

Factors influencing decision-making for caesarean section in Bangladesh



A thesis submitted for the degree of Master of Science (by Research) in
Women's and Reproductive Health to the University of Oxford

Mohammad Ali

St Hugh's College, University of Oxford Micha

Michaelmas Term 2024



St Hugh's College
UNIVERSITY OF OXFORD

List of Contents

List of Figures	4
List of Tables	4
Abstract	5
Acknowledgement	6
Abbreviations.....	7
1. Introduction.....	8
1.1 What is a caesarean section?	8
1.2 What is the optimal rate of CS?.....	8
1.3 What is the prevalence of CS rates globally?	9
1.4 What is the maternal and child health and CS profile in Bangladesh?	11
1.5 Why are the very low and high CS rates concerning?.....	14
1.6 What are the interventions to reduce CS rates?.....	16
1.7 What is the CS research gap in Bangladesh?	17
1.8 What are the objectives of this study?.....	18
2. Method	19
2.1 Eligibility criteria	19
2.2 Types of studies	20
2.3 Search strategy	21
2.4 Study selection.....	21
2.5 Quality appraisal	22
2.6 Data extraction.....	22
2.7 Data synthesis.....	23
3. Result	25
3.1 Study selection.....	25
3.2 Characteristics of included studies	27
3.3 Quality of the included studies	29
3.4 Themes	29
3.4.1 Theme 1: Woman (Individual level).....	31
3.4.2 Theme 2: People (Microsystem level).....	33
3.4.3 Theme 3: Clinicians (Mesosystem level).....	35
3.4.4 Theme 4: Healthcare facilities (Exosystem level).....	37

3.4.5 Theme 5: Culture and tradition (Macrosystem level).....	39
4. Discussion	40
4.1 Woman (Individual level).....	41
4.2 People (Microsystem level)	43
4.3 Clinician (Mesosystem level)	46
4.4 Healthcare system (Exosystem level)	49
4.5 Culture and traditions (Macrosystem level)	52
5. Strengths of this review	53
6. Limitation of this review	54
7. Clinical implications	55
8. Research implications	57
9. Conclusion.....	58
10. Reference.....	61

List of Figures

Figure 1: Prevalence of caesarean birth in the world.....	11
Figure 2: CS rates in eight divisions in Bangladesh.....	13
Figure 3: Socio-ecological model of Bronfenbrenner (Bronfenbrenner, 1979).....	26
Figure 4: PRISMA flowchart.....	28
Figure 5: Modified Bronfenbrenner’s model shows factors influencing decision-making for CS in Bangladesh.....	42

List of Tables

Table 1: PICO table.....	21
Table 2: Characteristics of included studies.....	28-29
Table 3: Themes and sub-themes.....	30

Abstract

Objective: Literature suggests that the CS rate higher than 10% is not associated with maternal and neonatal death reductions. Despite this evidence, the CS rates in Bangladesh are increasing rapidly, with 42% in 2022 according to the national survey. Understanding the key reasons behind high CS rates is therefore important to identify potential interventions to reduce CS rates. This systematic literature review aimed to identify key driving factors influencing decision-making for CS in Bangladesh.

Design: Systematic literature review

Types of studies: Qualitative studies conducted in Bangladesh

Data sources: Five electronic databases (Global Health, PsycINFO, EMBASE-via Ovid, Medline-via Ovid, and PubMed) and relevant websites.

Main outcome measure: Key actors and their motivations for CS.

Data synthesis: Meta-synthesis, a form of qualitative synthesis, was performed to identify key factors. Bronfenbrenner's model (a socio-ecological theory) was further applied to categorize the district cluster of factors at multiple levels: individual (woman), microsystem (people), mesosystem (clinicians), exosystem (healthcare systems) and macrosystem (culture and tradition).

Result: Of 380 publications, six studies met inclusion criteria. Participants were pregnant women, women who had experienced elective and emergency CS, family members and clinicians from public and for-profit private healthcare facilities. A total of 13 factors were identified. Women prefer CS over vaginal delivery due to fear of labour pain, fear of vaginal delivery outcomes, and previous traumatic birth. Women's decisions around CS are also influenced by family and community members' news and experiences of CS. Clinicians influence women to have a CS due to previous CS, maternal request CS, lack of accountability and fear of litigation. The health system influences CS decisions because of a lack of resources, financial incentives, and disrespectful obstetric care. Finally, traditional home birth practices influence rural women to undergo an emergency CS in the hospital following the experience of labour complications.

Conclusion: The findings of this review suggest several clinical implications for reducing CS in Bangladesh. Women need proper psychoeducational intervention to reduce their fear of childbirth. Moreover, women need proper evidence-based written and oral information from clinicians to make an informed choice about their childbirth modes. Bangladesh's maternity setting needs to develop a national guideline on CS management to promote evidence-based CS care. The guideline should also provide clinicians with clear information about planned and emergency CS indications for women with a history of previous CS. The health system in Bangladesh needs to increase maternity staff, including midwives to promote safe vaginal delivery in facilities and home settings for women who prefer home childbirth. Finally, there is an urgent need to reform payment models (for instance equal fees for vaginal and CS deliveries) in maternity care settings in Bangladesh.

Acknowledgement

I will always be grateful to my supervisors Prof Jane Hirst and Dr Nicole Votruba for inspiration, encouragement, guidance, dedication, review and feedback.

I would like to give my special thanks to Dr Ashley Young for the article screening and data extraction. In addition, I would like to thank my classmates Ankita Sharma, Yasmina Al Ghadban, and Sarah Haynes for their motivation, guidance, and feedback during the weekly meeting.

I would like to give my wholehearted thanks to Mr James Matejtschuk, the education manager of the Nuffield Department of Women's and Reproductive Health for his tremendous support.

I would also like to give my wholehearted thanks to Prof Alex Berland, a senior adviser at the College of Nursing, IUBAT University, Bangladesh for his generous scholarship.

Finally, and most importantly, my family and friends, who have always supported my studies.

Abbreviations

ACOG	American College of Obstetricians and Gynecologists
COVID	Corona Virus Diseases
CS	Caesarean Section
BDHS	Bangladesh Demographic and Health Survey
ERCS	Elective Repeat Caesarean Section
MMAT	Mixed-Method Appraisal Tool
LMIC	Low-Middle-Income Countries
PICO	Patient, Intervention, Comparison, Outcome
PRISMA	Preferred Reporting Items for Systematic Review and Meta-analysis
NIPORT	National Institute of Population Research and Training
RCOG	Royal College of Obstetricians and Gynecologists
SVRS	Sample Vital Registration Statistics
TBA	Traditional Birth Attendants
UNICEF	United National Children's Fund
VBAC	Vaginal Birth After Caesarean Section
WHO	World Health Organization

1. Introduction

1.1 What is a caesarean section?

A caesarean section (CS), is a surgical procedure done on the mother's abdomen and uterus to deliver a baby. It was developed as a life-saving intervention for women and their babies during childbirth complications such as prolonged labour, fetal distress or an abnormal baby position (ACOG, 2022). While CS is often performed as an emergency procedure, CS can be planned (elective CS) before childbirth begins when vaginal delivery appears to be risky due to conditions such as multiple pregnancies, an abnormal position of the baby, a history of previous caesarean section, placenta previa or the mother's medical problems (Antoine & Young, 2020).

1.2 What is the optimal rate of CS?

The optimal rate for CS is unclear and depends on the definition of 'optimal' with respect to maternal and newborn outcomes. In April 1985, the World Health Organization (WHO) regional office in Europe, the WHO regional office of the Americas, and the Pan American Health Organization held a conference on appropriate birth technology. One of the conference's statements as per specific recommendations was that "there is no justification for any region to have a (CS) rate higher than 10-15%" ("Appropriate technology for birth," 1985). This statement was made based on evidence at the time that Northern European countries with some of the lowest perinatal mortality rates in the world had CS rates of less than 10%.

However, In 2015, the WHO recommendation changed, such that "every effort should be made to provide caesarean sections to women in need, rather than striving to

achieve a specific rate” (World Health Organization Human Reproduction Programme, 2015). At the same time, Professor Ana Pilar Betran who leads the WHO CS campaign, emphasised that there is no benefit to mothers and their babies when CS is performed without a proper medical reason (Betran et al., 2016). Betran argues that CS is associated with risks, particularly where there is a lack of necessary facilities to conduct safe CS operations and properly treat any operational complications.

Molina et al. (2015) performed a cross-sectional study using CS data from 194 countries (WHO member states) in 2012. Their analysis indicated that CS rates of up to 19% were associated with lower maternal and neonatal deaths, suggesting that the previously recommended CS rate may have been too low (Molina et al., 2015).

Conversely, Ye et al. (2016) performed a longitudinal study using CS data from 121 counties between 2000 and 2012. Their analysis found that CS rates higher than 10% were not associated with decreases in maternal and neonatal death (Ye et al., 2016).

1.3 What is the prevalence of CS rates globally?

The proportion of caesarean deliveries has increased across all global regions with different ranges. A study obtained data from 154 countries (2010-2018) covering 94.5% of global live births indicates that slightly more than one in five (21%) babies are born by CS (an estimated 28 million CS births per year) (Betran et al., 2021). The average CS rates in the least, less and more developed regions were 8.2%, 24.2%, and 27.2%. The study also shows that caesarean births have significantly increased in the three sub-regions of East Asia (45%), West Asia (32%), and North Africa (31%)

respectively. The top five countries with the highest CS rates were the Dominican Republic (58%), Brazil (56%), Cyprus (55%), Egypt (52%), and Turkey (50%) (see **Figure 1**). Conversely, the lowest rate was recorded at 5% in 36 countries in the Sub-Saharan Africa region. Moreover, the study conducted a projection analysis of caesarean births. By 2030, the global CS rate is expected to reach nearly 38 million (28.5%) annually. Notably, 33.4 million of these cases are expected to be in the least countries (Betran et al., 2021). However, Sub-Saharan Africa will remain at the lowest rate.

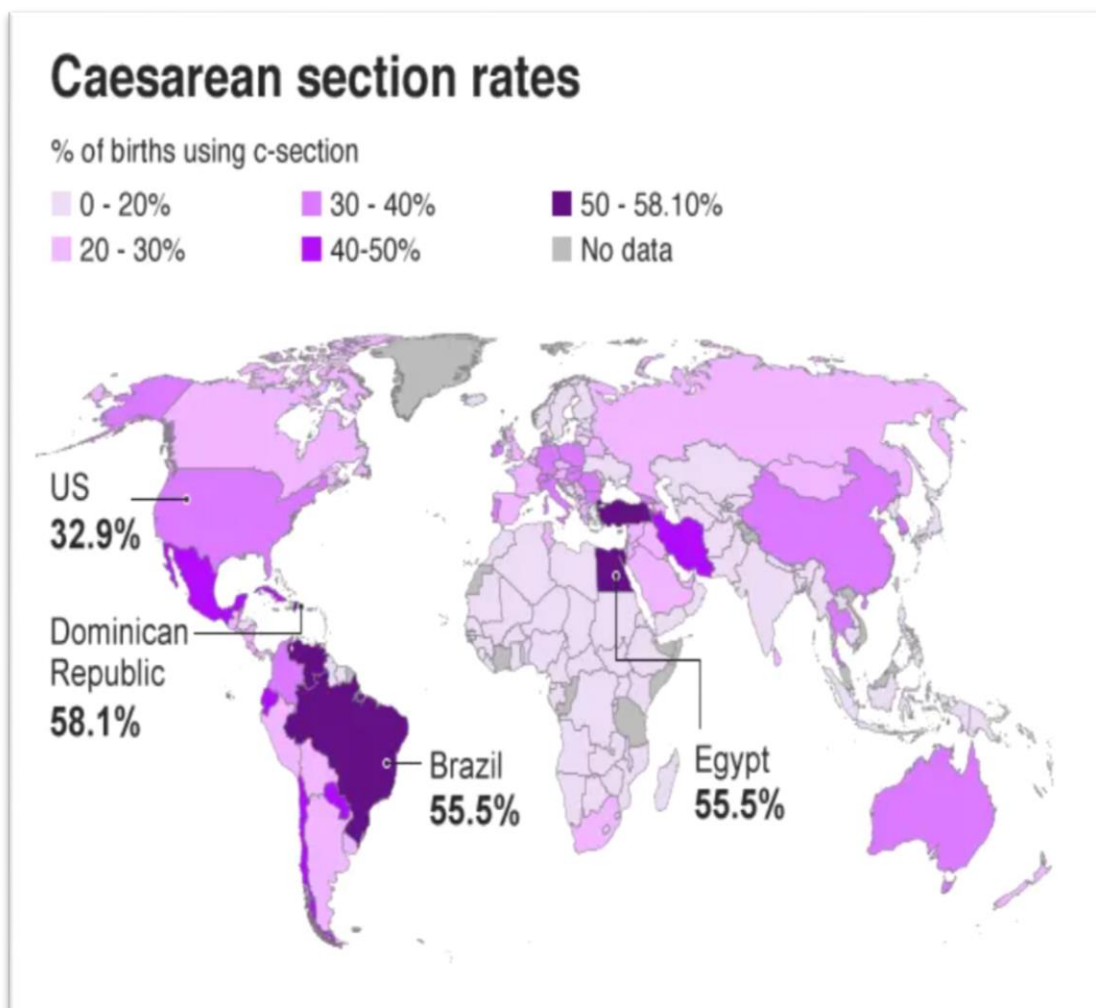


Figure 1: Prevalence of caesarean birth in the world (Betran et al., 2021)

1.4 What is the maternal and child health and CS profile in Bangladesh?

Bangladesh, a middle-income country located in South Asia, has made remarkable progress in the area of maternal and child health. According to the Bangladesh Sample Vital Registration Statistics (SVRS), the maternal mortality ratio declined from 574 (per 10,000) in 1990/91 to 136 in 2023, and the neonatal mortality rate declined from 48 (per 1000 live births) in 2011 to 16 in 2022 (*Bangladesh Sample Vital Statistics 2023*). However, it then rose to 20 in 2023. Similar trends have been observed in under-5 child mortality rates. The reasons for the increasing trends in neonatal and under-5 child mortality have not been thoroughly explored.

The proportion of hospital-based childbirths increased from 29% in 2011 to 65% in 2022, according to the Bangladesh Demographic and Health Survey (BDHS) 2022 (NIPORT, 2022). The BDHS data comes from a cross-sectional survey of approximately 4,000 live births in the country. However, it is important to note that nearly half (42%) of the total facility-based births are CS across the country. Although the average CS rate across the country is 42%, the actual CS rates vary significantly across the regions/divisions. For instance, the highest CS rate (66%) is observed in Khulna, one of the most developed divisions and the lowest CS rate (25%) is observed in Sylhet, a developed division as well, according to the BDHS 2022 (**see Figure 2**) (NIPORT, 2022). The reasons for the notable variation in CS rates across different regions remain unknown.

