

# Short and Long-Term Health Risks and Complexities among Caesarean Mothers and Babies in Bangladesh: A Case Study

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## ABSTRACT

The number of caesarean deliveries in Bangladesh, like other developed countries in the world, has increased at an alarming rate. Contrary to conventional deliveries, C-section births are more dangerous and difficult, albeit they are occasionally unavoidable. This paper aimed at exploring the health risks and complexities of caesarean mothers and babies in Bangladesh. Researchers organized a field study in Sylhet district, the northeastern part of Bangladesh, and interviewed in persons with 45 participants including doctors from two medical college hospitals and mothers who underwent caesarean sections applying purposive sampling technique. Researchers used thematic analysis method for analyzing primary data. Researchers applied two cycle coding (open coding and selective coding) to formulate the large themes. Research findings reveal that most of the mother participants got caesarean delivery only for avoiding pain without having any pregnancy complexities. This unplanned decisions regarding the birth style led to serious concerns on the health systems of mother and babies including bleeding, over pain, increased infections, injury to the organs, problems in the future pregnancy, premature birth, asthma, diabetes-1 and other physical and psychological problems. Besides, these risks tend to be higher in Bangladesh due to lack of expertise doctors, technology, infrastructure, awareness and weak management systems. Hopefully, this study findings would be a guideline for the future researchers, policy makers, practitioners, and relevant communities to avoid unplanned Caesars and minimize the health risks of caesarean mothers and babies.

**Keywords:** Caesarean, risks, complexities, mother, babies, and Bangladesh

## 1. INTRODUCTION

Caesarean section is the most widely performed major procedure globally. Its advent and application have saved the lives of both mothers and infants over the years. Interestingly, the rising incidence of caesarean deliveries over the last three decades has caused great concern and consternation among the health providers and seekers (40). It is vital to have a better understanding of the health impacts of caesarean sections on both mothers and children given their rising use, especially

when there is no medical necessity. In comparison to vaginal birth, cesarean section birth has a higher rate of maternal mortality and morbidity (Sandall et al., 2018). Hence, the concern for rising countries like Bangladesh, is more due to its socio-political, economic and administrative stumbling blocks (Seddiky, 2020). Bangladesh is one of the world's most densely populated countries in the world. More than 70% of its population lives rural areas, where poverty is pervasive and chronic (Seddiky et al., 2022). The nation

continues to strive towards mainstream growth even after 50 years of independence for a number of different reasons. The most obvious examples of these issues include political unrest, a shortage of skilled labor, increasing mass poverty, unemployment, rapid population increase, a low literacy rate, malnutrition and bad health of the less fortunate sections of society, which are often accompanied by natural hazards (Seddiky & Rahman, 2015). According to sections 15(A) and 18(1) of the People's Republic of Bangladesh constitution, the right to health is a fundamental one for all of its residents. However, the majority of the population in this nation lacks access to adequate healthcare services. The lack of government-funded health care services in Bangladesh is blamed for the country's low health status (Seddiky et al., 2014). Although Bangladesh has made a remarkable progress in health system over the last few decades, still there exist a lot of challenges in providing quality services to the country people, especially in caesarean section. In the last few years, the global caesarean rate has risen from nearly 12% to 21% (the Lancet, 2018), while in Bangladesh, it rises from 4% to 31% in 2018 (Save the Children, 2018). Caesarean delivery is an alternative method of childbirth while facing complexities in vaginal delivery. In a crisis, such as when labor is not proceeding safely or when the infant appears to be in danger or distress, Caesar can lessen the likelihood of negative outcomes and save many lives (Fox, 2020). However, in recent years, most of the pregnant women like to have caesarean birth instead of waiting for labor to occur, thinking it painful. They are not aware of various risks and complications of Caesar on the mothers and babies during the surgery and even after birth, along with long term consequences (Hasan et al., 2019). A variety of risk factors occur during and after the caesarean delivery, such as bleeding problems, infection, postpartum, hemorrhage, reactions to anesthesia, blood circulation, surgical injury, and increased

risks during the future pregnancies (Scott, 2020).

