	33.9%.	Some form of contact sexual abuse including touching and penetration
Birdthistle, et al., 2011	Zimbabwe	1194 (90% female) aged 0-16 years	Review of records of patients attending a child sexual abuse clinic	*Sexual Abuse:* double OR 1.8 (1.2-2.7), maternal 3.9 (2.4-6.3) and paternal orphanhood OR 1.3 (1.0-1.7), school non-attendance OR 2.12 (1.6-282)	94%	Forced sex
Breiding, et al.,	Swaziland	1244, 13-24 years females only	Cross-sectional, household survey	*Sexual Abuse:* Not being close to mother OR 1.88 (1.21-2.92), not attending school OR 2.12 (1.60-2.82), emotional abuse as child OR 2.06 (1.46-2.91), knowledge of other kids who were assaulted OR 1.59 (1.00-2.55), aware of children having sex with teacher OR 1.68 (1.21-2.34), greater number of people live with child OR 1.04 (1.01-1.07) Non-significant factors: death of a parent, abandonment by parent, parental education, quality of girl's relationship with parent, number of families child had lived with, frequency of visitors to the child's home, girl's level of trust in teachers, mode of travel to school, travel time to school, daily amount of time spent with friends, trust in neighbours, time spent fetching water or herding animals, ability to say no to sex with adult men, alcohol intake before the age of 13, had ever received information regarding sexual violence and early debut before 13 years of age	Prevalence rates from Reza et al 2009 33.2% 4.9% 13.9% 9% 18.8% 1.3%	 Any sexual violence Forced sex Unwanted touching of respondent Coerced sex Attempted forced sex Forced touching of perpetrator
Carey, et al,. 2008	South Africa	94 (8.25-19 years) Youth Stress Clinic attendees, children who had experienced trauma	Cross-sectional survey among clinic attendees	*Sexual Abuse:* Female gender OR 1.85 ($p<0.018$), single-parent families OR 6.69 ($p<0.006$), family receiving disability grant OR 1.58 ($p<0.05$) also associated with physical ($p=0.013$) and emotional abuse ($p<0.001$) Non-significant factors: social service support for family, parental employment, parents being alive, witnessing domestic violence, suspected parental substance abuse, living with stepfather	53% 48%	Contact sexual abuse Forced sex

Cluver, et al., 2011	South Africa	723 adolescents (mean age 16.9)	Longitudinal study but uses a cross sectional sample	*Physical Abuse:* Caregiver AIDS-Sickness OR 2.25 (1.05-4.82), being orphaned by AIDS and living with a caregiver sick with AIDS (dually affected) OR 3.35 (1.36-8.26) Non-significant factors: being AIDS-orphaned, other orphanhood, other caregiver sickness, healthy caregiver *Sexual Abuse:* Non significant factors: other orphanhood, other caregiver sickness, healthy caregiver, AIDS-sick caregiver, orphaned by AIDS, dually affected (AIDS-sick caregiver and AIDS-orphaned)	5% Healthy families 6% AIDS-orphaned 11% AIDS-sick caregiver 12% Dually affected Not stated	Beaten with an item likely to cause harm or hit so that it hurt or caused marks weekly or more often Unwanted contact with "private parts" of the adolescent or abusing adult
Collings, 1991	South Africa	326 male undergraduate psychology students University of Natal	Cross-sectional survey; adult self-report about childhood sexual abuse before the age of 17	*Sexual Abuse:* Being of black race, parental punitiveness, parental rejection, raised without father	28.9%	Contact sexual abuse including penetration and non-contact such as harassment
Collings, 1993	South Africa	200 children, 2 months to 17 years (mean 7.95 years) referred to Durban Child Welfare for alleged physical or sexual abuse in 1985-1988 white and coloured children only	Analysis of records of Durban Child Welfare	*Physical Abuse:* younger victims, male gender, White race, younger parents, smaller family units, perpetrator biological parent not significant: mother married *Sexual Abuse:* Female gender, coloured background, perpetrator parent or family, large family units, older parents		Severe physical abuse Contact sexual abuse
Collings, 2005	South Africa	132 male children aged 1-17	Review of all reported child sexual abuse incidents in North Durban from Jan 2001 to Dec 2003	*Sexual Abuse:* Protective factor: Living with at least one biological parent OR .016 (0.03-0.85)		Contact sexual abuse
Dawes, et al., 2005	South Africa	925 South African families with children under 18	South African Survey of Attitudes toward corporal punishment, nationally representative sample	*Physical Abuse:* younger child age, older parental age, female parent, single and previously married, factors influencing the severity of corporal punishment: attitudes supportive of corporal punishment and attitudes towards non-empathic parenting	33%	Beaten with an object