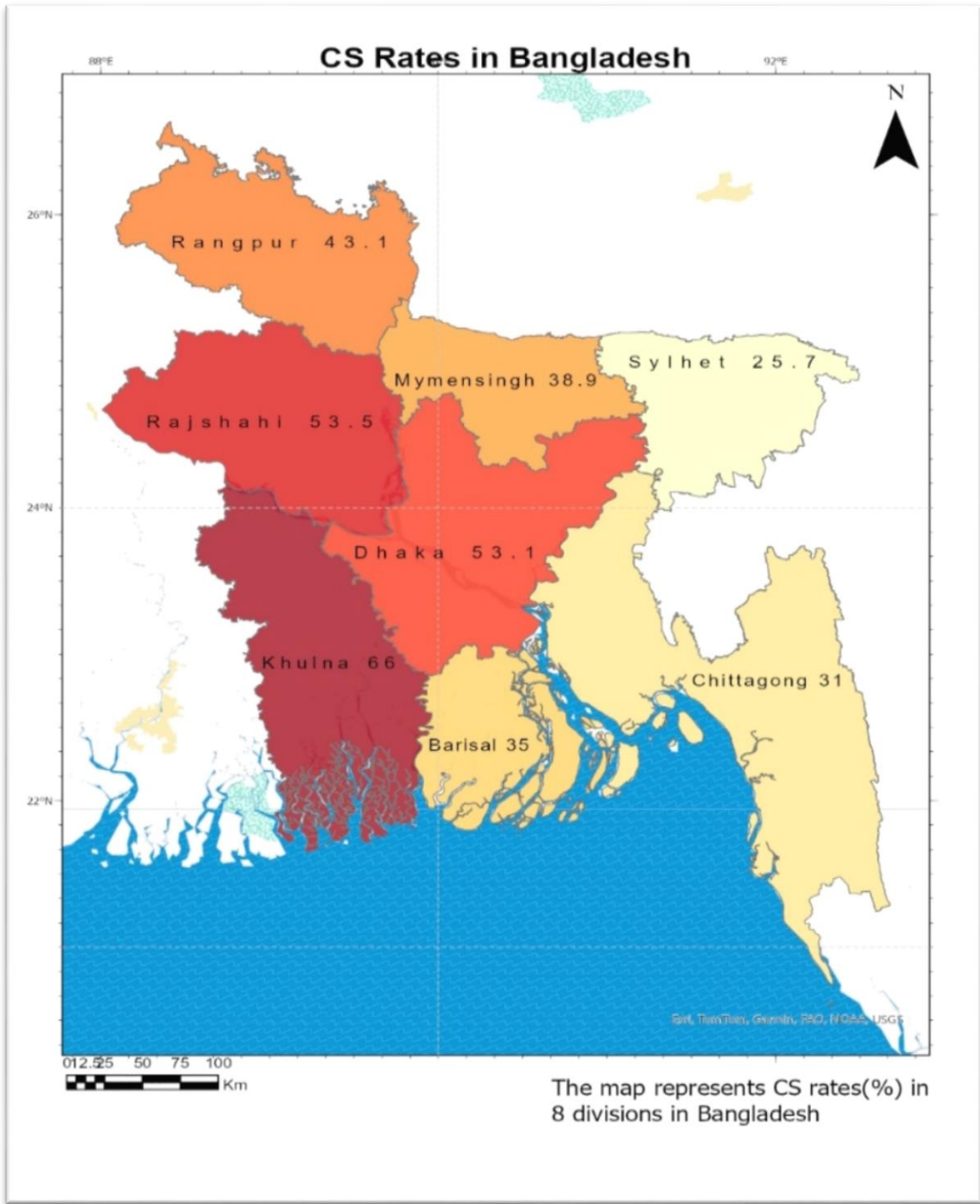


Figure 2: CS rates in eight divisions in Bangladesh

The high CS rates are often observed in private practices. According to the previous national survey (2017-18), about 80% of childbirths in for-profit private hospitals were by CS, compared to 40% in non-governing organisations (NGO) clinics, and 30% in governmental healthcare facilities across the country (NIIPORT, 2019). The last national survey in 2022 did not present CS rates by healthcare setting.

In Bangladesh, healthcare services are provided by three key stakeholders: the government, NGOs, and private for-profit providers. The government mainly funds government healthcare facilities, and NGO facilities are funded by international funding organizations and relatively small out-of-pocket payments from service users. Out-of-pocket payments from service users mainly finance the for-profit facilities (Rahman et al., 2022).

Notably, out-of-pocket payment from service users is the largest financing scheme in the country. According to the Bangladesh National Health Accounts 1997-2020, out-of-pocket payments from service users constitute 68.5% of the total health expenditure followed by the government at 23.1%, international development partners at 5%, NGOs at 1.7%, and health insurance schemes at 1.7% respectively in 2020 (Rahman et al., 2022). There are very limited health insurance schemes offered by private insurance companies. The problem with health insurance schemes includes low coverage due to high premiums and often available to urban people with high economic backgrounds. The low-income groups are unable to afford to pay for private insurance.

The CS rate also varies significantly between different groups of women, based on educational and wealth characteristics. For instance, 23% of CS rates are observed

among women with no education and 45% among women with secondary complete or higher education. Similarly, 20% of CS rates are found among women from the lowest wealth quintile and 67% among women from very high-income families (NIPORT, 2022).

Notably, younger women have much higher CS rates than older women. For example, 45% of CS rates are observed among women under 20 years while 32% occur among women over 35 years (NIPORT, 2022). This could be due to the fact that the older women were more likely to have delivered a previous child by vaginal birth. However, studies from Western countries indicate that older women have higher CS rates as they are starting to have babies at a later age (Blomberg et al., 2014; Rydahl et al., 2019).

1.5 Why are the very low and high CS rates concerning?

CS rates vary greatly within and between the countries, with underuse and overuse of the procedure. Low CS rates (<9%) have been associated with increased maternal and child mortality (Betran et al., 2015). On the other hand, overuse of CS rates has been associated with increased adverse effects on maternal and child health (Miller et al., 2016). Numerous studies have drawn attention to CS complications. Like any surgery, CS can have short and long-term complications such as wound infection, blood clots, bleeding, organ injury, and anaesthesia complications (Sandall et al., 2018). Women who undergo CS face a higher risk of complications in future pregnancies such as placenta previa, placenta accreta, uterine rupture, preterm birth, hysterectomy and the likelihood of requiring another CS (Blustein & Liu, 2015). CS affects babies as well. Babies born by CS were found to have a higher risk of

allergies, and asthma conditions because they miss exposure to the mother's vaginal microbiome, which can impact their immune system (Shao et al., 2019).

These risks are amplified further for women and their babies living in low-middle-income countries (LMICs). A recent systematic review of 116 studies from 59 LMICs, covering 29,333,457 caesarean births and 6,982 maternal deaths, revealed that 8 out of 100 women died who underwent CS in LMICs, with the highest burden in Sub-Saharan Africa where 11 out of every 100 post-caesarean women (Sobhy et al., 2019). Haemorrhage, eclampsia, and infection were identified as the leading causes of maternal death following CS in this systematic review. Moreover, 85 perinatal deaths were per 1000 CS procedures, and the highest rate was recorded in the Middle East and North Africa (Sobhy et al., 2019). However, a significant limitation of this big review was that maternal obstetric factors (such as number of pregnancies, history of previous birth, and baby position) and pre-existing risk factors (such as diabetes, and hypertension) were not adjusted. Therefore, it remains unclear whether these adverse outcomes (maternal and perinatal mortality) resulted from the CS procedure, the mother's obstetrics factor or the pre-existing risk factor.

A study conducted to look at the contribution of CS to maternal deaths between 2020 and 2022 in Malawi, a low-income country in East Africa, found that women who delivered babies by CS were five times more likely to die than women who delivered babies vaginally (Riches et al., 2024). Haemorrhage, eclampsia, and infection were identified as the leading causes of death following cesarean delivery in the Malawi study.

It is challenging to know the number of Bangladeshi women and babies who face complications or die following CS because, to date, there has been no data published by government or non-government organisations reporting these outcomes. However, there is evidence that more women die after childbirth compared to before and during childbirth. For instance, about 64% of mothers die within 42 days after childbirth, with postpartum haemorrhage, infection and eclampsia being the leading causes of death according to the Maternal and Perinatal Health Death Surveillance and Response Bangladesh 2022 (Biswas, 2023).

1.6 What are the interventions to reduce CS rates?

In 2015, the WHO proposed the use of the Robson classification as a global standard for assessing, monitoring, and comparing CS rates. (WHO, 2017). The key purpose of using this classification is to identify the characteristics of women and their babies with higher CS rates, highlighting key differences in obstetric practice between settings. The Robson criteria are increasingly being used across many settings (Amyx et al., 2024; Nazeer et al., 2023; Silva et al., 2023; Smith et al., 2023; Ulgu et al., 2023; Vila-Candel et al., 2023).

In 2018, the WHO proposed a package of non-clinical interventions to support the optimal use of CS (WHO, 2018). The evidence of the effectiveness of the non-interventions was derived from twenty-nine studies from sixteen countries, however notably none of these countries were an LMIC. The non-clinical interventions were grouped according to the following targets: 1) women 2) healthcare providers and 3) the healthcare system.

The interventions for women included childbirth training workshops, nurse-led applied relaxation training programs, psychosocial couple-based prevention programs, and psychoeducation for women with a fear of childbirth. The WHO judged these interventions as “low certainty evidence” because the effect of these interventions on CS rates was uncertain.

The proposed intervention for healthcare providers included the implementation of evidence-based clinical practice guidelines combined with a second opinion for CS, audit and feedback. Interventions targeted at healthcare providers were judged as “high certainty evidence” as they were found to reduce the CS rates.

The targeted interventions for healthcare systems were the midwifery-obstetrician model of care and equalizing fees for vaginal and CS. Interventions targeted at healthcare systems were judged as “low certainty evidence” because the effect of these interventions on CS rates was uncertain (WHO, 2018).

1.7 What is the CS research gap in Bangladesh?

The reasons for the high CS rates are not well understood in Bangladesh. Previous studies have explored the views of clients and providers about CS in different settings at different periods. However, no study has synthesised existing evidence to gain an in-depth understanding of the factors behind the high rate of CS across different contexts in Bangladesh. The WHO suggests that before undertaking any intervention in any setting, it is important to understand the key driving factors influencing decision-making behind CS. This is because factors influencing caesarean delivery are complex and poorly defined (WHO, 2018).

1.8 What are the objectives of this study?

I undertook a systematic literature review to understand key driving factors influencing decision-making for CS in Bangladesh. The findings of this review will hopefully help identify the target audiences and content of interventions to promote the optimal use of CS in the Bangladeshi context. No intervention has been applied to reduce the use of CS rates in Bangladesh. It is important to note that the Bangladesh Ministry of Health and Family Welfare published the National Policy on Maternal Health 2019-2030 (*Bangladesh National Strategy for Maternal Health 2019-2030*, 2019). Unfortunately, there is no particular plan or intervention to monitor CS indications. The strategy has largely focused on increasing institutional, prenatal care coverage and manpower.

1.9 What are the research questions?

My study had three research questions:

- 1) What motivations and drivers influence women's decision for CS in Bangladesh?
- 2) Who are the other key actors influencing the CS decision-making process in Bangladesh?
- 3) What are the different motivations or reasons amongst other actors for influencing decision-making for CS?

2. Method

I developed the protocol for this review using the Preferred Reporting Items for Systematic Review and Meta-analysis (PRISMA) guidelines (Page et al., 2021). The protocol was registered with PROSPERO (ID: CRD42023490645) International Prospective Register for Systematic Reviews in December 2023 and is available online at <https://www.crd.york.ac.uk/prospero>.

2.1 Eligibility criteria

I applied the PICO guidelines (Patient, Intervention, Comparison, Outcome) to define the eligibility criteria (**see Table 1**) (Brown, 2020).

Table 1: PICO table

P	Population or participants	People involved in the CS decision-making process: 1. Women and their families (e.g. husband, mother/fathers-in-law). 2. Healthcare professionals: medical officers, obstetricians, gynaecologists, midwives, nurses, pharmacists, community healthcare providers, and paramedics). 3. Unregistered healthcare providers: local village doctors, medicine sellers in the pharmacy, and traditional healers.
----------	-----------------------------------	--

		4. Community members: neighbours, community leaders, political leaders, faith or religious leaders.
I	Intervention or exposures	Qualitative studies focused on decision-making for CS
C	Comparisons or control group	Not applicable
O	Outcomes	The actors' motivations or reasons for influencing the CS decision-making process

2.2 Types of studies

Qualitative studies were appropriate for addressing the review question. In the case of mixed-method studies, only the qualitative data were considered. I included full-text research articles that provide detailed methods and results sections, allowing for critical appraisal and synthesis. I did not include the following articles: editorials, opinions, and abstracts because of a lack of original research, incomplete data, and risk of bias (editorials are often based on personal viewpoints). Studies conducted within Bangladesh were included, while those involving Bangladeshi communities in other countries were excluded. Only studies published in English were accepted, as English is the primary language used for research and publication in Bangladesh. There were no restrictions regarding publication dates.

2.3 Search strategy

I formulated a complex search keyword in consultation with a librarian from the Bodleian Medical Library at the University of Oxford. The following key search terms were generated: (cesarean or caesarean or c-section*) AND (plan* or elective or determin*) AND (decision* or decid* or agree* or choos* or choice* or chose* or determine* or select* or prefer* or request*) AND (Bangladesh). I searched five electronic databases (Global Health, PsycINFO, EMBASE-via Ovid, Medline-via Ovid, and PubMed) between 5 November 2023 and 31 January 2024. In addition, I searched several websites, for instance, Bangladesh Health Ministry, Bangladesh Midwives Society, Obstetricians and Gynaecologists Society, UNICEF and WHO to find downloadable grey literature. Finally, I tracked and scanned the references and citations of key studies to identify other relevant studies (snowballing). Detailed search terms and results for each electronic database are presented in the **Appendix**.

2.4 Study selection

I uploaded the results of the electronic databases to Covidence, a web-based systematic review software (www.covidence.org), where duplicate studies were removed. Two reviewers (a postgraduate student from my supervisor's team, AY and I) independently screened for the potential inclusion of all titles, and abstracts. When disagreements occurred on study eligibility, we made joint decisions followed by full-text screening and discussion or consulting with my supervisors to reach an agreement when necessary. Reasons for exclusion were duly documented in

Covidence. A PRISMA flow diagram was generated to record the numbers (see the result section).

2.5 Quality appraisal

I assessed the quality of studies using an established tool, mixed-method appraisal tool (MMAT) (Hong et al., 2019). This tool is designed to appraise the methodological quality of five categories of studies: qualitative, quantitative, randomized controlled trials, non-randomized studies, and mixed methods. While assessing the articles, I carefully followed the MMAT qualitative studies methodological criteria as follows.

1. Is the qualitative approach appropriate to answer the research question?
2. Are the data collection methods appropriate to answer the research question?
3. Are findings adequately derived from the findings?
4. Is the interpretation of findings sufficiently substantiated by the data?
5. Is there coherence between data source, collection, analysis, and interpretation?

Each question was rated as follows: Yes, and No. Studies were scored under three categories: 1) low (0- 2Yes), 2) medium (3Yes), and 3) high (4- 5Yes).

2.6 Data extraction

I developed a data extraction sheet to capture the following criteria in the studies: year of publication, study design, sampling, sample size, participant characteristics (age, education, occupation, income), study settings, types of facilities, data collection

method, data analysis, and the participants quotes in the result sections of the included studies.

2.7 Data synthesis

I synthesised the qualitative findings using the principles of meta-synthesis, a form of thematic synthesis. Meta-synthesis is a useful method to identify themes across several primary multiple qualitative studies to generate a new interpretation, explanation, and theory that is consistent with this review's focus (Thomas & Harden, 2008). Meta-synthesis has its origins in thematic analysis and is commonly used in qualitative data synthesis (May et al., 2015).

I conducted a meta-synthesis following Thomas's guidelines (Thomas & Harden, 2008). There were four steps involved in the process. Firstly, I read the participants' quotes and authors' interpretations in the results sections of the selected studies to familiarise myself with the dataset. Secondly, I coded relevant data using both deductive and inductive approaches (Gale et al., 2013). The deductive approach means I coded key findings using a predetermined set of codes that I developed based on existing high-quality studies on this similar topic (**see Text Box 1**) (Bam et al., 2021; Boerma et al., 2018; Coates, Thirukumar, & Henry, 2020; Jenabi et al., 2020; Johansson et al., 2023; Thirukumar et al., 2021). If any findings relevant to the study objectives were

Text Box 1: Predetermined codes

Fear of labour pain, pelvic floor damage, urinary incontinence, reduced quality of sexual life, previous negative experience of vaginal birth or care, perceive caesarean birth to be safer, had previous caesarean section, cultural concepts and myth, logistics and financial incentive, fear of litigation, demands of women factor, practitioners are likely to be sued for complications during vaginal delivery than for unnecessary caesareans, young obstetricians become experts in caesarean, losing wider art of vaginal assisted delivery.

discovered but did not match the predetermined codes, I generated new codes (inductive coding). Thirdly, AY and I sorted similar codes and clustered them into sub-themes. I presented the codes and sub-themes including key participants' quotes to my supervisors' team to ensure data credibility and transferability. Fourthly, I generated analytical themes by placing the sub-themes against the five layers of the socio-ecological model based on Bronfenbrenner (see Figure 3) (Bronfenbrenner, 1979) .