Every year, more than 18.5 million caesarean surgeries are performed around the world. About one third of them are performed without medical justification and are deemed needless (Hasan, 2021). In Bangladesh, poor people go to the nearest clinic or hospital to get healthcare services for the pregnant women; after going to the hospital or clinic, the health service provider influences the family for caesarean delivery. This time, the family don't think of another way but allowing Caesar, and it would be beneficial for the clinic and hospital authorities (Weisgrau, 1995). According to fresh numbers issued by Save the Children, the number of caesarean deliveries has grown in Bangladesh by 51%. Last year, the country saw an estimated 860,000 medically unnecessary caesarean surgeries, while up to 300,000 women who genuinely needed one couldn't afford or get one (Hasan et al., 2019). According to the data, private hospitals in Bangladesh currently perform caesarean procedures on about 80% of all births. This is due in part to lack medical rules and a few unscrupulous practitioners who see caesarean sections as a lucrative business. Bangladesh's health system is dealing with a double load of diseases, limited service coverage, and a lack of efficient financial risk mitigation tools. Bangladesh has a diverse healthcare system that is mostly deregulated and primarily comprises of some significant factors (Ahmed et al., 2015). One of the most serious issues, according to the majority of experts, is the long-term risk of caesarean mothers and babies. Besides, the medical indications for caesarean section are not discussed during prenatal care sessions.

Although these difficulties are unforeseeable, they can nearly all be avoided by guaranteeing institutional delivery services, since prompt medical attention can be the difference between life and death. Fear, anxiety, and pain can all play a role in mothers opting for caesarean delivery due to a lack of awareness

regarding caesarean service delivery and misinformation about natural childbirth. The rise in caesarean deliveries has been attributed to a variety of variables, including maternal, socio-demographic, and institutional factors (Kassak et al., 2009; Rahman et al., 2012). It is essential to determine the complexities and health risk factors among caesarean mothers in Bangladesh. These types of risk factors can create various problems for a particular population in caesarean delivery where health and medical related reforms are actively needed. Many researchers have focused on maternal, premature health care approaches and emphasizing overall health conditions but ignoring the impacts of Caesars, its risk, mitigation solutions. This fact informs the researcher's interest in filling the gap. This paper explored the complexities and health risk factors among the caesarean mothers and babies in Bangladesh.

## **2. Complexities and health risk factors of caesarean mothers: a theoretical overview**

For public health professionals around the world, the rising number of Caesarean deliveries has become a serious concern. This caesarean section has been linked to a number of medical and non-medical factors, including maternal socio-demographics (Belizan et al., 2007). While many Caesarean births are performed for obstetrical reasons, others are performed purely at the wish of the mother and carry a number of hazards for the child. Neonatal depression caused by general anesthesia, fetal harm during hysterectomy and/or delivery, the higher chance of respiratory distress even at term, and nursing problems are all well-known hazards (Sandall et al., 2018). There has been an epidemic of both autoimmune disorders in tandem with the trend of rising Caesarean deliveries. Several theories have been developed suggesting that environmental factors are playing a role in this phenomena (Neu & Rushing, 2011). A prior Caesarean delivery was associated

with a 52 percent greater chance of stillbirth and a 40 percent greater risk of neonatal mortality. There was no discernible increase in the probability of intrapartum/neonatal death (Richter et al., 2007). In women who tried a vaginal birth versus a pre-labor repeat Caesarean, there were no statistically greater incidence of intrapartum/neonatal death or stillbirth (How et al., 2000). However, labor was induced in the majority of cases of antepartum death. A careful assessment of a number of risk factors is necessary before suggesting a trial of labor following a previous Caesarean delivery (Richter et al., 2007). When medically essential, a Caesarean section can save a woman's life. However, it can also have short- and long-term health implications on both the mother and the child. Given the increased use of Caesarean Sections, especially without a medical reason, a greater knowledge of the health repercussions on mothers and children has become crucial (Smith et al., 2003). Maternal mortality and morbidity are more common following a Caesarean section than following a vaginal delivery. A decrease in the variety of the gut microbiota and an increased risk of uterine rupture, aberrant placentation, ectopic pregnancy, stillbirth, and premature birth are all associated with cesarean sections (Jane et al., 2018). Caesarean birth rates are on the rise all throughout the world, reaching 24.5 percent in Western Europe, 32 percent in North America, and 41 percent in South America (Alsharif & Alhoms, 2020).

Caesarean birth has lower rates of urine incontinence and pelvic organ prolapse than vaginal birth, but this should be weighed against the higher risks for fertility, subsequent pregnancies, and long-term pediatric outcomes (Sandall et al., 2018). This data could be valuable in guiding women on the most appropriate delivery procedure. These findings may enable physicians and patients have more in-depth talks about method of delivery, which means the long-term dangers and benefits of Caesarean birth for mothers, their children,

and any upcoming pregnancies will be better explained to them (Keag, et al., 2018).