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Ibrahim, et al., 2008	Egypt	1897 female university students aged 18-24	Cross-sectional study of prevalence and risk factors of child abuse	*Physical Abuse:* Mother's education less than university OR 1.26 (CR 1.1-1.5), domestic violence OR 2.64 (2.1-3.3) Non-significant factors: parental drug addiction, father's education less than university, parental mental health problems, and separation of parents.	45%	exposed to at least one form of physical abuse such as kicked, burned, stabbed, hit with object,
				Sexual Abuse: Mother's education less than university OR 1.57 (1.3-1.9), domestic violence OR 2.04 (1.4-2.4), parent's drug addiction OR 2.40 (1.3-4.3), parents not living together OR 1.82 (1.4-2.4) Not significant factor: parental mental health problem, father's education less than university	2.9% 24.9%	Forced sex exposure to sexually inappropriate behaviour
				Multiple victimization: mother's education less than university OR1.83 (1.36-2.47), domestic violence OR 2.54 (1.88-3.42), parental mental health problems OR 1.77 (1.12-2.76), parents not living together OR 1.62 (1.14-2.30) Non significant factors: father's education less than university, parental drug problems	25.8% 13.2%	reported two forms of childhood abuse experienced physical, emotional and sexual abuse combined
Jewkes, et al., 2002	South Africa	11 735 women aged 15-49 years	South Africa Demographic and Health Survey, cross-sectional analysis of longitudinal survey	*Sexual Abuse:* Age-cohort OR 0.74 (0.66-0.82), living in the Western Cape Non significant factors: ethnicity	1.6%	Forced sex
King, et al., 2004	South Africa	939 aged 12-18 in grades 8 and 11 of high schools (mean 15.7 years)	Cross-sectional, school survey	*Sexual Abuse:* Risk factors for girls: being female OR 3.85 (2.07-7.16), raised with biological parent and step-parent OR 2.59 (1.34-5.01), single parent OR 1.74 (1.00-3.04), antisocial behaviour OR 1.44 (1.12-1.86), having consumed alcohol OR 2.00 (1.10-3.62), suicidal behaviour OR 3.22 (1.65-6.20) Risk factors for boys: living with biological parent and step parent OR 7.82 (2.00–30.51) Non significant factors: ethnicity, age, social amenities, and child consumption of drugs or cigarettes	8.4% 5.8%	Attempted forced sex Forced sex

Madu, 2003	South Africa	709 undergraduate psychology students aged 15-47 (23.8 years)	Cross-sectional study of university sample	*Physical Abuse:* Non-significant factors: not having lived with the biological mother, having lived with a step-parent before the age of 16	15.2% 14.5% 5%	Hit, slapped, punched, smacked, pulled hair or burnt at least once Purposely hit, punched or injured Injured and needed medical attention
				Sexual Abuse: Living with a step-father before the age of 16 OR 2.01 Protective factor: living with the biological mother before the age of 16 OR .039	25.6% 13.6% 8.7%	reported any contact sexual abuse were forced to touch other's private parts or had their private parts touched forced sex
Madu, et al., 2003	South Africa	722 undergraduate psychology students aged 15-47 (mean age 23.8 years)	Cross-sectional study of university sample	*Physical Abuse:* Domestic violence OR 2.66, parental mental health problems OR 2.59 Non-significant factors: Parental drug problems, parent admitted to psychiatric unit	15.7% 14.5% 5%	Hitting, pushing, punching, cutting to leave bruises, fractures or bleeds Purposefully hit, punched or injured Hit so they needed medical attention
				Sexual Abuse: Parental mental health problems OR 2.69, parental drug and alcohol abuse OR 2.11 Non-signifiant factor: Domestic violence	25.6% 13.6% 8.7%	Unwanted touching or kissing or penetration Unwanted intimate touching Unwanted penetration
Madu, et al., 2002	South Africa	559 grade 9 & 10 high school students aged 11-28 (mean age 17.4)	Cross-sectional study, adolescent retrospective self-report	*Physical Abuse:* caregiver drug or alcohol abuse OR 2.26, witnessing domestic violence OR 2.56 Non-significant factors: parental mental health problems	22.5% 10.4%	Any type of physical abuse such as punching, hitting, cutting, pushing, bruising, fractures, scratches or made to bleed Needed medical attention
				Sexual Abuse:		Touching genitals or having to touch genitals