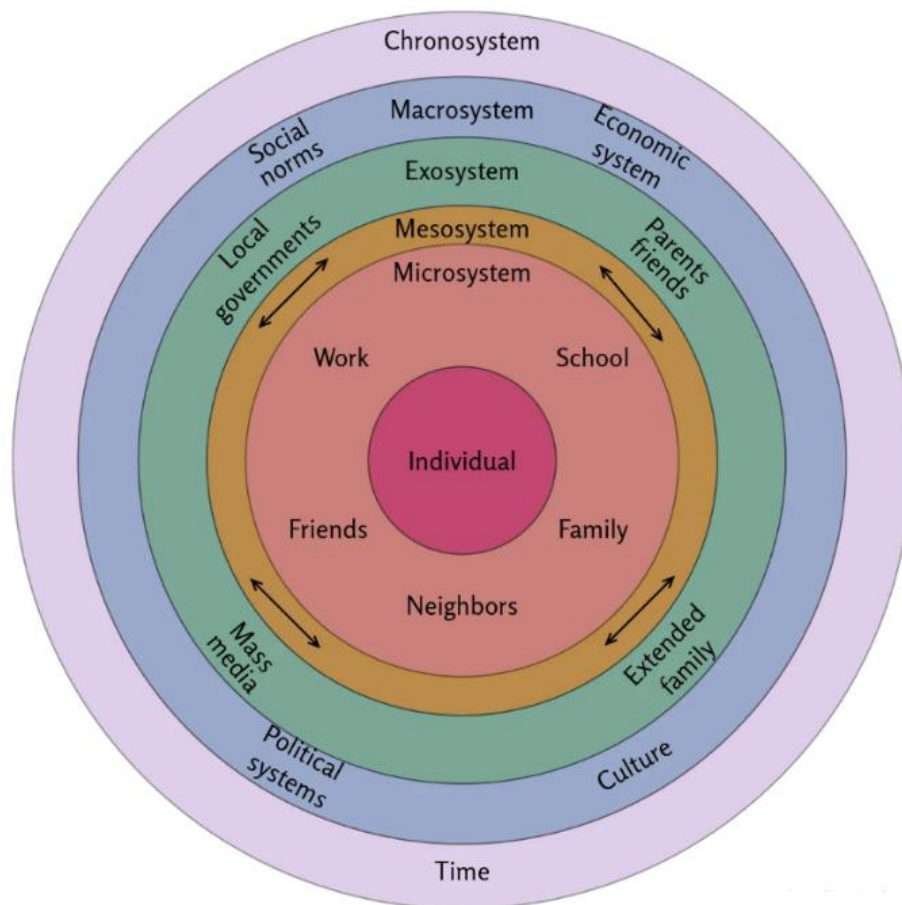


Figure 3: Socio-ecological model of Bronfenbrenner (Bronfenbrenner, 1979)

Urie Bronfenbrenner developed his model in 1979 as part of his extensive research on child development. According to his theory, a child's development is influenced by a variety of factors, including intra and interpersonal, societal, and cultural elements. His theory is considered a useful model for exploring complex topics, as it identifies multiple layers of influence from the individual level to larger societal structures.

It is known that decision-making for CS is complex and influenced by multiple clinical and non-clinical factors related to women, their families, healthcare providers and systems (WHO, 2021a). I found Bronfenbrenner's model to be a useful framework for identifying and explaining key factors behind the high rate of CS at multiple levels: individual level (women), microsystem (family and community), mesosystem (healthcare providers), exosystem (healthcare systems), and macrosystem (focused on broader contexts, such as cultural values, norms, and patterns).

Although this model originated in the field of developmental psychology, it is increasingly being used in healthcare, for instance, in adolescent pregnancy and parenting (Corcoran, 1999), refugee children's mental health (Hayes, 2021), and clinicians' well-being during the COVID-19 pandemic (Adibe, 2021).

3. Result

3.1 Study selection

The search identified 380 publications. After removing 163 duplicates, 217 articles were screened based on titles, and abstracts. Then a total of 186 articles were excluded by titles and abstracts, leaving 30 articles for full-text review. Finally, six

studies (four qualitative and two mixed-methods studies) met the inclusion criteria (Figure 4).

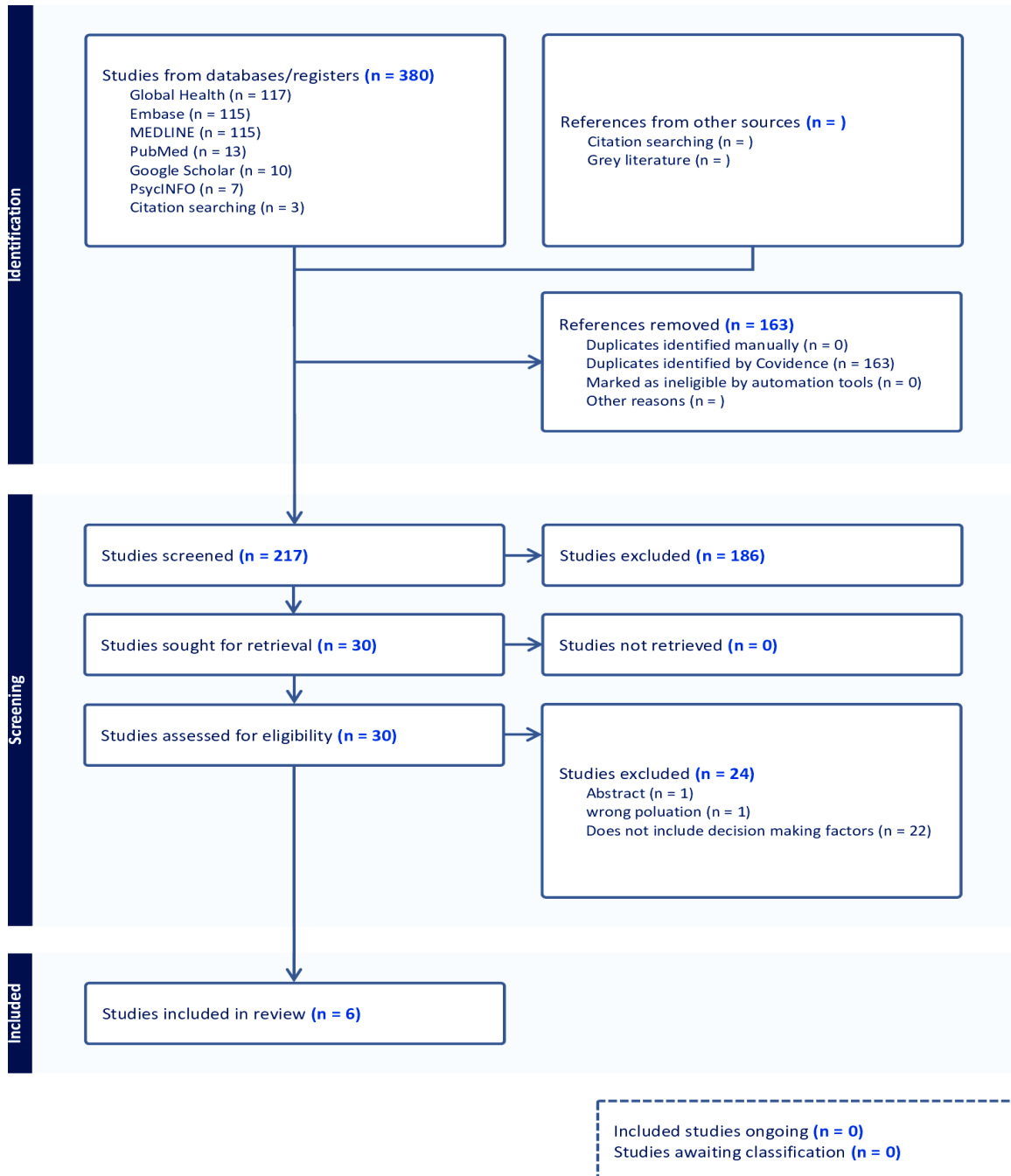


Figure 4: PRISMA flowchart

3.2 Characteristics of included studies

Four qualitative studies: Two studies were conducted in urban settings (Akhter & Schech, 2018; Sultana et al., 2022), and two in rural settings (Begum et al., 2018; Parkhurst & Rahman, 2007).

These qualitative studies had diverse participant groups. For instance, two studies (Akhter & Schech, 2018; Begum et al., 2018) included pregnant women, post-caesarean women and obstetricians. One study (Sultana et al., 2022) included post-caesarean women and their family members (husbands, mothers-in-law, and relatives). One study (Parkhurst & Rahman, 2007) included only post-caesarean women.

Regarding data collection methods, one study (Begum et al., 2018) conducted in-depth interviews and focus group discussions, while other three studies conducted in-depth interviews. All studies performed thematic analysis.

Two mixed-method studies: Both studies were conducted in public district hospitals. One study conducted semi-structured interviews with clinicians (Aminu et al., 2014), while the other conducted focus group discussions with clinicians and post-caesarean women (Doraiswamy et al., 2021). The data from both studies were analysed thematically.

Women's economic backgrounds across all studies varied significantly, with the majority of women from low-income families (\$60-\$250 average monthly income). Similarly, nearly all women were from very low educational backgrounds, for instance, completed level of education one to ten grade. Exceptionally, women in one study

(Akhter & Schech, 2018) were from relatively high socioeconomic (average monthly family income \$2794) and educational backgrounds (bachelor's degrees). **Table 2** shows the detailed characteristics of each study.

Table 2: Characteristics of included studies

Studies citation	Method	Participant	Number	Data collection place	Data collection method	Data analysis
(Akhter & Schech, 2018)	Qualitative	Post-CS women Clinicians	Post-CS women 30 Clinicians 3	High socio-economic area (Dhaka city)	Semi-structure interview	Thematic
(Aminu et al., 2014)	Mixed method	Clinicians (obstetricians, medical officers, nurses, midwives)	18	5 public district hospital	Semi-structure interview	Thematic
(Begum et al., 2018)	Qualitative	Pregnant women Post-CS women Obstetricians	Pregnant women 26 Post-CS women 14 Obstetricians 6	3 public district hospital 3 private clinics— (2 for-profit and 1 non-profit)	In-depth interview Focus group discussion	Thematic
(Doraiswamy et al., 2021)	Convergent parallel mixed method	Post-CS women Obstetricians	Post-CS women 32 Obstetricians 16	8 public district hospital	In-depth interview	Thematic
(Parkhurst & Rahman, 2007)	Qualitative anthropological	Post-CS women	30	Villages (Zenaidhah District)	In-depth interview	Thematic

(Sultana et al., 2022)	Qualitative phenomenological	Post-CS women Family members	Post-CS women 7 Husbands 5 Mother-in-law 5 Others 2	Slum areas (Dhaka city)	In-depth interview	Thematic
------------------------	------------------------------	-------------------------------------	---	-------------------------	--------------------	----------

3.3 Quality of the included studies

Of the qualitative studies, two studies were rated highly (Begum et al., 2018; Sultana et al., 2022) and two studies were rated moderately as the data collection process was not explained clearly, and some quotes did not support the themes (Akhter & Schech, 2018; Parkhurst & Rahman, 2007). In mixed-method studies, one study scored high (Doraiswamy et al., 2021) and another study received a medium-quality assessment because anaesthetists and midwives were included in the study, but their perspectives were not addressed in the findings (Aminu et al., 2014).

3.4 Themes

According to the Bronfenbrenner framework and meta-synthesis, thirteen sub-themes were identified under five major themes (**see Table 3**):

Table 3: Themes and sub-themes

Themes	Sub-theme	Author/year
Theme 1 Woman (Individual level)	1:1 Fear of labour pain 1:2 Fear of vaginal delivery outcomes 1:2 Fear of traumatic vaginal birth	(Akhter & Schech, 2018) (Akhter & Schech, 2018) (Begum et al., 2018)
Theme 2 People (Microsystem)	2:1 Family influence 2:2 Community influence	(Akhter & Schech, 2018; Parkhurst & Rahman, 2007; Sultana et al., 2022) (Begum et al., 2018; Doraiswamy, 2020)
Theme 3 Clinicians (Mesosystem)	3:1 Previous CS 3:2 Women request CS 3:3 Lack of accountability 3:4 Fear of litigation	(Aminu et al., 2014; Begum et al., 2018) (Akhter & Schech, 2018; Begum et al., 2018) (Aminu et al., 2014; Begum et al., 2018) (Aminu et al., 2014)
Theme 4 Healthcare system (Exosystem)	4:1 Lack of resources 4:2 Private agents touting for CS 4:3 Disrespectful obstetric care	(Aminu et al., 2014; Begum et al., 2018; Doraiswamy et al., 2021; Sultana et al., 2022) (Begum et al., 2018) (Akhter & Schech, 2018)
Theme 5 Cultural & tradition (Macrosystem)	5:1 Traditional home childbirth	(Begum et al., 2018; Doraiswamy, 2020; Parkhurst & Rahman, 2007)

3.4.1 Theme 1: Woman (Individual level)

Three sub-themes emerged at the individual level.

3.4.1.1 Fear of labour pain

The finding from one qualitative study (Akhter & Schech, 2018) indicates that ten women out of twenty underwent planned CS without any medical indications. Fear of labour pain emerged as a significant factor in choosing planned CS among women in Akhter & Schech's 2018 study. For instance, one multiparous woman decided to undergo CS due to fear of labour pain. However, the specific reasons behind her fear of labour pain were not explored. There was no information regarding her experiences related to her previous pregnancies, including how she delivered her two babies—whether vaginally or CS. It is therefore challenging to determine whether her fear stems from her previous negative experience with vaginal delivery or if she has a very self-suspected low tolerance for labour pain. It appeared clear that her fear of labour pain was intense, and she found the only option to avoid it was to undergo CS. No women in other studies reported the issue of fear of labour.

“It’s bad that I have this [post-surgical] problem now. But I could not have thought of anything else except doing CS. The normal labour pain seemed very unbearable to me. (mother 29 years, mother of two children)” (Akhter & Schech 2018, p.1183)

Another woman in the same study (Akhter & Schech, 2018) who underwent planned CS appeared to be afraid of labour pain.

“I chose to have a CS, because I know that I will have only one child, I don’t want any more babies. So why take the hassle of labour? [mother’s age was not mentioned] (Akhter & Schech 2018, p.1182)

3.4.1.2 Fear of uncertainty about vaginal birth outcomes

Another urban multiparous woman decided for a planned CS from the beginning of her pregnancy (Akhter & Schech, 2018). This was because she was very concerned about her ability to handle vaginal birth and meet expectations during labour. It seemed she was experiencing performance anxiety during her second pregnancy. However, it was unclear whether this anxiety was related to her previous experience of failing to give birth vaginally.

“I had a desire for CS from the beginning. I don’t know what will happen if I have a normal childbirth. I was fearful that when something has to come out from the bottom [whether] I will be able to push. If I lose my confidence halfway through, what will happen then? (mother, aged 31, of one child)” (Akhter & Schech 2018, p.1183).

3.4.1.3 Previous traumatic vaginal birth

A multiparous woman living in a rural area had instrumental delivery (forceps or a ventouse suction cup was used to help deliver the baby) during her previous childbirth. However, her experience related to instrumental delivery was not pleasant as she experienced perineal tears, intense pain and itching. Consequently, the woman experienced pain during sexual intercourse. To avoid a similar bad experience, the woman decided to deliver the baby surgically in her subsequent pregnancies (Begum et al., 2018).

“I am so happy that I have a ‘large caesarean’ section this time. I had to suffer a lot such as pain & itching in my private parts, even I had pain during sexual intercourse for a long time, since my last baby was delivered vaginally with a ‘small caesarean’ section.” [women’s ages and number of children were not reported] (Begum et al. 2018, p. 6)

3.4.2 Theme 2: People (Microsystem level)

Two sub-themes emerged from the data at the microsystem.

3.4.2.1 Family influence

Some urban women's decision on childbirth mode was often influenced by other women in their families. For instance, if a close family member had a CS, other women in the same family were more likely to consider a CS (Akhter & Schech, 2018).

*"In our family, everyone had a CS, therefore what else would I go for?"
[women's ages and number of children were not reported] (Akhter and Schech 2019, p.1184)*

Urban women often chose the same clinician who performed CS on other women in their families and relatives (Akhter & Schech, 2018).

"From the very beginning my target was to see Dr. B (consulting doctor). She did my elder sister's CS. She also did CS for many of our relatives.... (Anisa, aged 39 years, mother of two children)" (Akhter and Schech 2019, p.1183)

Another woman seemed to have accused her family members of forcing her to undergo CS without any medical indications (Parkhurst & Rahman, 2007).

"After going through the report of the ultrasonogram, the doctor said that delivery would take place after 12 days. But the respondent's mother insisted on the respondent's admitting into the hospital, so she was admitted there for a cesarean delivery. [case study report] (Parkhurst and Rahman 2007, p. 397).

The reason why family members forced women to deliver babies via planned CS was not found in the studies. However, it was found that women's family members often had very optimistic views about CS. They considered caesarean birth to be a safer

procedure for both mothers and babies compared to vaginal delivery (Sultana et al., 2022).

“We are seeing this for 10–15 years. Nowadays, no family goes for normal delivery; everyone chooses Caesar. Over time either the baby or the mother faces problems in normal delivery; got older seeing these. And so, we did not delay anticipating that the baby and the mother would be fine after Caesar.” (40-year-old husband) (Sultana et al. 2022, p. 10)

Like the husband, the mother-in-law presented similar views

“Caesar has become very much normal these days, no more pain. Both the baby and pregnant women could live well.” (Sultana et al. 2022, p. 10)

The absence of senior family members' support such as advice and encouragement at different stages of pregnancy was reported by urban migrated women as another factor influencing their decision to want a CS instead vaginal delivery. It appears that women felt less confident about facing normal delivery without having support from senior family members (Akhter & Schech, 2018).