Caesarean section is linked to poor long-term results for the offspring. Many of these connections have biological mechanisms that make sense, but causation has yet to be shown. Increased BMI and obesity, blood pressure, immunological relay disease, infection, and other long-term consequences are all possible (Janoušková, et al., 2020). The most reliable way to address a global issue is to conduct a randomized controlled study of the delivery method in a healthy, term, cephalic pregnancy. When accompanied with the assessment of biomarkers of outcome and long-term follow-up (Hyde & Modi, 2012). The majority of Ghanaian women believed vaginal birth was preferable to Caesarean procedure. Approximately 55% of those who underwent a Caesarean section for their most recent birth did so on purpose rather than as a result of an emergency, and their long-term health risks have grown. The findings reveal that, in addition to maternal difficulties, socioeconomic and demographic features of women are substantial risk factors for Caesarean section in Ghana (Banchani, & Tenkorang, 2020). The Caesarean section is linked to increased risks for both mother and child. Infections, organ damage, and the need for blood transfusions are all possible post-partum side effects.

The key causes for the greater acceptability of Caesarean sections appear to be scientific improvements, social and cultural changes, and medico legal concerns (Mylonas & Friese, 2015). A third of women in many wealthy nations get a caesarean section when they give birth, making it one of the most popular operations for women. Caesarean sections are becoming more common, and the reasons for this are complicated. Both in the current pregnancy and later pregnancies, Caesarean section birth poses well-documented dangers for the woman and her baby. We must address modifiable risk factors if we want to prevent

a rise in the number of women experiencing severe Caesarean-related health outcomes (Grivell & Dodd, 2011).

Caesarean sections are becoming more common around the world, and they are linked to a number of poor short and long-term consequences in progeny.

Infection, postpartum hemorrhage, anesthetic reactions, blood circulation, surgical injury, higher risks in future pregnancies, and so on are all long-term repercussions of Caesarean section birth. They argue that many of these relationships have biological processes that are plausible, but causation has yet to be established (Butwick et al., 2010). Only 33% of institutional deliveries were made through Caesar in 2000, but by 2014, that number had risen to 63 percent. In 2010, the average cost of a Caesarean section in Bangladesh was BDT 22,085 (USD 276), while a regular delivery cost BDT 3,565. (USD 45). The rising prevalence of Caesarean sections places a financial strain on already overburdened healthcare systems (Haider et al., 2018). When compared to vaginal delivery, the cost of a Caesarean section is higher. Cost must be viewed in a broader context as well. A longer duration of stay and a higher occupancy rate are linked to increasing Caesarean section rates (Kazandjian et al., 2007).

Because of the high occupancy rate, critical care obstetric transport is being diverted, which has resulted in a significant drop in patient satisfaction. The inability to offer necessary care to pregnant women as a result of these detours has a high societal cost (Druzin & El-Sayed, 2006). These important care diversions, as well as lower patient satisfaction, have a negative influence on a health care institution's bottom line and competitiveness. It's also important to consider the influence of increased Caesarean section rates on both short and long-term maternal and newborn issues, as well as the expenditures connected with them (Binyaruka & Moni, 2021). Caesarean deliveries are becoming more common around the world, including

in Bangladesh. A study outcomes reveal that in 2014 Caesarean sections raised the risk of childhood illness by 5%. The number of Caesarean sections performed in Bangladesh has increased over time. A high number of Caesarean sections has a negative influence on maternal and child health as well as the health-care system (Hasan, 2020).

## 2.1 Conceptual framework

A conceptual framework is the researcher's understanding of the relationships between the specific study variables and the overall picture (Figure 1). Researchers attempted to determine the plausible complexities and risk factors of Caesar. Here are some perspectives that help the researchers to understand the situations.