				Domestic violence OR 2.02 , parental mental health OR 3.02	16.4%	Unwanted penetration
				Non-significant factors: Parental drug abuse, severe parental mental health problems	11.3%	
Madu, et al., 2000	South Africa	414 secondary school students in grade 9 and 10 aged 14-30 (mean age 18.5 years)	Cross sectional study; adolescent retrospective self-report for sexual abuse experience before age 17	Risk factors: ethnicity (not Sotho), mother employed and not as labourer, step-parent present in the family	54.2%	any form of contact sexual abuse
				Non-significant factors: religion, paternal employment, paternal education, maternal education, family income, parents living together, paternal absence, and having supportive peers	28.9%	forced sex
Meinck et al., (in press)	South Africa	603 adolescents aged 13-19 (mean age 16.9) from a community based sample	Cross-sectional study, current adolescent self-report of physical and emotional abuse experiences	*Physical and/or Emotional Abuse:* family conflict OR 2.11 (1.30-3.42), unequal food distribution 2.96 (1.25-7), inconsistent discipline OR 2.01 (1.17-3.45), more than 3 caregiver changes OR 2.38 (1.14-5), living with a biological and a step-parent OR 4.36 (1.12-16.92), caregiver disability OR 1.10 (1.09-1.16), food insecurity OR 2.40 (1.29-3.21), bullying 2.74 (1.59-4.70), AIDS-related stigma OR 1.11 (1.05-1.17), sexual abuse OR 3.28 (1.36-7.90), school non attendance OR 2.76 (1.35-5.65), school non achievement OR 1.82 (1.13-2.93)	6.75% physical abuse	being hit by an object or hit so that it left marks on a weekly basis
					11.9% emotional abuse	being insulted, threatened or frightened on a bi-weekly basis
				Univariate analyses: AIDS-orphaned OR 1.95 (1.24-3.07), caregiver unwell with AIDS OR 2.25 (1.28-3.95)		
				Protective factor: living with healthy caregiver		
				Non-significant factors: age of primary caregiver, living with biological parents, living with grandparents, orphaned by causes other than AIDS, living with a caregiver sick with chronic illness other than AIDS, being a double orphan, overcrowding, teacher support and social support		
Thurman, et al., 2011	South Africa	1782 children aged 10-17 participating in a longitudinal intervention study for OVCs in KZN	Cross-sectional data from a longitudinal sample of children enrolled in an intervention study	*Physical and/or emotional abuse:* Younger age (under 12) (no odds ratio), living with a chronically ill household member OR 1.32, parental presence OR1.77, living in a semi-urban area OR 2.46, poor caregiver mental health OR 1.20, poor family functioning OR 1.49, caregiver formal education OR1.4	25%	any threats or insults
					32%	disciplined with a stick, belt etc,
					13%	slapped, punched, hit
				Non-significant factors: caregiver age, gender, marital status, number of children in the household, household poverty	43%	experienced any maltreatment
Youssef, et al., 1998	Egypt	2170 secondary and middle school children aged 10-20 years (mean age	Cross sectional data from school-based study	*Physical Abuse:* Child factors: younger age OR 3.02 (2.50-3.65), higher birth order OR 1.05 (1.00-1.10), physical health problems and disability OR 2.59 (1.94-3.46), always disobedient OR 2.06	37.4%	any type of hitting or smacking, burns, tying up, physical harm such as

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	14.5)	(1.67-2.54), disrespectful behaviour OR 2.14 (1.50-3.06), unable to communicate with parents OR 2.76 (2.30-3.32), repeating grades in school OR 1.91 (1.58-2.30), smoking OR 1.62 (1.08-2.43) Parental factors: were lower education of mother (primary/preparatory) OR 3.03, lower education of father (primary/preparatory) OR 2.99, parental substance abuse and smoking OR 1.45 (1.21-1.73), family arguments OR 2.07 (1.73-2.48), insufficient income OR 2.59, residence shared with strangers OR 1.65, overcrowding OR 1.14 Protective factors: maternal employment OR. 0.68 (.055-.087), father temporarily out of country for employment reasons OR. 0.27, family support OR 0.5 (.041-.062), sharing apartment with relatives 0.66, older child age OR 0.75 (0.71-0.79) Non-significant factors: residence shared with strangers, family disruption through death or separation. Child factors which were not associated were contributing to the family income, destroying others belongings, running away from home	25.8%	fractures

The following search terms were used in various combinations depending on the requirements of the individual databases:

Child*, adolescent*, boy*, girl*, youth*, young*, teen*, pube*, pre-pube*, minor*, juvenile*, toddler*, infant*
physical, emotional, sexual, psychological, abuse, maltreatment, exploitation, forced sex
risk factor*, protective factor*, predictor*
Africa, South Africa, afrique noire, sub-Saharan Africa, west* Africa, north* Africa, Burundi, Comoros, Djibouti, Eritrea, Ethiopia, Kenya, Madagascar, Malawi, Mauritius, Mozambique, Rwanda, Somalia, Tanzania, Uganda, Zambia, Angola, Cameroon, Central African Republic, Chad, Congo, guinea, Gabon, Algeria, Egypt, Libya, Morocco, Sudan, Tunisia, Botswana, Zimbabwe, Swaziland, Lesotho, Namibia, Togo, Sierra Leone, Burkina Faso, Benin, Ivory Coast, Gambia, Ghana, Liberia, Mali, Niger, Nigeria, Senegal, Togo, Mali.

Figure 2: Prisma Flow Chart for Literature Search