“I had no one else, like a murubbi [senior family members, for example, mother-in-law], who could have advised me what to do or what not to do. So, I saw the doctor more frequently if I had any confusion or concern.The doctor told me that everything was OK. But I was really scared about what would happen. Then I discussed it with my husband's friend, who is a doctor. She said, “[if] the patient is scared, there is nothing to do but to have a CS. Do what she wants.” So I took the decision one night and went for CS. The doctor left the decision to me. (mother, aged 37, of one child)” (Akhter & Schech, 2018, p.1184)

3.4.2.2 Community influence

It is observed that rural women's decisions to be delivered by CS were mainly influenced by positive caesarean delivery experiences told to them by their friends and other community members (Doraiswamy et al., 2021).

“My friends also had a CS operation, it was safe and for this reason, I had the desire to do mine” [women’s ages and number of children were not reported] (Doraiswamy et al. 2021, p.8)

Moreover, rural women were motivated to undergo CS after hearing that babies delivered via CS have “healthier brains” (Begum et al., 2018).

“I prefer Caesarean delivery. I heard a baby delivered by caesarean section had a healthier brain. (Quote from a pregnant woman)” [women’s ages and number of children were not reported] (Begum et al. 2018, p.6)

3.4.3 Theme 3: Clinicians (Mesosystem level)

Four sub-themes emerged from the data related to clinicians' decisions for CS.

3.4.3.1 Previous CS

Clinicians often recommend a CS for all women with a history of previous CS.

However, the clinician did not provide any justification for their recommendation (Aminu et al., 2014).

“Everywhere in Bangladesh, we (healthcare providers) recommend CS for every woman with previous CS. (Medical officer #4)” (Aminu et al. 2014, p.4)

Some women who previously delivered babies surgically desired vaginal delivery in subsequent pregnancies. However, women’s desires were frequently not accepted by

their clinicians. There was no explanation given for why her request for vaginal delivery was not accepted by her clinicians (Begum et al., 2018).

“I wanted to deliver normally this time after having one ‘Caesar’ (caesarean section) five years back, but none of my doctors were willing to take the risk.– (Quote from post-caesarean mother)” [women’s ages and number of children were not reported] (Begum et al. 2018, p.7)

3.4.3.2 Maternal request CS

Clinicians from urban private hospitals reported that caesarean deliveries were frequently performed in their settings due to maternal requests (Akhter & Schech, 2018).

“Sometimes it happens that the mother wanted a normal delivery but when the pain started, she could not stand it and requested CS. We have 50% of all CS on request. (a gynaecologist)” (Akhter & Schech, 2018, p.1183).

Clinicians from rural district public hospitals reported that they received maternal requests for CS after the diagnosis of a stillborn baby (Begum et al., 2018).

“Women often consider the dead fetus as a poison within the womb and request for caesarean section within the shortest possible time. (Quote from obstetrician)” (Begum et al. 2019, p.6)

3.4.3.3 Lack of accountability

Lack of accountability refers to the situation where healthcare providers fail to take responsibility for ensuring proper vaginal delivery. Obstetricians from private hospitals accused nurses of being reluctant to frequently monitor labouring women, which they ultimately described as their reasons for performing CS (Begum et al., 2018).

“We usually do not take risks when there is 50/50 chance of vaginal delivery even in the private clinics, as nurses working there are reluctant to do regular follow up and are not competent to manage normal delivery.” (Quote from obstetrician)” (Begum et al. 2018, p.8)

In contrast, the medical officers from rural public district hospitals accused senior obstetricians of performing more CS, and not following hospital protocols (Aminu et al., 2014).

“We have protocols and guidelines... our nurses follow it, we follow it. I think there are many big professors, big gynaecologists (who) do not follow protocol. Their interest is CS.” (Aminu et al. 2014, p.5)

3.4.3.4 Fear of litigation

Obstetricians from rural public district hospitals expressed concern about the fear of medical negligence complaints (Aminu et al., 2014).

“If the baby suffers asphyxia because of delay, [parents] ask why CS was done late.” (Obstetrician #5) (Aminu et al. 2014, p.5)

3.4.4 Theme 4: Healthcare facilities (Exosystem level)

Three sub-themes were identified as part of the exosystem level.

3.4.4.1 Lack of resources

The lack of resources included the unavailability of obstetricians, doctors and other medical staff, particularly in public hospitals in the evening and at night. Begum et al. (2018) found that only one junior doctor was available during evenings and nights to provide emergency obstetrics care in two public district hospitals. Moreover, a lack of access to emergency care facilities such as operating theatres and the unavailability of electricity hindered effective labour care, especially in rural public healthcare

settings (Aminu et al., 2014; Doraiswamy et al., 2021). Such constraints had an impact on obstetricians' choice of mode of delivery, in particular influencing them to perform more planned CS during the day shift (Aminu et al., 2014; Begum et al., 2018; Doraiswamy et al., 2021; Sultana et al., 2017).

“Our own CS is more or less elective CS because after office hours we do not have all manpower and facilities available. So, we try to do CS in the afternoon. Electricity is also a factor, so we try to do (CS in) daylight. We don't do it in the evening or night.” (Obstetrician #3) (Aminu et al. 2014, p.6)

Furthermore, anesthesiologists were not available in the evening and at night.

“We do not have enough anaesthetists. So, it has become a kind of official order that sirs (anaesthetists) are to inject anaesthesia only in the morning, not in the evening or at night. So, we do not have an operation theatre in the evening or at night.”—Physician (Doraiswamy et al. 2021, p.8)

3.4.4.2 Private Brokers/agents touting for CS

Junior doctors in rural public district hospitals reported that brokers influence women and their families to leave public hospitals and opt for CS in nearby private hospitals (Aminu et al., 2014). No further information was given about these brokers, such as their identities, motivations, or how they contacted the women.

“In our hospital, there are many brokers. If CS is not done, they'll contact the patient's family to request for discharge to (a private) clinic. So, it is one of the important factors in decision in every place in Bangladesh. (MO #4) (Aminu et al. 2014, p.5)

In contrast, obstetricians from rural public district hospitals accused community healthcare providers of acting as “agents” for private doctors for financial incentives (Begum et al., 2018).

“Here in this rural area patients are not choosing doctors based on academic degrees or experience, rather they choose doctors based on the recommendation from the referee (community health providers). Referrals were frequently for doctors who performed more caesareans instead of vaginal deliveries. I have heard that sometimes the tariff that they got is more than my operation charge (Quote from an obstetrician)” (Begum et al. 2018)

3.4.4.3 Disrespectful obstetric care

Rural women accused nurses of being unpleasant during vaginal examinations and this, in turn, led women to change hospitals and undergo CS instead (Begum et al., 2018).

“She [nurse] did per vaginal examination several times, it was also much embarrassing and painful. I was losing my patience but they did not speak a single pleasant word to me. Then I left the hospital by giving ‘risk bond’ [discharge against medical advice] and went for caesarean section in a nearby clinic at 7 p.m.” (Quote from post-caesarean mother) (Begum et al. 2018, p.8)

3.4.5 Theme 5: Culture and tradition (Macrosystem level)

One sub-themes were identified at macrosystem level.

3.4.5.1 Traditional home delivery

Several rural women stated that they wanted to give birth at their homes with the support of traditional birth attendants (TBA) (Begum et al., 2018; Doraiswamy et al., 2021; Parkhurst & Rahman, 2007). However, the women experienced critical complications during labour at home. Accordingly, TBAs were unable to help and referred the women to healthcare facilities where women had to undergo emergency CS.

“Before my case, none of my family members ever attended the hospital for birthing purpose. As a part of the tradition, I also went to my natal home and they called our family ‘daima’ [traditional birth attendant]. When labour pain started, my baby defecated inside the uterus and instantly she referred me to this hospital. Consequently, caesarean delivery saved my baby’s life.” (Post caesarean mother)” (Begum et al. 2018, p. 5)

“We were bound to take the decision to have a CS. We wanted to have a normal delivery at home. We tried by the traditional birth attendant at home and it failed; we were afraid—Emergency CS patient 15” (Doraiswamy et al. 2021, p.8)

4. Discussion

This systematic literature review aimed to identify the key driving factors influencing decision-making for CS in Bangladesh. Utilizing Bronfenbrenner’s socio-ecological model and meta-synthesis, 13 crucial factors were identified, influenced by multiple actors (see Figure 5).

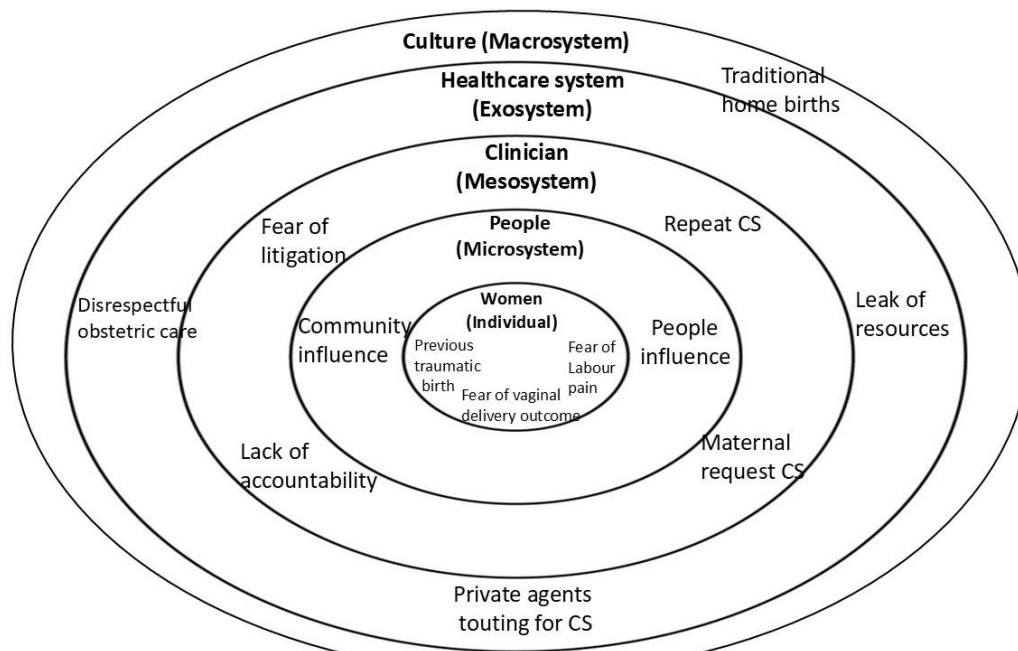


Figure 5: Modified Bronfenbrenner’s model shows factors influencing decision-making for CS in Bangladesh

4.1 Woman (Individual level)

The three factors were identified at the individual level: fear of labour pain, fear of uncertainty about vaginal delivery outcomes and fear of previous traumatic vaginal birth.

Women's fears related to childbirth are typically divided into two types: primary tokophobia, which occurs before or during pregnancy, and secondary tokophobia, which develops after a traumatic previous pregnancy or childbirth experience (Saisto & Halmesmaki, 2003). According to a systematic review of eight studies conducted in Northern Europe, about 7-16% of women with tokophobia ask for elective CS (Kanellopoulos & Gourounti, 2022). Other studies indicate that tokophobia is a common phenomenon among women often leading them to deliver babies surgically (Coates, Thirukumar, Spear, et al., 2020; Eide et al., 2019; Suwanrath et al., 2021; Takegata et al., 2020).

The literature suggests tokophobia is more common among primiparous women compared to multiparous women. For instance, the systematic review of using data from Northern Europe indicates that the prevalence of tokophobia ranged from 7-25% among primiparous women and 7-16.5% among multiparous women (Kanellopoulos & Gourounti, 2022). However, it emerged in this review that tokophobia was identified only among multiparous women. No primiparous women were found with tokophobia.

A recent systematic review of studies from 18 countries reveals that about 14% of pregnant women experience intense tokophobia (O'Connell et al., 2017). The actual numbers may be higher than reported due to stigma because many women may not

reveal fear as it contradicts the narrative of the “happy pregnant mother” (Sheen & Slade, 2018). Other evidence suggests that healthcare providers may lack insights into women’s experiences and fears due to a lack of practice and training in recognising and addressing the concerns (van Dinter-Douma et al., 2020).

In Bangladesh, there is no data on the prevalence of women with intense tokophobia. Notably, there are 3.6 million pregnancies in Bangladesh every year (NIPORT, 2022) and many women may experience intense tokophobia for several reasons. For instance, Bangladesh has the highest adolescent pregnancy rate (113 pregnancies per 1000 teenage girls) outside Sub-Saharan Africa (Hossain et al., 2024). Research indicates severe tokophobia is more prevalent among adolescent mothers than adult mothers (Buldum & Guner Emul, 2021), due largely to inadequate physical and emotional development (Deliktas & Kukulu, 2019; Huang et al., 2014). Another reason is the high prevalence of violence experienced by pregnant women. About 65% of pregnant women in Bangladesh experience intimate partner violence (Islam et al., 2021), and evidence has shown that a history of violence during pregnancy may result in intense fear of childbirth (Eberhard-Gran et al., 2008). Evidence also suggests that a history of labour and delivery complications was statistically associated with severe fear of childbirth or tokophobia (OR=5.41, 95% CI=2.20, 8.63) (Abebe et al., 2024). Moreover, many Bangladeshi women experience complications during childbirth, for instance, 20% of women experienced prolonged labour pain, and 19% experienced obstructed labour (Ahmed et al., 2024).

Women with intense tokophobia should receive appropriate treatment to address and reduce their fear of childbirth effectively. This is because tokophobia may have

serious and long-term impacts on a woman's health, mental health and well-being. Studies indicate that mothers with intense tokophobia often experience more complicated childbirth (Wahlbeck et al., 2018), are more likely to undergo induction of labour (Ayers, 2014), emergency CS or vacuum-assisted delivery (Saisto et al., 1999), and have a five-fold increased risk of having a negative birth experience (Elvander et al., 2013). Moreover, evidence shows that women with no history of depression but with intense tokophobia are three times more likely to experience postnatal depression (Raisanen et al., 2014).

WHO has recommended several educational interventions for women to reduce their fear of childbirth. These interventions included childbirth training workshops, nurse-led applied relaxation training programs, psychosocial couple-based prevention programs, and psychoeducation. Unfortunately, these interventions have not been implemented in Bangladesh.

4.2 People (Microsystem level)

Two factors emerged related to people: family and community influence.

This review shows that women often received positive information about CS procedures from their social networks. These include: "CS is associated with less pain, minimal or no risk, and is better for babies' heads". This finding is consistent with a qualitative study conducted among Indonesian women that found that some women's partners encourage women to undergo CS as it is perceived as an "easy way" to give birth (Zahroh et al., 2024). Literature suggests that women's decisions

for CS are also influenced by news and social media, where CS is presented as “convenient, fashionable and modern” (Ilyas et al., 2019; O'Connell et al., 2021)

Unfortunately, the messages women receive about the benefits of CS from their social networks may not be fully accurate and can lead to misconceptions. There is no evidence in the literature to support the claim that CS results in less pain, carries minimal risk, or is beneficial for the baby's head compared to vaginal delivery (Adewale et al., 2023). Conversely, CS involves a longer and more painful recovery compared to vaginal delivery according to one prospective cohort study conducted in Finland (Kainu et al., 2016).

In addition to the influence, other women in this review cited strong pressure from their families to undergo CS without any medical basis. This is aligned with a study on reproductive coercion in Bangladesh, where women stated that their partners or family members controlled their access to medical services such as contraception and menstrual regulation (Pearson et al., 2023). Another study found that many women still depend on their husbands' and family members' permission to access reproductive health services (Bhatia et al., 2024). When it comes to sexual and reproductive health, women and girls in Bangladesh often face discrimination, limited access to services, and exclusion from comprehensive sexual education (Williams et al., 2021).

The above findings suggest that healthcare providers need to deliver accurate and evidence-based information about the risks and benefits of both CS and vaginal birth so that women and their families can make better-informed decisions. The WHO emphasizes that CS should be performed when medically necessary or if a woman

desires it, after receiving adequate information about the procedure and its potential risks and complications (WHO, 2021a).

However, it seems that there is a lack of informed decision-making around childbirth options in maternity practice in Bangladesh, with many women undergoing CS without adequate information. For instance, Akhter and Schech (2018) found that 23.3% of women in their survey in Dhaka were unaware of the reasons for the CS performed on them and other women in the same study reported having a CS without being fully informed about its advantages, health benefits or risks (Akhter & Schech, 2018). Similarly, women in the Doraiswamy et al (2021) study were not informed about CS operation and perceived signing the consent as a “formality” (Doraiswamy et al., 2021).

Another key factor influencing urban women’s decision-making for CS was the lack of family support during pregnancy and childbirth. Traditionally, pregnant women in Bangladesh have heavily relied on their family members’ support. Throughout the greater part of history, childbirth typically took place in women’s village homes with the help of close family and friends’ networks. However, things have changed with rapid urbanisation over the last two decades. The Population Division of the United Nations Department for Economic and Social Affairs predicted a 93% increase in the urban population in Bangladesh between 2000 and 2020, primarily due to rural-to-urban migration (Islam & Gagnon, 2016). Many women live independently or with their husbands in urban areas, with limited family support.