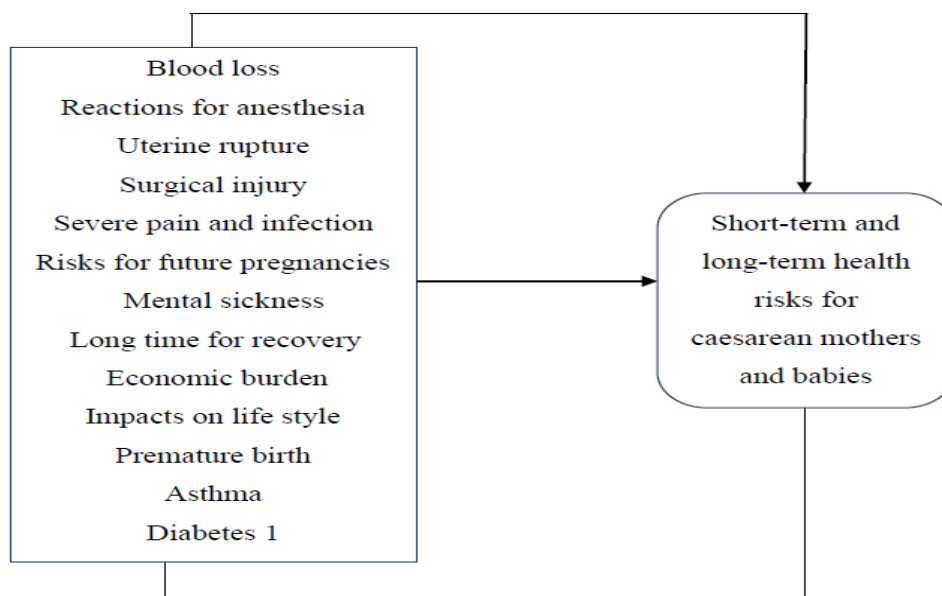


Figure 1: conceptual framework

## 3. RESEARCH METHODOLOGY AND METHODS

It is an exploratory research. Based on research problems and objectives, this study utilizes a qualitative approach, which directs from the social constructivism philosophy. Qualitative research is a sort of social science research that aims to discover meaning from non-numerical data in order to gain a better understanding of social life by focusing on specific people or locations (Crossman, 2021). The qualitative method emphasizes a participatory approach with dialogue and negotiation (Sale et al., 2002). Researchers administered a field investigation in Sylhet district, the north-eastern part of Bangladesh (Figure 2). This study has been done on Sylhet MAG

Osmani Medical College Hospital and the Jalalabad Ragib Rabeya medical college hospital in Sylhet division to understand the risk factor of Caesar, possible complexities, and long term consequences of Caesar in Bangladesh.

A large number of people of this area are living in England, so a handsome amount of foreign remittance comes here from them. Taking this opportunity many people migrate here from different parts of the country (Seddiky, 2020). This region is very close to Indian border, and many poor refugees from Indian parts are living here permanently. Furthermore, five ethnic indigenous groups live in hilly and plain lands of this region. Most of them are not aware of quality health services and the negative impacts of Caesar.



Figure 2: Research area in Bangladesh

The selected hospitals are very close to the researchers, which facilitates building a good relationship with service providers and respondents. The local dialect is also known to the researchers. Researchers collected primary data from 45 respondents, including service providers (doctors) and service receivers (caesarian mothers) of two hospitals (Table 1), using purposive sampling method. Large number of respondents are not required for qualitative study, but it should be continued until data saturation (Fusch et al., 2015). The inability to attain data saturation has a negative influence on the overall quality and validity of the investigation. The researchers guaranteed data saturation to uncover the most relevant and critical perceptions of the respondents. Besides, purposive sampling is used to select information rich and unique cases in answering the study objectives (Creswell, 2017). If this method is seriously followed, a small sample may even become highly representative. Researchers framed a semi-structured (face to face interview guidelines-both open and close ended questionnaire) to enable respondents share their knowledge and practical experiences regarding this issue. The semi-structured interview method facilitates two-way conversation between the interviewer and the subject.

Both the interviewer and the participants have the opportunity to ask questions, allowing for a throughout discussion of all relevant topics. Furthermore, the candidate

might feel more at comfortable discussing strategies and experiences that have highlighted the qualities and make them a good fit for the role due to the conversational tone (Gill et al., 2008). Face-to-face interviews allow the researcher to acquire thorough information about attitudes and behavior about a certain issue from interviewees. Interviewers should be taught how to explore for unbiased thorough responses if they wish to learn more about a problem or investigate an answer (Lavrakas, 2008). The flexibility of semi-structured interview approach helps the participants to elaborate or disclose essential or new information that might not have previously been thought of by the study team (Seddiky, 2022). Semi-structured interviews, a potent and adaptable instrument, were employed in this study to record voices and ways that people interpret their experiences in line with its goal.