In Bangladesh, family members including male partner are not allowed in labour units. A recent cross-sectional study (Perkins et al., 2019) among 1305 women in

Bangladesh indicated that a high proportion reported not being allowed a birth companion in health facilities. However, evidence in the literature shows that birth companionship is associated with improved birth outcomes for women and their newborns including a rise in vaginal birth, a decrease in unnecessary CS and assisted deliveries, shorter hospital stays and an improvement in quality care (Bohren et al., 2017).

4.3 Clinician (Mesosystem level)

Four factors emerged related to clinicians: repeat CS, maternal request CS, lack of accountability and fear of litigation.

In Bangladesh, there is no nationally representative data available on the prevalence of repeat CS rates. Begum et al. (2019) collected clinical data on CS indications from 34 urban for-profit private hospitals in the Sylhet division in Bangladesh. Out of the 1307 births with delivery data, 1077 were delivered CS. The finding indicates that higher CS rates were associated with women with previous CS (Begum et al., 2019).

The practice of repeat CS for women with a history of previous caesarean deliveries is reported to be the leading contributor to the CS birth epidemic (Abebe et al., 2016; Cheng et al., 2011; Uno et al., 2020). For instance, about 28% of CS in the UK and 30-50% in the USA are related to women with a previous CS (Fitzpatrick et al., 2019).

Women who had CS in previous births generally have two options for their care in a subsequent pregnancy: elective repeat CS (ERCS) or planned vaginal delivery after CS (VBAC), as indicated by global guidelines on ERCS and VBAC. According to the Royal College of Obstetricians and Gynecologists (RCOG) and the American College

of Obstetricians and Gynecologists (ACOG), ERCS should be recommended for women who meet the following conditions: having had more than one previous CS, having a previous upper vertical incision, a history of uterine rupture or a full-thickness of scar located in the upper part of the uterus ("ACOG Practice Bulletin No. 205 Summary: Vaginal Birth After Cesarean Delivery," 2019; *Birth After Previous Cesarean Birth*, 2015). VBAC is recommended for women with a singleton pregnancy of cephalic presentation at 37 weeks or beyond and for women with previous lower-segment CS ("ACOG Practice Bulletin No. 205 Summary: Vaginal Birth After Cesarean Delivery," 2019; *Birth After Previous Cesarean Birth*, 2015).

In this review, clinicians did not provide any justification for their recommendation for CS for women with a history of previous CS. Bangladeshi clinicians seem concerned about the potential risks and complications associated with VBAC procedures.

Literature suggests that the most feared risk of VBAC is uterine rupture (complete separation of all uterine layers), which can lead to severe bleeding, often necessitating a hysterectomy and urgent blood transfusion, and possibly resulting in maternal death (Al-Zirqi et al., 2019). There are serious complications arising from intrapartum emergency CS following unsuccessful VBAC (Beucher et al., 2012; Vousden et al., 2015; Young et al., 2018).

However, ERCS has also severe risks of operative and postoperative complications ("ACOG Practice Bulletin No. 205 Summary: Vaginal Birth After Cesarean Delivery," 2019). Furthermore, a systematic and meta-synthesis revealed that the risk of maternal mortality associated with planned ERCS (13/10 000) was higher than planned VBAC (4/10 000) (Guise et al., 2010). In contrast, the same review found

that the risk of perinatal death with planned VBAC was higher than with planned ERCS. Therefore, it is crucial to carefully consider eligible candidates for ERCS and VBAC, ensuring both procedures take place in healthcare facilities with skilled staff and sufficient resources to handle potential complications (Tesfahun et al., 2023).

Junior doctors in this review accused senior specialists of a lack of accountabilities for rising CS rates in Bangladesh. In a Tanzanian study, junior doctors noted that senior clinicians often urged them to perform CS despite the absence of medical necessity; the juniors claimed that the senior specialists were “uncomfortable with instrumental vaginal deliveries”, and also incapable of teaching it to students and residents, resulting in unnecessary CS (Litorp et al., 2015). In Bangladesh, it would seem appropriate and relevant to study the underlying causes and consequences related to doctors’ influence on high CS rates and assess the need for advanced training for senior doctors in vaginal deliveries so that clinicians could improve their skills.

Fear of litigation emerged as another factor in this review, which was consistent with other studies (Cox, 2011; Foureur et al., 2017; Fuglenes et al., 2009; Kamal et al., 2005). Bangladesh has no specific law to deal with medical negligence or malpractice. Multiple existing laws and policies govern medical liability, for instance, Civil and Criminal Law, the Consumer Rights Protection Act (2009), and the Bangladesh Medical and Dental Council (Hasan et al., 2018; Rahman, 2024).

Civil cases typically involve compensation for damages, while criminal cases are filed if practitioner negligence results in serious harm or death. The Consumer Rights Protection Act of 2009 classifies individuals as consumers and medical institutions or healthcare providers as service providers. It allows for complaints against medical

malpractice, with potential fines for providers. A healthcare provider can face up to three years imprisonment and fined a maximum of 200,000 Bangladeshi Taka (or \$USD1,674) (Rahman, 2024).

Furthermore, the Bangladesh Medical and Dental Council can cancel the registration of a doctor found guilty of negligence (Rahman, 2024). However, no data have been identified on the number of doctors in Bangladesh who have faced legal proceedings for medical negligence nor how many cases of medical negligence are filed.

4.4 Healthcare system (Exosystem level)

Three key factors were identified related to healthcare facilities: a lack of resources, private brokers/agents, and disrespectful obstetric care.

This review finding aligns with a systematic review of factors affecting clinicians' decision-making regarding CS (Panda et al., 2018). The systematic review identified several reasons that led obstetricians to choose elective CS, including the unavailability of staff for emergency CS, a shortage of skilled clinicians for vaginal deliveries, and a lack of labour rooms (Panda et al., 2018).

Undeniably, there is a critical shortage of healthcare professionals in Bangladesh. According to a Bangladesh Ministry of Health and Family Welfare report (2023), the nationwide vacancies of specialist doctors are 58%, junior doctors 25%, midwives 62%, and nurses 10% (*BANGLADESH HEALTH WORKFORCE STRATEGY 2023*, 2023). On average, there are only 83 doctors and nurses per 100,000 people nationwide (WHO, 2021b). There is a significant shortage of doctors in rural areas, with only 11 per 100,000 people. In contrast, urban areas have 182 doctors per

100,000 people ("More health workers needed for universal health coverage," 2018). Midwifery education began in the country in 2010, but to date, there are only around 8,000 registered midwives (Begum et al., 2023).

The brokers' issue has not been reported in other countries but appears critical in Bangladesh. On 29 February 2024, police arrested 38 brokers from several public hospitals in the capital in connection with persuading patients to switch from public hospitals to private hospitals for financial incentives ("The Daily Star," 2024).

However, the police have not published the brokers' identities. Moreover, clinicians from rural public district hospitals accused community healthcare providers of acting as brokers for private facilities for financial incentives; however, such allegations have not been found in other studies.

Literature suggests that CS rates are significantly higher in for-profit private hospitals than in non-profit hospitals, with financial incentives likely influencing this difference (Bland et al., 2001; Goldfield et al., 2008; Hoxha et al., 2017; Keeler & Brodie, 1993).

While the most recent data are not yet available, private hospitals charge an average of \$USD 276 for a CS and public hospitals charge \$USD 45, with costs nearly five times higher in private settings (Haider et al., 2018). According to Save the Children Bangladesh, women in Bangladesh paid about \$USD 512 million for CS in 2018 (*Save the Children* 2023). On the other hand, the cost of vaginal delivery is significantly lower in both public and private healthcare settings.

In this review, the unconsented frequent vaginal examination emerged as a factor influencing rural women's decision-making for CS. In Bangladesh, there is evidence of disrespect in labour care for instance, 6% of women reported experiencing verbal

abuse during childbirth (Manu et al., 2021), 27% were not allowed to give birth in their preferred positions and 39% were denied the absence of a birth companion in health facilities (Perkins et al., 2019).

Literature suggests that disrespectful obstetric care is common among women across the world. According to a scoring review of 61 studies from six South Asia countries (Bangladesh, India, Pakistan, Afghanistan, Nepal, Sri Lanka and Bhutan), women accessing facility-based services reported high levels of disrespect, violation of privacy, verbal, physical, sexual abuse and mistreatment (Kaphle et al., 2022). In East Africa, 47% of women reported experiencing disrespectful and abusive care according to a systematic and meta-analysis study (Gebeyehu et al., 2023). Women in high-income settings also experience disrespect and abuse during childbirth, but the incidence is relatively low (Shuman et al., 2023). Importantly, there is evidence that women who experience complications during vaginal birth are more likely to face disrespect and abuse than those who do not. For example, women who have instrumental deliveries are 2.7 times more likely to encounter disrespect and abuse compared to those who have spontaneous vaginal deliveries (Madeiro et al., 2022).

There is growing evidence that disrespectful and abusive care negatively impacts women's health and mental health including post-traumatic stress, suicidal ideation, feelings of hopelessness (Taghizadeh et al., 2021), and delayed access to healthcare facilities or avoiding facility-based births in future childbirths (Orpin et al., 2019).

Disrespect during childbirth may cause women to choose planned CS to avoid the humiliation they experienced in previous vaginal births (Mayra et al., 2022).

4.5 Culture and traditions (Macrosystem level)

One major factor emerged related to culture and traditions: traditional home childbirth.

According to a nationally representative survey in 2022, about 35% of women across the country give birth at home without trained medical supervision (NIPORT, 2022), with higher proportions in rural areas. Whilst most women will deliver successfully at home, a proportion will suffer serious obstetric complications; whether these complications could have been avoided in a healthcare facility is uncertain. This review shows that several rural women experienced severe complications during home labour, and TBAs advised women to go to hospitals where they had to undergo emergency CS.

The role of TBAs seems significant in Bangladesh because 35% of women across the country still give birth outside of health facilities (NIPORT, 2022). The WHO define TBA as “a person who assists a mother during childbirth and who initially acquired her skills by delivering babies herself or through appreciation to other traditional birth attendants” (WHO, 2018). In many developing countries, over 50% of births are attended by TBAs (Wilson et al., 2011). In rural areas of Africa, 60-90% of births are attended by TBAs (Okonofua & Ogu, 2014).

Evidence indicates that effective training and support of TBAs can significantly enhance maternal and perinatal health outcomes. A systematic review and meta-analysis found an average 24% reduction in perinatal deaths with strategies incorporating the training and support of TBAs (Wilson et al., 2011).

In Bangladesh, training for TBAs began in 1978 but ended in 1998 (Murakami et al., 2003). In 2003, the Government of Bangladesh took a new initiative to train family welfare staff as community-skilled birth attendants to increase the accessibility of skilled childbirth delivery at home settings (Islam et al., 2014). However, about 30% of home births are still attended by untrained TBAs, whereas only 0.3% by community-skilled birth attendants across the country, according to BDHS 2022. The training for TBAs in Bangladesh should be taken into consideration. In this review, it appears that the TBAs saved the lives of women who faced severe labour complications by referring them to the hospital.

5. Strengths of this review

This review has several important strengths. Firstly, this is the first review to synthesise qualitative evidence around the factors influencing the CS decision-making process in Bangladesh. Secondly, various electronic databases and websites were used to identify all relevant studies related to the review.

Thirdly, the qualitative findings were comprehensive and far-reaching because of the variety of methodologies used across the studies, which included ethnographies, phenomenologies, and case studies. In addition, the data collection methods varied such as in-depth interviews, semi-structured questionnaire interviews, and focus group discussions. The participants were also diverse such as pregnant women, women who experienced emergency and planned CS, women's family members and clinicians from public and private healthcare facilities. Finally, Bronfenbrenner's model

in this review was useful in clustering all identified factors related to the relevant actors.

6. Limitation of this review

This review has also some limitations. Firstly, quantitative data were not included in this review. My initial plan was to include quantitative data however it was not possible because there were only a few published quantitative studies around the review's topic in Bangladesh. Moreover, the major weakness of the existing quantitative studies was that their findings were nearly the same across the studies. This is because all quantitative studies applied cross-sectional methods using the secondary data from the BDHS to investigate the association between women's socio-demographic level, antenatal care visits and CS rates. The quantitative data do not address the factors influencing decision-making for CS.

Secondly, a few clinicians in the included studies were from for-profit private healthcare facilities. Therefore, it remained largely unclear why CS rates are high in private healthcare facilities, which could be explored in future studies.

Thirdly, this review findings only reflect on decision-making for CS rather than decision-making for childbirth, including vaginal birth, which can be considered a limitation. Finally, some of the data presented in this review, specifically the cost of CS in 2014, seemed outdated. However, no recent data has been found.

7. Clinical implications

This review's findings show that multiple factors influence CS decision-making for various reasons. Mitigating the rising trend of CS in Bangladesh and similar contexts will therefore require several clinical and non-clinical interventions.

Firstly, there is an urgent need to increase maternity staff to promote safe vaginal deliveries. Bangladesh is one of the most densely populated countries, with 163 million people (82 million women and 81 million men) and there are 3.6 million pregnancies in Bangladesh every year. However, there is only one doctor available for every 2,500 pregnant women. Moreover, only 8,000 midwives are available to serve 3.6 million pregnant women. There is evidence that higher staffing levels of obstetricians and midwives are linked to lower CS rates (Zbiri et al., 2018).

Specifically, it indicated that a 10% increase in obstetricians and midwives would be associated with a decrease in the likelihood of elective cesarean sections by 3.4 percentage points and a reduction in intrapartum cesarean sections by 2.5 percentage points, respectively (Zbiri et al., 2018).

Secondly, there is an urgent need for ERCS and VBAC guidelines recommended by RCOG and ACOG in maternity settings in Bangladesh to promote evidence-based practices. RCOG and ACOG issued clinical management guidelines for ERCS and VBAC. Such a guideline could be a useful foundation for developing a "made-in-Bangladesh" version addressing the contextual factors of culture, equipment and expertise available. The Obstetrical and Gynecological Society of Bangladesh may take the initiative to develop an ERCS and VBAC guideline for Bangladesh's maternity sector.

Thirdly, Bangladesh maternity care should promote informed decision-making around childbirth modes. This review indicates that many women underwent CS without being fully informed about CS risks, and complications. The WHO emphasizes that CS should be performed on women when medically necessary or if a woman desires it, after women receiving adequate information about the procedure and its potential risks and complications (WHO, 2021a).

Fourthly, Bangladesh's maternity practice should ensure respectful obstetric care. This review found that a woman went against her initial wish for vaginal delivery because she experienced unconsent frequent vaginal examination by her healthcare providers. The WHO highlighted that respectful maternity care underlines the importance of a woman's decisions and choices around perinatal care including when complications occur or when medical interventions are necessary (WHO, 2018). In 2015, the WHO released a statement urging global actions to prevent and eliminate disrespectful and abusive practices during childbirth (WHO, 2015). Respectful and dignified maternity care emerged as a top priority in the "What Women Want" campaign participated by 1.3 million women in 114 countries (Mayra et al., 2022).

Fifthly, there is currently no routine intervention for women with tokophobia, which needs proper clinical attention. Several psycho-educational interventions have been found effective in reducing women's fear and CS rates, for instance, psycho-education, cognitive behavioural therapy, art therapy and one-to-one care (O'Connell et al., 2021). Notably, no significant difference in CS rates was observed between women who received these interventions and those who did not, but evidence

suggests that women who received the intervention reported a higher level of satisfaction with the care they received (Larsson et al., 2015; Striebich et al., 2018).

Early detection of tokophobia is also crucial for timely intervention before childbirth (Mies Padilla et al., 2024). There are several properly validated measures of tokophobia such as Wijma Delivery Expectancy Questionaries (Wijma et al., 1998), Fear of Birth Scales by Haines (Haines et al., 2015), Oxford Worries about Labour Scale (Fairbrother et al., 2022), and Generalized Anxiety Disorder Scale (Lowe et al., 2008). Bangladesh maternity setting should implement routine screening and intervention for women with tokophobia.

Finally, according to a nationally representative survey in 2022, about 35% of women across the country give birth at home mainly aided by TBAs (NIPORT, 2022), with higher proportions in rural areas. Therefore, it is of utmost importance to train TBAs in Bangladesh. Trained TBAs will be expected to identify early signs and symptoms of complicated labour and to refer the cases to healthcare facilities on time. Timely referral of women with critical labour complications to the hospital is crucial to ensure the safety of both the mother and their babies. A delay in accessing safe labour care may lead to maternal and child morbidity and mortality.

8. Research implications

This review suggests several research implications. There is still a gap in understanding how women's mode of childbirth choices and decisions may change throughout their pregnancies. It is, therefore, important to conduct a longitudinal qualitative study with a cohort of pregnant women attending both profit and non-profit

healthcare facilities. This proposed longitudinal qualitative study will help understand how women's decisions change throughout pregnancy. Moreover, there is a need to understand the proportion of emergency CS among women who experienced complications during planned home births. This is because there are 35% of women give birth at home without trained healthcare providers.