Table 1: -Number of participants

Types of participants	Number of participants
Caesarean Mother	30
Health providers (Doctors)	15
Total	45

This study carefully selected and reviewed books, book chapters, Journals, articles, conference paper, health related reports, and census as the secondary sources. The used references in this study have been harmonized in alphabetical order. Caesar, health risks, complexities, mother, and

Bangladesh were used as the key terms to select and review the literature.

### 3.1 Ethical consideration

Researchers maintained informed consent form, data sharing and access protocols for this study. Participants' personal information and their contribution in this study were kept confidential and anonymous using de-identification responses for individual participants, such as: Mother participants.....MP, and Doctor Participants.....DP.

### 3.2 Data analysis

Primary data of this study have been analyzed applying thematic analysis method. Thematic analysis method is mostly used in case of analyzing a wide range of qualitative data. Thematic analysis is a method for systematically analyzing qualitative data by identifying themes or patterns (Castleberry & Nolen, 2018). For analyzing data for this study the researchers followed six steps of qualitative data analysis technique suggested by Creswell (Figure 3).

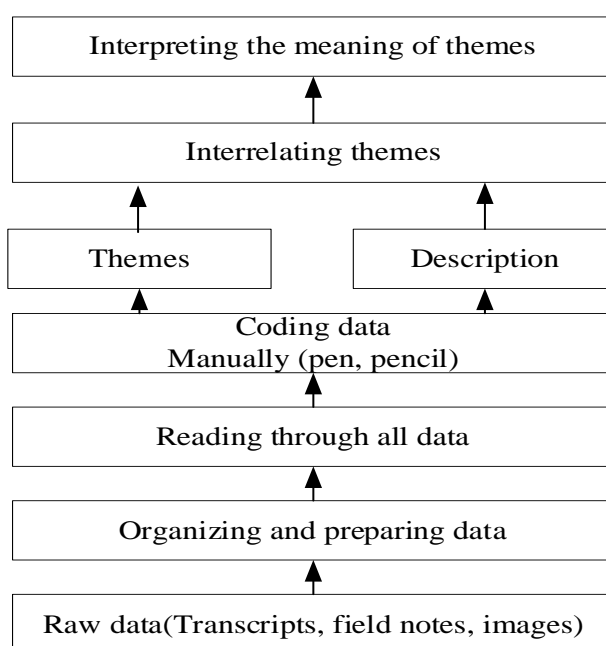


Figure 3: Steps of qualitative data analysis. Source: Creswell, 2017).

Step one is to organize and prepare the field or raw data, such as transcripts, field notes, audio, and images. It also includes sorting and arranging data into different kinds based on the source of information (Creswell & Creswell, 2017). Researchers organized and stored field data in a personal computer and transcribed them into English from Bangla. In step two, researchers repeatedly read through all the transcripts and data to gain a general sense of information considering tone, depth, and impression of the respondents. Smith (2015) termed this process familiarisation with data, for gaining overall knowledge about the issue. Repeated and systematic reading of the

whole transcripts is indispensable for the qualitative study (De Wet & Erasmus, 2005).

Step three is to generate codes from the data. Creswell describes coding as “the process of organizing the material into chunks or segments of text before bringing meaning to information” (Creswell, 2009, p. 186). After organizing the data, the researchers read the data several times to identify original ideas about the whole issue. Repeated reading of the data generated initial thoughts about the data, leading to the production of initial codes (Castleberry & Nolen, 2018). Researchers used two cycle coding (open coding and

selective coding) to formulate the large themes. Open coding is data driven and selective coding is theory driven. Open coding has been done in this study to identify the different concepts for categorization.

The categories of organized data were identified and combined using a selective coding technique, which helped create a higher level of abstraction for the story (Table 2).