9. Conclusion

Evidence suggests that the CS rates will rise from 21% in 2018 to 28.5% in 2030 worldwide. Notably, 80% of these births will be in LMICs, making it an emerging global health problem. In Bangladesh, the rates of CS increased significantly from 11% in 2004 to 42% in 2022.

While CS is a life-saving intervention for women with complicated childbirth, unnecessary CS may result in unmet needs and raise severe operative and post-operative complications for mothers and their babies. The complications are amplified further for women and their babies living in LMICs. A high-quality systematic review of 116 studies from 59 LMICs reveals that eight out of 100 women who underwent CS in LMICs died, with the highest burden in Sub-Saharan Africa where 11 out of every 100 women (Sobhy et al., 2019). Moreover, 85 perinatal deaths were found per 1000 CS procedures, and the highest rate was recorded in the Middle East and North Africa.

There are no effective interventions available to reduce unnecessary caesarean births. The WHO suggests that before undertaking any intervention in any setting, it is important to understand the key drivers influencing decision-making behind CS. This is because factors influencing caesarean delivery are complex (WHO, 2018).

Therefore, this review was conducted to understand key driving factors influencing the decision-making for CS in Bangladesh.

This review findings indicate that decision-making around CS is interconnected with both clinical and non-clinical factors from women, people around women, clinicians, the healthcare system, and culture and tradition. Women may prefer CS over vaginal births due to fear of labour pain, fear of uncertainty about the vaginal delivery process and outcome, and previous traumatic childbirths. Women are also influenced by their family and community members' news and information about CS benefits such as CS is "less pain, good for mothers and babies". Healthcare providers influence women to have CS due to previous CS history, women's requests for CS, lack of accountability, and fear of litigation. The healthcare system influences healthcare providers' decisions around CS because of a lack of resources and financial incentives, and women's decisions due to disrespectful obstetric care. Finally, culture and tradition may have an indirect influence on women's decision for CS following labour complications during home childbirth.

The findings of this review suggest several clinical implications for reducing CS in Bangladesh. Women need proper psychoeducational intervention to reduce their fear of childbirth. Moreover, women need proper evidence-based written and oral information from clinicians to make an informed choice about their childbirth modes. Bangladesh's maternity setting needs to develop a national guideline on CS management to promote evidence-based CS care. The guideline should also provide clinicians with clear information about planned and emergency CS indications for women with a history of previous CS. The health system in Bangladesh needs to

increase maternity staff, including midwives to promote safe vaginal delivery in facilities and home settings for women who prefer home childbirth. Finally, there is an urgent need to reform payment models (for instance equal fees for vaginal and CS deliveries) in maternity care settings in Bangladesh.

Bangladesh is a middle-income country and implementing multiple interventions can be challenging due to limited resources, time constraints, and manpower issues. Concerns about the outcomes of each intervention complicate this process further. To address these challenges, it is proposed to conduct a theory of change workshop with relevant stakeholders such as policymakers, the Ministry of Health and Family Welfare, the Obstetrical and Gynecological Society of Bangladesh, the Midwives Society, public health agencies, research departments, and local and international health NGOs. A theory of change workshop is a valuable strategic planning tool that helps evaluate interventions by outlining how and why a desired change or outcome is expected to occur in a specific context (E et al., 2020). One significant strength of a theory of change-based workshop is that it fosters discussion about how and why the anticipated changes will be achieved. The findings of the theory of change study will help identify the most effective intervention and its methodology to reduce CS rates sustainably in the Bangladeshi context.

10. Reference

- Abebe, F. E., Gebeyehu, A. W., Kidane, A. N., & Eyassu, G. A. (2016). Factors leading to cesarean section delivery at Felegehiwot referral hospital, Northwest Ethiopia: a retrospective record review. *Reprod Health*, 13, 6.
<https://doi.org/10.1186/s12978-015-0114-8>
- Abebe, M., Tebeje, T. M., Yimer, N., Simon, T., Belete, A., Melaku, G., & Hareru, H. E. (2024). Fear of childbirth and its associated factors among pregnant women in East Africa: Systematic review and meta-analysis. *Midwifery*, 139, 104191.
<https://doi.org/10.1016/j.midw.2024.104191>
- ACOG. (2022, 2022). *Cesarean Birth*. Retrieved 2023 December 10 from
<https://www.acog.org/womens-health/faqs/cesarean-birth>
- ACOG Practice Bulletin No. 205 Summary: Vaginal Birth After Cesarean Delivery. (2019). *Obstet Gynecol*, 133(2), 393-395.
<https://doi.org/10.1097/AOG.0000000000003079>
- Adewale, V., Varotsis, D., Iyer, N., Di Mascio, D., Dupont, A., Abramowitz, L., Steer, P. J., Gimovsky, M., & Berghella, V. (2023). Planned cesarean delivery vs planned vaginal delivery: a systematic review and meta-analysis of randomized controlled trials. *Am J Obstet Gynecol MFM*, 5(12), 101186.
<https://doi.org/10.1016/j.ajogmf.2023.101186>
- Adibe, B. (2021). COVID-19 and clinician wellbeing: challenges and opportunities. *Lancet Public Health*, 6(3), e141-e142. [https://doi.org/10.1016/S2468-2667\(21\)00028-1](https://doi.org/10.1016/S2468-2667(21)00028-1)
- Ahmed, A., Akter, E., Sayeed, A., Rahman, F., Hanson, M., Saha, N., Refat Uz Zaman Sajib, M., Hossain, L., Tanvir, K. M., Hossain, A. T., Rana, R., Tahura Ether, S., Ameen, S., Jabeen, S., Rumayan Hasan, A. M., El Arifeen, S., Ehsanur Rahman, A., & Moshfiqur Rahman, S. (2024). Factors influencing delivery-related complications and their consequences in hard-to-reach areas of Bangladesh. *Sex Reprod Healthc*, 40, 100973.
<https://doi.org/10.1016/j.srhc.2024.100973>
- Akhter, S., & Schech, S. (2018). Choosing caesareans? The perceptions and experiences of childbirth among mothers from higher socio-economic

- households in Dhaka. *Health Care for Women International*, 39(11), 1177-1192.
- Al-Zirqi, I., Daltveit, A. K., & Vangen, S. (2019). Maternal outcome after complete uterine rupture. *Acta Obstet Gynecol Scand*, 98(8), 1024-1031.
<https://doi.org/10.1111/aogs.13579>
- Aminu, M., Utz, B., Halim, A., & Van Den Broek, N. (2014). Reasons for performing a caesarean section in public hospitals in rural Bangladesh. *BMC pregnancy and childbirth*, 14, 1-8.
- Amyx, M., Philibert, M., Farr, A., Donati, S., Smarason, A. K., Tica, V., Velebil, P., Alexander, S., Durox, M., Elorriaga, M. F., Heller, G., Kyprianou, T., Mierzejewska, E., Verdenik, I., Zile-Velika, I., Zeitlin, J., & Euro-Peristat Research, G. (2024). Trends in caesarean section rates in Europe from 2015 to 2019 using Robson's Ten Group Classification System: A Euro-Peristat study. *BJOG*, 131(4), 444-454. <https://doi.org/10.1111/1471-0528.17670>
- Antoine, C., & Young, B. K. (2020). Cesarean section one hundred years 1920-2020: the Good, the Bad and the Ugly. *J Perinat Med*, 49(1), 5-16.
<https://doi.org/10.1515/jpm-2020-0305>
- Appropriate technology for birth. (1985). *Lancet*, 2(8452), 436-437.
[https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(85\)92750-3/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(85)92750-3/fulltext)
- Ayers, S. (2014). Fear of childbirth, postnatal post-traumatic stress disorder and midwifery care. *Midwifery*, 30(2), 145-148.
<https://doi.org/10.1016/j.midw.2013.12.001>
- Bam, V., Lomotey, A. Y., Dijji, A. K.-A., Budu, H. I., Bamfo-Ennin, D., & Mireku, G. (2021). Factors influencing decision-making to accept elective caesarean section: A descriptive cross-sectional study. *Heliyon*, 7(8).
- BANGLADESH HEALTH WORKFORCE STRATEGY 2023.** (2023).
https://dgnm.gov.bd/sites/default/files/files/dgnm.portal.gov.bd/go_ultimate/ddeae4a2_47b3_48ae_b812_e9ce8539854f/2023-08-13-14-06-3fd85cf63ab05484abdd4faa20afb023.pdf

- Bangladesh National Strategy for Maternal Health 2019-2030. (2019). D.-D. G. o. F. P. D. M. o. H. a. F. W. K. Directorate General of Health Services (DGHS) Ministry of Health and Family Welfare Mohakhali.
https://dgnm.portal.gov.bd/sites/default/files/files/dgnm.portal.gov.bd/page/18c15f9c_9267_44a7_ad2b_65affc9d43b3/2021-06-24-11-27-702ae9eea176d87572b7dbbf566e9262.pdf
- Bangladesh Sample Vital Statistics (2023). Sample Vital Registration System (SVRS) in Digital Platform Project Bangladesh Bureau of Statistics (BBS).
https://bbs.portal.gov.bd/sites/default/files/files/bbs.portal.gov.bd/page/b343a8b4_956b_45ca_872f_4cf9b2f1a6e0/2024-02-12-09-14-e96115a9e06fa25854d494fc9ffbde52.pdf
- Begum, F., Ara, R., Islam, A., Marriott, S., Williams, A., & Anderson, R. (2023). Health System Strengthening Through Professional Midwives in Bangladesh: Best Practices, Challenges, and Successes. *Glob Health Sci Pract*, 11(5).
<https://doi.org/10.9745/GHSP-D-23-00081>
- Begum, T., Ellis, C., Sarker, M., Rostoker, J. F., Rahman, A., Anwar, I., & Reichenbach, L. (2018). A qualitative study to explore the attitudes of women and obstetricians towards caesarean delivery in rural Bangladesh. *BMC Pregnancy Childbirth*, 18(1), 368. <https://doi.org/10.1186/s12884-018-1993-9>
- Begum, T., Nababan, H., Rahman, A., Islam, M. R., Adams, A., & Anwar, I. (2019). Monitoring caesarean births using the Robson ten group classification system: A cross-sectional survey of private for-profit facilities in urban Bangladesh. *PLoS One*, 14(8), e0220693. <https://doi.org/10.1371/journal.pone.0220693>
- Betran, A. P., Torloni, M. R., Zhang, J., Ye, J., Mikolajczyk, R., Deneux-Tharoux, C., Oladapo, O. T., Souza, J. P., Tuncalp, O., Vogel, J. P., & Gulmezoglu, A. M. (2015). What is the optimal rate of caesarean section at population level? A systematic review of ecologic studies. *Reprod Health*, 12, 57.
<https://doi.org/10.1186/s12978-015-0043-6>
- Betran, A. P., Torloni, M. R., Zhang, J. J., Gulmezoglu, A. M., & Section, W. H. O. W. G. o. C. (2016). WHO Statement on Caesarean Section Rates. *BJOG*, 123(5), 667-670. <https://doi.org/10.1111/1471-0528.13526>

- Betran, A. P., Ye, J., Moller, A. B., Souza, J. P., & Zhang, J. (2021). Trends and projections of caesarean section rates: global and regional estimates. *BMJ Glob Health*, 6(6). <https://doi.org/10.1136/bmjgh-2021-005671>
- Beucher, G., Dolley, P., Levy-Thissier, S., Florian, A., & Dreyfus, M. (2012). [Maternal benefits and risks of trial of labor versus elective repeat caesarean delivery in women with a previous caesarean delivery]. *J Gynecol Obstet Biol Reprod (Paris)*, 41(8), 708-726. <https://doi.org/10.1016/j.jgyn.2012.09.028> (Benefices et risques maternels de la tentative de voie basse comparee a la cesarienne programmee en cas d'antecedent de cesarienne.)
- Bhatia, B., Hossain, S., Ghosh, U., & Salignac, F. (2024). Reimagining gendered community interventions: the case of family planning programs in rural Bangladesh. *Glob Health Res Policy*, 9(1), 3. <https://doi.org/10.1186/s41256-023-00337-8>
- Birth After Previous Caesarean Birth. (2015). Royal College Obstetricians and Gynaecologists. Retrieved 24 october from https://www.rcog.org.uk/media/kpkjwd5h/qtg_45.pdf
- Biswas, A. (2023). *Maternal and Perinatal Death Surveillance and Response (MPDSR) in Bangladesh Progress and Highlights in 2022*. M. H. P. D. G. o. H. S. G. o. t. P. s. R. o. Bangladesh. https://bangladesh.unfpa.org/sites/default/files/pub-pdf/mpdsr_report_2022_final_version_dghs.pdf
- Bland, E. S., Oppenheimer, L. W., Holmes, P., & Wen, S. W. (2001). The effect of income pooling within a call group on rates of obstetric intervention. *CMAJ*, 164(3), 337-339. <https://www.ncbi.nlm.nih.gov/pubmed/11232133>
- Blomberg, M., Birch Tyrberg, R., & Kjolhede, P. (2014). Impact of maternal age on obstetric and neonatal outcome with emphasis on primiparous adolescents and older women: a Swedish Medical Birth Register Study. *BMJ Open*, 4(11), e005840. <https://doi.org/10.1136/bmjopen-2014-005840>
- Blustein, J., & Liu, J. (2015). Time to consider the risks of caesarean delivery for long term child health. *BMJ*, 350, h2410. <https://doi.org/10.1136/bmj.h2410>

- Boerma, T., Ronsmans, C., Melesse, D. Y., Barros, A. J. D., Barros, F. C., Juan, L., Moller, A. B., Say, L., Hosseinpoor, A. R., Yi, M., de Lyra Rabello Neto, D., & Temmerman, M. (2018). Global epidemiology of use of and disparities in caesarean sections. *Lancet*, 392(10155), 1341-1348.
[https://doi.org/10.1016/S0140-6736\(18\)31928-7](https://doi.org/10.1016/S0140-6736(18)31928-7)
- Bohren, M. A., Hofmeyr, G. J., Sakala, C., Fukuzawa, R. K., & Cuthbert, A. (2017). Continuous support for women during childbirth. *Cochrane Database Syst Rev*, 7(7), CD003766. <https://doi.org/10.1002/14651858.CD003766.pub6>
- Bronfenbrenner, U. (1979). The ecology of human development. .
[ooks.google.se/books?hl=en&lr=&id=OCmbzWka6xUC&oi=fnd&pg=PA3&ots=yAJ0O1WUcd&sig=u7I1DtHiEWSSvCREUgcBBYbOEUK&redir_esc=y#v=onepage&q&f=false](https://books.google.se/books?hl=en&lr=&id=OCmbzWka6xUC&oi=fnd&pg=PA3&ots=yAJ0O1WUcd&sig=u7I1DtHiEWSSvCREUgcBBYbOEUK&redir_esc=y#v=onepage&q&f=false) (Harvard University Press.)
- Brown, D. (2020). A Review of the PubMed PICO Tool: Using Evidence-Based Practice in Health Education. *Health Promot Pract*, 21(4), 496-498.
<https://doi.org/10.1177/1524839919893361>
- Buldum, A., & Guner Emul, T. (2021). The Fear of Childbirth and Social Support in Adolescent Pregnancy. *J Pediatr Adolesc Gynecol*, 34(6), 839-846.
<https://doi.org/10.1016/j.jpag.2021.06.005>
- Cheng, Y. W., Eden, K. B., Marshall, N., Pereira, L., Caughey, A. B., & Guise, J. M. (2011). Delivery after prior cesarean: maternal morbidity and mortality. *Clin Perinatol*, 38(2), 297-309. <https://doi.org/10.1016/j.clp.2011.03.012>
- Coates, D., Thirukumar, P., & Henry, A. (2020). Women's experiences and satisfaction with having a cesarean birth: An integrative review. *Birth*, 47(2), 169-182. <https://doi.org/10.1111/birt.12478>
- Coates, D., Thirukumar, P., Spear, V., Brown, G., & Henry, A. (2020). What are women's mode of birth preferences and why? A systematic scoping review. *Women Birth*, 33(4), 323-333. <https://doi.org/10.1016/j.wombi.2019.09.005>
- Corcoran, J. (1999). Ecological factors associated with adolescent pregnancy: a review of the literature. *Adolescence*, 34(135), 603-619.
<https://www.ncbi.nlm.nih.gov/pubmed/10658868>