**Table 2: Coding systems for developing themes towards interpretation.**

Coding Elements	Open coding (Different concepts for categorization)	Selective coding (Categories of organized data)	Emerging themes
<i>Health risks and complexities for mother</i>	Blood loss	Short-term health risks of caesarean mothers.	Short-term health risks and complexities of caesarean mothers lead to serious concern.
	Dangerous clots		
	Long time recovery		
	Economic crisis		
	Surgical injuries and pain		
	Nausea		
	Vomiting		
	Headache		
	Injury to another organ	Long- term effects of Caesar on mother	Long-.term effects of Caesar on the mother can lead to the risks of death.
	Obesity		
	Hernia		
	Risks for future pregnancies		
	Uterine rupture		
	Placenta Previa		
Placenta accreta			
Placenta increta			
Placenta percreta			
Negative effects on life style			
<i>Health risks and complexities for babies</i>	Asthma	Short- term health risks of caesarean babies	Short-term health risks and complications of caesarean babies lead to family unrest.
	Organ injuries		
	Allergy		
	Neonatal Incentive care		
	Obesity	Long- term risks of Caesar on the health of babies	Long-term risk and complexities of Caesar on the health of babies can cause tears for the rest of the life.
	Type 1 diabetes		
	Reduce cognitive function		
Lower academic performance			

Source: Based on field interviews

#### 4. Findings and discussions

The findings of the study are represented here under the particular themes. The participants of this study are quoted directly on different issues keeping them de-identified for maintaining ethical issues of this study.

All 30 women who attended antenatal clinics were asked with a semi-structured questionnaire about their socio-demographic characteristics, previous pregnancy and delivery history, and their knowledge and experience about Caesarean sections. 15 doctor participants were interviewed about their practical experience in different phases of Caesar, such as Caesarean delivery time, short and long term impacts of Caesar, its benefits, and types of equipment facilities. To deliver a baby, a Caesarean section is a surgical procedure that involves making

incisions in the abdomen and uterus (Menacker et al., 2006). Although Caesarean section is commonly thought of as a simple and safe alternative to natural birth, it can be technically challenging in some cases, posing health risks, even death to both the mother and the fetus. The themes developed or emerged from the organization of the codes are discussed in details:

##### 4.1 Short term health risks and complexities of caesarean mothers lead to serious concern

The use of Caesarean sections has increased dramatically in recent decades all over the world. Pregnant women in their forties and fifties were more likely to want a Caesarean section; they may have had more experiences and psychological pressures to deliver vaginally. Of course, women who



are having children for the second time are older than women who are having children for the first time, and they have a higher risk of pregnancy (Locke & Budds, 2013). These health risk factors are bleeding, infections, surgical injuries, risks to future pregnancies, reaction to anesthesia. Bleeding is a major surgical complication. Most of the mother participants told that after Caesar they faced a lot of problems which was harmful to their health. Some of them had to collect blood and transmit in their bodies from other people due to over bleeding during caesarean surgery. One of the mother participants stated:

*“God has saved me. Seeing my condition, no one said I would survive. There was so much bleeding during my caesarean section that I developed anemia. My whole body turned white. Later I had to take three bags of blood in my body”* MP8.

Although death rates for surgical procedures are seen, they might be related to an increase in elective vascular surgery and severe hemorrhage. The disorder known as postpartum hemorrhage is dangerous and even lethal. Similarly, (Shahbazi et al., 2012) stated that one can quickly lose a lot of blood if she has postpartum hemorrhage. Blood pressure suddenly drops as a result, which may prevent her brain and other organs from receiving enough oxygen. Shock is what is happening here, and it can be fatal. Excessive blood loss after major caesarean section surgery is linked to higher mortality, morbidity, and critical care stay.

One of the doctor participants noted:

*“The biggest risk in Caesarean section is excessive bleeding. Caesarean section is considered by many to be a minor operation, but excessive bleeding can be life threatening for both mother and baby. For this, even if there is no complication, we ask the patient's relatives to have at least two bags of blood screened and ready before the surgery”*DP1.

Healthy blood can clot or adhere to itself to stop excessive bleeding from a cut or injury. Blood may collect inside the uterus and form clots as the placenta is expelled by the body after childbirth. In some cases, many caesarean mothers have to soak of a sanitary pad within one hour, which is abnormal. Within the twenty four hours of birth a caesarean mother can normally pass to pass some clots but sometimes continuous passing clots can be a serious risk and life threatening for the mother. The healing and recovery process for vaginal births is typically far quicker than that of a C-section. It takes 4-6 weeks to recover from a caesarean section but it varies from mother to mother depending on their immunity and nature of complexities. Furthermore, most of the mother participants claimed that caesarean section is more burden for the poor and middle class family. It includes direct and indirect costs and continues for a long time. As Binyaruka and Mori (2021) revealed that caesarean section measured the likelihood of paying for healthcare by 16% more compared to normal delivery in Tanzania. One of the mother participants described her experience:

*Caesar destroyed my family. Caesar was done about five months ago, but my infection is not getting better. I am surviving on medicine. We are poor, the family does not move well, how can we take so much medicine for a long time? If I had known earlier, I would not have stepped into this hole”*MP3.