- Cox, K. J. (2011). Providers' perspectives on the vaginal birth after cesarean guidelines in Florida, United States: a qualitative study. *BMC Pregnancy Childbirth*, 11, 72. <https://doi.org/10.1186/1471-2393-11-72>
- The Daily Star. (2024). *41 hospital brokers fined, jailed in Dhaka, Gazipur*. <https://www.thedailystar.net/news/bangladesh/crime-justice/news/41-hospital-brokers-fined-jailed-dhaka-gazipur-3554771>
- Deliktas, A., & Kukulu, K. (2019). Pregnant Women in Turkey Experience Severe Fear of Childbirth: A Systematic Review and Meta-Analysis. *J Transcult Nurs*, 30(5), 501-511. <https://doi.org/10.1177/1043659618823905>
- Doraiswamy, S. (2020). *Why have caesarean sections become the dominant form of delivery for women accessing public hospitals in Bangladesh?: a mixed-methods study in eight district hospitals of Bangladesh to understand factors influencing C-section consent and to explore opportunities for optimizing C-section rates* University of Bath].
- Doraiswamy, S., Billah, S. M., Karim, F., Siraj, M. S., Buckingham, A., & Kingdon, C. (2021). Physician-patient communication in decision-making about Caesarean sections in eight district hospitals in Bangladesh: a mixed-method study. *Reprod Health*, 18(1), 34. <https://doi.org/10.1186/s12978-021-01098-8>
- E, M. K., Mukumbang, F. C., Delobelle, P., & Nicol, E. (2020). Combining the theory of change and realist evaluation approaches to elicit an initial program theory of the MomConnect program in South Africa. *BMC Med Res Methodol*, 20(1), 282. <https://doi.org/10.1186/s12874-020-01164-y>
- Eberhard-Gran, M., Slinning, K., & Eskild, A. (2008). Fear during labor: the impact of sexual abuse in adult life. *J Psychosom Obstet Gynaecol*, 29(4), 258-261. <https://doi.org/10.1080/01674820802075998>
- Eide, K. T., Morken, N. H., & Baerøe, K. (2019). Maternal reasons for requesting planned cesarean section in Norway: a qualitative study. *BMC Pregnancy Childbirth*, 19(1), 102. <https://doi.org/10.1186/s12884-019-2250-6>
- Elvander, C., Cnattingius, S., & Kjerulff, K. H. (2013). Birth experience in women with low, intermediate or high levels of fear: findings from the first baby study. *Birth*, 40(4), 289-296. <https://doi.org/10.1111/birt.12065>

- Fairbrother, N., Collardeau, F., Albert, A., & Stoll, K. (2022). Screening for Perinatal Anxiety Using the Childbirth Fear Questionnaire: A New Measure of Fear of Childbirth. *Int J Environ Res Public Health*, 19(4).
<https://doi.org/10.3390/ijerph19042223>
- Fitzpatrick, K. E., Kurinczuk, J. J., Bhattacharya, S., & Quigley, M. A. (2019). Planned mode of delivery after previous cesarean section and short-term maternal and perinatal outcomes: A population-based record linkage cohort study in Scotland. *PLoS Med*, 16(9), e1002913.
<https://doi.org/10.1371/journal.pmed.1002913>
- Foureur, M., Turkmani, S., Clack, D. C., Davis, D. L., Mollart, L., Leiser, B., & Homer, C. S. (2017). Caring for women wanting a vaginal birth after previous caesarean section: A qualitative study of the experiences of midwives and obstetricians. *Women Birth*, 30(1), 3-8.
<https://doi.org/10.1016/j.wombi.2016.05.011>
- Fuglenes, D., Oian, P., & Kristiansen, I. S. (2009). Obstetricians' choice of cesarean delivery in ambiguous cases: is it influenced by risk attitude or fear of complaints and litigation? *Am J Obstet Gynecol*, 200(1), 48 e41-48.
<https://doi.org/10.1016/j.ajog.2008.07.021>
- Gale, N. K., Heath, G., Cameron, E., Rashid, S., & Redwood, S. (2013). Using the framework method for the analysis of qualitative data in multi-disciplinary health research. *BMC Med Res Methodol*, 13, 117.
<https://doi.org/10.1186/1471-2288-13-117>
- Gebeyehu, N. A., Adella, G. A., & Tegegne, K. D. (2023). Disrespect and abuse of women during childbirth at health facilities in Eastern Africa: systematic review and meta-analysis. *Front Med (Lausanne)*, 10, 1117116.
<https://doi.org/10.3389/fmed.2023.1117116>
- Goldfield, N., Averill, R., Vertrees, J., Fuller, R., Mesches, D., Moore, G., Wasson, J. H., & Kelly, W. (2008). Reforming the primary care physician payment system: eliminating E & M codes and creating the financial incentives for an "advanced medical home". *J Ambul Care Manage*, 31(1), 24-31.
<https://doi.org/10.1097/01.JAC.0000304093.05840.e2>

- Guise, J. M., Denman, M. A., Emeis, C., Marshall, N., Walker, M., Fu, R., Janik, R., Nygren, P., Eden, K. B., & McDonagh, M. (2010). Vaginal birth after cesarean: new insights on maternal and neonatal outcomes. *Obstet Gynecol*, *115*(6), 1267-1278. <https://doi.org/10.1097/AOG.0b013e3181df925f>
- Haider, M. R., Rahman, M. M., Moinuddin, M., Rahman, A. E., Ahmed, S., & Khan, M. M. (2018). Ever-increasing Caesarean section and its economic burden in Bangladesh. *PLoS One*, *13*(12), e0208623. <https://doi.org/10.1371/journal.pone.0208623>
- Haines, H. M., Pallant, J. F., Fenwick, J., Gamble, J., Creedy, D. K., Toohill, J., & Hildingsson, I. (2015). Identifying women who are afraid of giving birth: A comparison of the fear of birth scale with the WDEQ-A in a large Australian cohort. *Sex Reprod Healthc*, *6*(4), 204-210. <https://doi.org/10.1016/j.srhc.2015.05.002>
- Hasan, M. I., Hassan, M. Z., Bulbul, M. M. I., Joarder, T., & Chisti, M. J. (2018). Iceberg of workplace violence in health sector of Bangladesh. *BMC Res Notes*, *11*(1), 702. <https://doi.org/10.1186/s13104-018-3795-6>
- Hayes, S. W. (2021). Commentary: Deepening understanding of refugee children and adolescents using Bronfenbrenner's bioecological and PPCT models - A Commentary on Arakelyan and Ager (2020). *J Child Psychol Psychiatry*, *62*(5), 510-513. <https://doi.org/10.1111/jcpp.13403>
- Hong, Q. N., Pluye, P., Fabregues, S., Bartlett, G., Boardman, F., Cargo, M., Dagenais, P., Gagnon, M. P., Griffiths, F., Nicolau, B., O'Cathain, A., Rousseau, M. C., & Vedel, I. (2019). Improving the content validity of the mixed methods appraisal tool: a modified e-Delphi study. *J Clin Epidemiol*, *111*, 49-59 e41. <https://doi.org/10.1016/j.jclinepi.2019.03.008>
- Hossain, M. A., Das, N. C., Tariqujjaman, M., Siddique, A. B., Chandrima, R. M., Uddin, M. F., Islam, S. M. H., Sayeed, A., Ahmed, A., Arifeen, S. E., Mahmood, H. R., Rahman, A. E., & Hossain, A. T. (2024). Understanding the socio-demographic and programmatic factors associated with adolescent motherhood and its association with child undernutrition in Bangladesh. *BMC Public Health*, *24*(1), 2200. <https://doi.org/10.1186/s12889-024-19355-3>

- Hoxha, I., Syrogiannouli, L., Luta, X., Tal, K., Goodman, D. C., da Costa, B. R., & Juni, P. (2017). Caesarean sections and for-profit status of hospitals: systematic review and meta-analysis. *BMJ Open*, 7(2), e013670. <https://doi.org/10.1136/bmjopen-2016-013670>
- Huang, C. Y., Costeines, J., Ayala, C., & Kaufman, J. S. (2014). Parenting Stress, Social Support, and Depression for Ethnic Minority Adolescent Mothers: Impact on Child Development. *J Child Fam Stud*, 23(2), 255-262. <https://doi.org/10.1007/s10826-013-9807-1>
- Ilyas, S., Simmons, S., & Bampoe, S. (2019). Systematic review of enhanced recovery protocols for elective caesarean section versus conventional care. *Aust N Z J Obstet Gynaecol*, 59(6), 767-776. <https://doi.org/10.1111/ajo.13062>
- Islam, M. J., Mazerolle, P., Broidy, L., & Baird, K. (2021). Exploring the Prevalence and Correlates Associated With Intimate Partner Violence During Pregnancy in Bangladesh. *J Interpers Violence*, 36(1-2), 663-690. <https://doi.org/10.1177/0886260517730029>
- Islam, M. M., & Gagnon, A. J. (2016). Use of reproductive health care services among urban migrant women in Bangladesh. *BMC Womens Health*, 16, 15. <https://doi.org/10.1186/s12905-016-0296-4>
- Islam, N., Islam, M. T., & Yoshimura, Y. (2014). Practices and determinants of delivery by skilled birth attendants in Bangladesh. *Reprod Health*, 11, 86. <https://doi.org/10.1186/1742-4755-11-86>
- Jenabi, E., Khazaei, S., Bashirian, S., Aghababaei, S., & Matinnia, N. (2020). Reasons for elective cesarean section on maternal request: a systematic review. *J Matern Fetal Neonatal Med*, 33(22), 3867-3872. <https://doi.org/10.1080/14767058.2019.1587407>
- Johansson, M., Alvan, J., Pettersson, A., & Hildingsson, I. (2023). Conflicting attitudes between clinicians and women regarding maternal requested caesarean section: a qualitative evidence synthesis. *BMC Pregnancy Childbirth*, 23(1), 210. <https://doi.org/10.1186/s12884-023-05471-2>
- Kainu, J. P., Halmesmaki, E., Korttila, K. T., & Sarvela, P. J. (2016). Persistent Pain After Cesarean Delivery and Vaginal Delivery: A Prospective Cohort Study.

Anesth Analg, 123(6), 1535-1545.

<https://doi.org/10.1213/ANE.0000000000001619>

- Kamal, P., Dixon-Woods, M., Kurinczuk, J. J., Oppenheimer, C., Squire, P., & Waugh, J. (2005). Factors influencing repeat caesarean section: qualitative exploratory study of obstetricians' and midwives' accounts. *BJOG*, 112(8), 1054-1060. <https://doi.org/10.1111/j.1471-0528.2005.00647.x>
- Kanellopoulos, D., & Gourounti, K. (2022). Tocophobia and Women's Desire for a Caesarean Section: a Systematic Review. *Maedica (Bucur)*, 17(1), 186-193. <https://doi.org/10.26574/maedica.2022.17.1.186>
- Kaphle, S., Vaughan, G., & Subedi, M. (2022). Respectful Maternity Care in South Asia: What Does the Evidence Say? Experiences of Care and Neglect, Associated Vulnerabilities and Social Complexities. *Int J Womens Health*, 14, 847-879. <https://doi.org/10.2147/IJWH.S341907>
- Keeler, E. B., & Brodie, M. (1993). Economic incentives in the choice between vaginal delivery and cesarean section. *Milbank Q*, 71(3), 365-404. <https://www.ncbi.nlm.nih.gov/pubmed/8413067>
- Larsson, B., Karlstrom, A., Rubertsson, C., & Hildingsson, I. (2015). The effects of counseling on fear of childbirth. *Acta Obstet Gynecol Scand*, 94(6), 629-636. <https://doi.org/10.1111/aogs.12634>
- Litorp, H., Mgaya, A., Mbekenga, C. K., Kidanto, H. L., Johnsdotter, S., & Essen, B. (2015). Fear, blame and transparency: Obstetric caregivers' rationales for high caesarean section rates in a low-resource setting. *Soc Sci Med*, 143, 232-240. <https://doi.org/10.1016/j.socscimed.2015.09.003>
- Lowe, B., Decker, O., Muller, S., Brahler, E., Schellberg, D., Herzog, W., & Herzberg, P. Y. (2008). Validation and standardization of the Generalized Anxiety Disorder Screener (GAD-7) in the general population. *Med Care*, 46(3), 266-274. <https://doi.org/10.1097/MLR.0b013e318160d093>
- Madeiro, A., Rufino, A. C., Acaqui, R. F., Barbosa, C. M., Martins, V., & de Sousa, A. M. C. (2022). Disrespect and abuse during childbirth in maternity hospitals in Piauí, Brazil: A cross-sectional study. *Int J Gynaecol Obstet*, 159(3), 961-967. <https://doi.org/10.1002/ijgo.14317>

- Manu, A., Zaka, N., Bianchessi, C., Maswanya, E., Williams, J., & Arifeen, S. E. (2021). Respectful maternity care delivered within health facilities in Bangladesh, Ghana and Tanzania: a cross-sectional assessment preceding a quality improvement intervention. *BMJ Open*, 11(1), e039616. <https://doi.org/10.1136/bmjopen-2020-039616>
- May, C. R., Masters, J., Welch, L., Hunt, K., Pope, C., Myall, M., Griffiths, P., Roderick, P., Glanville, J., & Richardson, A. (2015). EXPERTS 1-experiences of long-term life-limiting conditions among patients and carers: protocol for a qualitative meta-synthesis and conceptual modelling study. *BMJ Open*, 5(4), e007372. <https://doi.org/10.1136/bmjopen-2014-007372>
- Mayra, K., Matthews, Z., & Padmadas, S. S. (2022). Why do some health care providers disrespect and abuse women during childbirth in India? *Women Birth*, 35(1), e49-e59. <https://doi.org/10.1016/j.wombi.2021.02.003>
- Mies Padilla, S., Gonzalez de la Torre, H., Lopez Alcaide, E., Verdu Soriano, J., & Martin Martinez, A. (2024). Randomized Controlled Trial of Interventions Used by Midwives to Treat Fear of Childbirth. *Nurs Res*, 73(6), E221-E231. <https://doi.org/10.1097/NNR.0000000000000756>
- Miller, S., Abalos, E., Chamillard, M., Ciapponi, A., Colaci, D., Comande, D., Diaz, V., Geller, S., Hanson, C., Langer, A., Manuelli, V., Millar, K., Morhason-Bello, I., Castro, C. P., Pileggi, V. N., Robinson, N., Skaer, M., Souza, J. P., Vogel, J. P., & Althabe, F. (2016). Beyond too little, too late and too much, too soon: a pathway towards evidence-based, respectful maternity care worldwide. *Lancet*, 388(10056), 2176-2192. [https://doi.org/10.1016/S0140-6736\(16\)31472-6](https://doi.org/10.1016/S0140-6736(16)31472-6)
- Molina, G., Weiser, T. G., Lipsitz, S. R., Esquivel, M. M., Uribe-Leitz, T., Azad, T., Shah, N., Semrau, K., Berry, W. R., Gawande, A. A., & Haynes, A. B. (2015). Relationship Between Cesarean Delivery Rate and Maternal and Neonatal Mortality. *JAMA*, 314(21), 2263-2270. <https://doi.org/10.1001/jama.2015.15553>
- More health workers needed for universal health coverage. (2018). *Bull World Health Organ*, 96(11), 734-735. <https://doi.org/10.2471/BLT.18.021118>

- Murakami, I., Egami, Y., Jimba, M., & Wakai, S. (2003). Training of skilled birth attendants in Bangladesh. *Lancet*, 362(9399), 1940.
[https://doi.org/10.1016/S0140-6736\(03\)14983-5](https://doi.org/10.1016/S0140-6736(03)14983-5)
- Nazeer, S., Rehman, M., Khan, S., Sadiq, S., & Bano, K. (2023). Assessment Of Caesarean Section Rate Using Robson Ten Group Classification System In A Tertiary Care Hospital: A Cross Sectional Study. *J Ayub Med Coll Abbottabad*, 35(2), 275-279. <https://doi.org/10.55519/JAMC-02-11602>
- NIIPORT. (2019). *Bangladesh Demographic and Health Survey 2017-18: Key Indicators Report*. <https://dhsprogram.com/pubs/pdf/PR104/PR104.pdf>
- NIPORT. (2022). *Bangladesh Demographic and Health Survey 2022: Key Indicators Report*. <https://dhsprogram.com/pubs/pdf/PR148/PR148.pdf>
- O'Connell, M. A., Khashan, A. S., & Leahy-Warren, P. (2021). Women's experiences of interventions for fear of childbirth in the perinatal period: A meta-synthesis of qualitative research evidence. *Women Birth*, 34(3), e309-e321.
<https://doi.org/10.1016/j.wombi.2020.05.008>
- O'Connell, M. A., Leahy-Warren, P., Khashan, A. S., Kenny, L. C., & O'Neill, S. M. (2017). Worldwide prevalence of tocophobia in pregnant women: systematic review and meta-analysis. *Acta Obstet Gynecol Scand*, 96(8), 907-920.
<https://doi.org/10.1111/aogs.13138>
- Okonofua, F., & Ogu, R. (2014). Traditional versus birth attendants in provision of maternity care: call for paradigm shift. *Afr J Reprod Health*, 18(1), 11-15.
<https://www.ncbi.nlm.nih.gov/pubmed/24796164>
- Orpin, J., Puthussery, S., & Burden, B. (2019). Healthcare providers' perspectives of disrespect and abuse in maternity care facilities in Nigeria: a qualitative study. *Int J Public Health*, 64(9), 1291-1299. <https://doi.org/10.1007/s00038-019-01306-0>
- Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., Shamseer, L., Tetzlaff, J. M., Akl, E. A., Brennan, S. E., Chou, R., Glanville, J., Grimshaw, J. M., Hrobjartsson, A., Lalu, M. M., Li, T., Loder, E. W., Mayo-Wilson, E., McDonald, S., . . . Moher, D. (2021). The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. *Rev Esp*

- Cardiol (Engl Ed)*, 74(9), 790-799. <https://doi.org/10.1016/j.rec.2021.07.010>
(Declaracion PRISMA 2020: una guia actualizada para la publicacion de revisiones sistematicas.)
- Panda, S., Begley, C., & Daly, D. (2018). Clinicians' views of factors influencing decision-making for caesarean section: A systematic review and metasynthesis of qualitative, quantitative and mixed methods studies. *PLoS One*, 13(7), e0200941. <https://doi.org/10.1371/journal.pone.0200941>
- Parkhurst, J. O., & Rahman, S. A. (2007). Life saving or money wasting?: Perceptions of caesarean sections among users of services in rural Bangladesh. *Health policy*, 80(3), 392-401.
- Pearson, E. E., Aqtar, F., Paul, D., Menzel Ruvani, J. L., Fonseka, R. W., Uysal, J., Andersen, K. L., & Silverman, J. G. (2023). 'Here, the girl has to obey the family's decision': A qualitative exploration of the tactics, perceived perpetrator motivations, and coping strategies for reproductive coercion in Bangladesh. *SSM - Qualitative Research in Health*, 3. <https://www.sciencedirect.com/science/article/pii/S2667321523000276>
- Perkins, J., Rahman, A. E., Mhajabin, S., Siddique, A. B., Mazumder, T., Haider, M. R., & El Arifeen, S. (2019). Humanised childbirth: the status of emotional support of women in rural Bangladesh. *Sex Reprod Health Matters*, 27(1), 1610277. <https://doi.org/10.1080/26410397.2019.1610277>
- Rahman, M. M., Islam, M. R., Rahman, M. S., Hossain, F., Alam, A., Rahman, M. O., Jung, J., & Akter, S. (2022). Forgone healthcare and financial burden due to out-of-pocket payments in Bangladesh: a multilevel analysis. *Health Econ Rev*, 12(1), 5. <https://doi.org/10.1186/s13561-021-00348-6>
- Rahman, T. (2024). *Medical Negligence and Medical Malpractice law in Bangladesh*. Retrieved 14 November from <https://tahmidurrahman.com/medical-negligence/#:~:text=In%20general%2C%20criminal%20complaints%20are,the%20patient%20to%20varying%20degrees>.
- Raisanen, S., Lehto, S. M., Nielsen, H. S., Gissler, M., Kramer, M. R., & Heinonen, S. (2014). Fear of childbirth in nulliparous and multiparous women: a population-

- based analysis of all singleton births in Finland in 1997-2010. *BJOG*, 121(8), 965-970. <https://doi.org/10.1111/1471-0528.12599>
- Riches, J., Chimwaza, Y., Magreta Chakhame, B. I., Milln, J., Twabi, H. H., Bilesi, R., Gadama, L., Kachale, F., Kuyere, A., Makhaza, L., Makuluni, R., Munthali, L., Musopole, O., Ndamala, C., Phiri, D. A., Afran, L., Wilson, A., Thangaratinam, S., Merriel, A., . . . Lissauer, D. (2024). Maternal mortality following caesarean section in a low-resource setting: a National Malawian Surveillance Study. *BMJ Glob Health*, 9(11). <https://doi.org/10.1136/bmjgh-2024-016999>
- Rydahl, E., Declercq, E., Juhl, M., & Maimburg, R. D. (2019). Cesarean section on a rise-Does advanced maternal age explain the increase? A population register-based study. *PLoS One*, 14(1), e0210655. <https://doi.org/10.1371/journal.pone.0210655>
- Saisto, T., & Halmesmaki, E. (2003). Fear of childbirth: a neglected dilemma. *Acta Obstet Gynecol Scand*, 82(3), 201-208. <https://www.ncbi.nlm.nih.gov/pubmed/12694113>
- Saisto, T., Ylikorkala, O., & Halmesmaki, E. (1999). Factors associated with fear of delivery in second pregnancies. *Obstet Gynecol*, 94(5 Pt 1), 679-682. [https://doi.org/10.1016/s0029-7844\(99\)00413-5](https://doi.org/10.1016/s0029-7844(99)00413-5)
- Sandall, J., Tribe, R. M., Avery, L., Mola, G., Visser, G. H., Homer, C. S., Gibbons, D., Kelly, N. M., Kennedy, H. P., Kidanto, H., Taylor, P., & Temmerman, M. (2018). Short-term and long-term effects of caesarean section on the health of women and children. *Lancet*, 392(10155), 1349-1357. [https://doi.org/10.1016/S0140-6736\(18\)31930-5](https://doi.org/10.1016/S0140-6736(18)31930-5)
- Save the Children (2023). Save the Children. Retrieved 30 Novemver from <https://dhsprogram.com/pubs/pdf/fr311/fr311.pdf>
- Shao, Y., Forster, S. C., Tsaliki, E., Vervier, K., Strang, A., Simpson, N., Kumar, N., Stares, M. D., Rodger, A., Brocklehurst, P., Field, N., & Lawley, T. D. (2019). Stunted microbiota and opportunistic pathogen colonization in caesarean-section birth. *Nature*, 574(7776), 117-121. <https://doi.org/10.1038/s41586-019-1560-1>

- Sheen, K., & Slade, P. (2018). Examining the content and moderators of women's fears for giving birth: A meta-synthesis. *J Clin Nurs*, 27(13-14), 2523-2535. <https://doi.org/10.1111/jocn.14219>
- Shuman, H. L., Grupp, A. M., Robb, L. A., Akers, K. G., Bedi, G., Shah, M. A., Janis, A., Caldart, C. G., Gupta, U., Vaghasia, J. K., Panneerselvam, A., Kazeem, A. O., Amutah-Onukagha, N. N., & Levine, D. L. (2023). Approaches and geographical locations of respectful maternity care research: A scoping review. *PLoS One*, 18(8), e0290434. <https://doi.org/10.1371/journal.pone.0290434>
- Silva, C., Guida, J. P. S., & Costa, M. L. (2023). Increased Cesarean Section Rates during the COVID-19 Pandemic: Looking for Reasons through the Robson Ten Group Classification System. *Rev Bras Ginecol Obstet*, 45(7), e371-e376. <https://doi.org/10.1055/s-0043-1772182> (Aumento das taxas de cesarea durante a pandemia de COVID-19: procurando explicacoes por meio da Classificacao de Robson.)
- Smith, D. C., Phillippi, J. C., Tilden, E. L., Lowe, N. K., Carlson, N. S., Neal, J. L., & Blankstein Breman, R. (2023). Comparing Cesarean Birth Utilization Between US Hospitals: A Demonstration of the Robson Ten-Group Classification System for Use in Quality Improvement and Benchmarking. *J Perinat Neonatal Nurs*, 37(3), 214-222. <https://doi.org/10.1097/JPN.0000000000000670>
- Sobhy, S., Arroyo-Manzano, D., Murugesu, N., Karthikeyan, G., Kumar, V., Kaur, I., Fernandez, E., Gundabattula, S. R., Betran, A. P., Khan, K., Zamora, J., & Thangaratinam, S. (2019). Maternal and perinatal mortality and complications associated with caesarean section in low-income and middle-income countries: a systematic review and meta-analysis. *Lancet*, 393(10184), 1973-1982. [https://doi.org/10.1016/S0140-6736\(18\)32386-9](https://doi.org/10.1016/S0140-6736(18)32386-9)
- Striebich, S., Mattern, E., & Ayerle, G. M. (2018). Support for pregnant women identified with fear of childbirth (FOC)/tokophobia - A systematic review of approaches and interventions. *Midwifery*, 61, 97-115. <https://doi.org/10.1016/j.midw.2018.02.013>
- Sultana, J., Sutradhar, I., Rahman, M. J., Khan, A. N. S., Chowdhury, M. A. K., Hasib, E., Chhetri, C., Mahmud, S. M. H., Kashem, T., Kumar, S., Myint, Z. T.,

- Rahman, M., Huda, T. M. N., Arifeen, S. E., & Billah, S. M. (2022). An Uninformed Decision-Making Process for Cesarean Section: A Qualitative Exploratory Study among the Slum Residents of Dhaka City, Bangladesh. *Int J Environ Res Public Health*, 19(3). <https://doi.org/10.3390/ijerph19031465>
- Sultana, Z., Haque, S., Shahjahan, M., & Ahmed, M. (2017). Factors influencing decision-making in pregnancy and institutional delivery. *International Journal of Integrated Care*, 17(5).
- Suwanrath, C., Chunuan, S., Matemanosak, P., & Pinjaroen, S. (2021). Why do pregnant women prefer cesarean birth? A qualitative study in a tertiary care center in Southern Thailand. *BMC Pregnancy Childbirth*, 21(1), 23. <https://doi.org/10.1186/s12884-020-03525-3>
- Taghizadeh, Z., Ebadi, A., & Jaafarpour, M. (2021). Childbirth violence-based negative health consequences: a qualitative study in Iranian women. *BMC Pregnancy Childbirth*, 21(1), 572. <https://doi.org/10.1186/s12884-021-03986-0>
- Takegata, M., Smith, C., Nguyen, H. A. T., Thi, H. H., Thi Minh, T. N., Day, L. T., Kitamura, T., Toizumi, M., Dang, D. A., & Yoshida, L. M. (2020). Reasons for Increased Caesarean Section Rate in Vietnam: A Qualitative Study among Vietnamese Mothers and Health Care Professionals. *Healthcare (Basel)*, 8(1). <https://doi.org/10.3390/healthcare8010041>
- Tesfahun, T. D., Awoke, A. M., Kefale, M. M., Balcha, W. F., Nega, A. T., Gezahegn, T. W., Alemayehu, B. A., Dabalo, M. L., Bogale, T. W., Azene, Z., Nigatu, S., & Beyene, A. (2023). Factors associated with successful vaginal birth after one lower uterine transverse cesarean section delivery. *Sci Rep*, 13(1), 8871. <https://doi.org/10.1038/s41598-023-36027-1>
- Thirukumar, P., Henry, A., & Coates, D. (2021). Women's Experiences and Involvement in Decision-Making in Relation to Planned Cesarean Birth: An Interview Study. *J Perinat Educ*, 30(4), 213-222. <https://doi.org/10.1891/J-PE-D-20-00034>
- Thomas, J., & Harden, A. (2008). Methods for the thematic synthesis of qualitative research in systematic reviews. *BMC Med Res Methodol*, 8, 45. <https://doi.org/10.1186/1471-2288-8-45>

- Ulgu, M. M., Birinci, S., Altun Ensari, T., & Gozukara, M. G. (2023). Cesarean section rates in Turkey 2018-2023: Overview of national data by using Robson ten group classification system. *Turk J Obstet Gynecol*, 20(3), 191-198.
<https://doi.org/10.4274/tjod.galenos.2023.68235>
- Uno, K., Mayama, M., Yoshihara, M., Takeda, T., Tano, S., Suzuki, T., Kishigami, Y., & Oguchi, H. (2020). Reasons for previous Cesarean deliveries impact a woman's independent decision of delivery mode and the success of trial of labor after Cesarean. *BMC Pregnancy Childbirth*, 20(1), 170.
<https://doi.org/10.1186/s12884-020-2833-2>
- van Dinter-Douma, E. E., de Vries, N. E., Aarts-Greven, M., Stramrood, C. A. I., & van Pampus, M. G. (2020). Screening for trauma and anxiety recognition: knowledge, management and attitudes amongst gynecologists regarding women with fear of childbirth and postpartum posttraumatic stress disorder. *J Matern Fetal Neonatal Med*, 33(16), 2759-2767.
<https://doi.org/10.1080/14767058.2018.1560409>
- Vila-Candel, R., Piquer-Martin, N., Perdomo-Ugarte, N., Quesada, J. A., Escuriet, R., & Martin-Arribas, A. (2023). Indications of Induction and Caesarean Sections Performed Using the Robson Classification in a University Hospital in Spain from 2010 to 2021. *Healthcare (Basel)*, 11(11).
<https://doi.org/10.3390/healthcare11111521>
- Vousden, N., Hamakarim, Z., Briley, A., Girling, J., Seed, P. T., Tydeman, G., & Shennan, A. H. (2015). Assessment of a full dilatation cesarean delivery simulator. *Obstet Gynecol*, 125(2), 369-374.
<https://doi.org/10.1097/AOG.0000000000000622>
- Wahlbeck, H., Kvist, L. J., & Landgren, K. (2018). Gaining hope and self-confidence- An interview study of women's experience of treatment by art therapy for severe fear of childbirth. *Women Birth*, 31(4), 299-306.
<https://doi.org/10.1016/j.wombi.2017.10.008>
- WHO. (2015). *The prevention and elimination of disrespect and abuse during facility-based childbirth*. In: Department of reproductive health and research. WHO. Retrieved 14 November from

- WHO. (2017). Robson classification. *Reprod Health Matters*, 23(45), 149-150.
<https://doi.org/10.1016/j.rhm.2015.07.007>
- WHO. (2018). In *WHO Recommendations Non-Clinical Interventions to Reduce Unnecessary Caesarean Sections*.
<https://www.ncbi.nlm.nih.gov/pubmed/30398818>
- WHO. (2021a). *Caesarean section rates continue to rise, amid growing inequalities in access*. WHO. Retrieved 19 November 2023 from
- WHO. (2021b). *Dissemination Workshop on HRH evidence for decision making*. Retrieved May 20 from <https://www.who.int/bangladesh/news/detail/01-12-2021-dissemination-workshop-on-hrh-evidence-for-decision-making>
- Wijma, K., Wijma, B., & Zar, M. (1998). Psychometric aspects of the W-DEQ; a new questionnaire for the measurement of fear of childbirth. *J Psychosom Obstet Gynaecol*, 19(2), 84-97. <https://doi.org/10.3109/01674829809048501>
- Williams, A., Hasan, A. S., Hussain, M. M., Ruwanpura, E., Doraiswamy, S., Crosbie, C., Zaman, S. B., & Hoque, D. M. E. (2021). What we know and don't know: a mapping review of available evidence, and evidence gaps, on adolescent sexual and reproductive health in Bangladesh. *Sex Reprod Health Matters*, 29(2), 2083813. <https://doi.org/10.1080/26410397.2022.2083813>
- Wilson, A., Gallos, I. D., Plana, N., Lissauer, D., Khan, K. S., Zamora, J., MacArthur, C., & Coomarasamy, A. (2011). Effectiveness of strategies incorporating training and support of traditional birth attendants on perinatal and maternal mortality: meta-analysis. *BMJ*, 343, d7102. <https://doi.org/10.1136/bmj.d7102>
- World Health Organization Human Reproduction Programme, A. (2015). WHO Statement on caesarean section rates. *Reprod Health Matters*, 23(45), 149-150. <https://doi.org/10.1016/j.rhm.2015.07.007>
- Ye, J., Zhang, J., Mikolajczyk, R., Torloni, M. R., Gulmezoglu, A. M., & Betran, A. P. (2016). Association between rates of caesarean section and maternal and neonatal mortality in the 21st century: a worldwide population-based ecological study with longitudinal data. *BJOG*, 123(5), 745-753.
<https://doi.org/10.1111/1471-0528.13592>

- Young, C. B., Liu, S., Muraca, G. M., Sabr, Y., Pressey, T., Liston, R. M., Joseph, K. S., & Canadian Perinatal Surveillance, S. (2018). Mode of delivery after a previous cesarean birth, and associated maternal and neonatal morbidity. *CMAJ*, *190*(18), E556-E564. <https://doi.org/10.1503/cmaj.170371>
- Zahroh, R. I., Hazfiarini, A., Martiningtyas, M. A., Ekawati, F. M., Emilia, O., Cheong, M., Betran, A. P., Homer, C. S., & Bohren, M. A. (2024). Rising caesarean section rates and factors affecting women's decision-making about mode of birth in Indonesia: a longitudinal qualitative study. *BMJ Glob Health*, *9*(6). <https://doi.org/10.1136/bmjgh-2023-014602>
- Zbiri, S., Rozenberg, P., Goffinet, F., & Milcent, C. (2018). Cesarean delivery rate and staffing levels of the maternity unit. *PLoS One*, *13*(11), e0207379. <https://doi.org/10.1371/journal.pone.0207379>