An infection that develops after a Caesarean section is known as a post-caesarean wound infection. A bacterial infection in the surgical incision site is frequently the cause. Infection is a common problem for Caesarean mothers and babies. Similarly (Childs et al., 2020) stated that elective surgery or caesarean section injuries that result in breaches create wounds that allow the entry of microorganisms that can lead to infections. They are given a bed by Caesarean section. Hygiene and health

cannot be maintained in those times. It turns out that all the dirt is dirty and they stick to the thorns. As a result, the virus becomes bacteria and accumulates. One of the mother participants told,

*“Since having a Caesarean section, I have had a skin infection. This is the reason why I often have to go to the doctor.”* MP6.

Most of the caesarean women suffer from headache, vomiting, and nausea for taking higher level of antibiotic, especially very common for them who underwent caesarean delivery providing spinal anesthesia. As stated by (Fenta et al., 2021) post-dural puncture headache and vomiting are common complications after spinal anesthesia for women who undergo caesarean delivery. Caesarean delivery, like any major surgery, comes with a number of risks. These include blood clots, reactions to anesthesia, and surgical injuries to the organs. Surgical injury to the bladder or ureter may occur during caesarean delivery. Urological injury is the most common in gynecological surgery, with bladder being the most frequent organ damaged (Tarney, 2013). Mother participants who performed caesarean delivery has the risks of organ injuries, along with anxiety and psychological tension. One of the doctor participants said:

*“In the majority of C-sections, the intestines and bladder are pushed out of the way to allow the obstetrician to deliver the baby and close the uterine incision securely without risking their safety. Therefore, these internal and sensitive organs can become harmed at any time”*DP6.

#### **4.2 Long term effects of Caesar on the mother can lead to the risks of death**

The long term consequences of caesarean section is less well investigated, but these risks work as slow poison and gradually lead to death (Sandall et al., 2018). Obesity is a complicated condition marked by an excess of body fat. Obesity isn't just a

cosmetic problem. Many of the medical reasons for caesarean birth are also independently associated with both prenatal and postnatal weight, making it difficult to determine a causative relationship between the two (Kapinos et al., 2017). It is a medical condition that increases your risk of developing conditions and illnesses like heart disease, diabetes, high blood pressure, and specific malignancies (Belizan et al., 2007). Most of the mother participants observed that Caesar increased their obesity. The risks and challenges of cesarean birth increase with the increasing severity of obesity. One of the mother participants said:

*“After the caesarean section, I have lost my fitness. It increases my obesity and also increases health complications”* MP16.

But hundred percent of the doctor participants showed disagree regarding the relationship between C section and obesity. The delivery by caesarean section does not increase the chance of a baby or mother with the risk of reweight or obesity. They stated that most of the mothers are not aware of their health and fitness. They eat a lot of sugar, sweet meat, carbohydrate, and rich food, which are very much responsible for making them fat. As (Willett, 2002) stated that the prevalence of overweight among the population in a country mostly varied due to the difference in fat intakes. After surgery, it is normal for them to become obese if they do not control their diet. Another risk is more common in women undergone caesarean section or got surgery on the uterus or pelvic organs for child birth. A hernia is a condition in which tissue or an organ protrudes abnormally through the wall of the cavity in which it ordinarily lives, such as the bowel (Agbakwuru et al., 2009). Hernias can affect any part of the body, but the abdomen and, specifically, the groin, are the most common. The most common type of groin hernia is an inguinal hernia. After Caesar, mothers have had to deal with the consequences. Similarly, (Adesunkanmi &

Yimu, 2003) revealed that the incidence of incisional hernia was further influenced by the presence of post-operative abdominal distension, intra-abdominal sepsis, persistent intra-abdominal abscess, wound infection, and post-operative fever. The likelihood of incisional hernia repair increased as a result of the majority of mothers having more Caesarean sections. Women who had two Caesarean sections had three times the risk of those who had no Caesarean experience. One of the mothers expressed her experience as:

*Caesarean section causes hernia problems. I, along with my sister-in-law and a relative, had to have a hernia operation after a caesarean section. The condition is like a sharp wound on death” MP13.*

If it left untreated, hernias do not heal on their own; instead, they enlarge and become more painful, posing a serious health risk in some cases. When the wall through which the intestine protrudes closes, blood flow to the bowel is cut off. This is known as a strangulated hernia (Gallegos et al., 2014). Hence, caesarean mother has more tendency to suffer from hernia problem. One of the doctors told:

*A relationship between Caesar and hernia has become clear in medical science through worldwide research. Those who had two Caesarean sections had three times the risk of hernia is more” DP8.*

The women who undergone in caesarean section for the first time tend to have more risks in future pregnancies, including uterine rapture, placenta praevia, placenta accreta, placenta increta along with negative effects on routine life.

Same findings revealed from the research conducted by (Roberge et al., 2011) as: women got elective caesarean section are at increased risk of uterine perforation. Women with prior Caesar are at risk of developing abnormal and morbidly adherent

placenta in later pregnancies. One of the doctor participants noted:

*“When the placenta malfunctions due to its morbidity, it is unable to supply adequate oxygen to the baby from the mother’s bloodstream. This can increase the risk of low birth weight, premature birth, and birth defects” DP7.*

In the same vein, (Janouskovas et al., 2019) stated that Caesarean women are more likely to have placental abruption. It has become increasingly clear in recent decades that Caesarean lifestyle factors contribute significantly to the ever-growing problem in daily life. A mother can resume activities after her normal delivery but having a Caesarean delivery has been changed her daily routine as she would not be able to do heavyweight work. After the Caesarean procedure, it can also lead to short-term and long-term health effects. For these effects, they could not work properly feel weak, more pain in the belly. A mother participant said:

*“I had worked harder on a regular basis before having a Caesarean section, but now I am gasping for breath after a little work” MP5.*

In the same vein, another mother participant added:

*“I used to do a lot of work but I haven’t been able to do much since Caesar. Caesar’s stitches hurt a lot when I do a little work” MP11.*

### **4.3 Short-term health risks and complexities of caesarean babies lead to family unrest**

Caesarean babies suffer with a lot of health related problems including physical and mental. It also causes economic burden to the caesarean families. Over the past several decades, Caesarean sections have become more commonplace worldwide. It has been reported that the rise in labor induction rates is due in part to the emergence of multiple-

gestation pregnancies, an increase in pregnancy complications, gestational obesity, previous Caesarean sections, twin pregnancies, failure to progress in labor, breech presentation, maternal requests, and failure to progress in labor (Takegata et al., 2020). It also increases the risk factors of Caesarean babies such as organ injuries, breathing issues, death, premature and surgical risks. In the second time of caesarean delivery, the risk of premature birth is higher than vaginal delivery. When a baby is born prematurely, its lungs aren't fully grown and are unable to produce enough oxygen, leading to breathing difficulties. As stated by (Bainbridge, 2008) the compared to deliveries made using other procedures, newborns delivered through elective caesarean had a four times higher risk of having breathing issues. Infant respiratory distress syndrome is the term used to describe this. It typically affects premature infants. Other names for it include infant respiratory distress syndrome, hyaline membrane disease, and surfactant deficient lung disease. Similarly (Sandall et al., 2018) stated that the short-term dangers for caesarean birth include impaired immunological development, allergies, atopy, breathing problems, asthma, and decreased intestinal gut microbiota diversity. Caesarean deliveries typically result in respiratory problems. One of the mother participants said:

*“After the Caesarean delivery, my baby faced breathing issues, and at times she need to be hospitalized for arranging oxygen”* MP19.

Caesarean section has been associated with poorer infant health, especially with a higher incidence of respiratory morbidity and most of them need to be admitted to neonatal incentive care unit (Costa-Ramon et al., 2018). Similarly (Tracy et al., 2007) found that majority of mother got gestation in less than thirty-seven weeks have to take elective delivery with neonatal care unit for their babies. Special and intensive care for

newborns offer a degree of care that is both expensive and sparsely available. One of the doctor participants said:

*“If Caesarean section is performed before the completion of thirty-five weeks of gestation, the risk of morbidity and mortality of the newborn is much higher. Hence, despite being expensive, they are recommended to admit to the neonatal incentive care unit”* DP3.

Up to one in three babies are now delivered by Caesarean section throughout the world. Sometimes, anesthesia given to mothers can badly affect on the infant. There is also a small risk of injury with the organs of the infant-usually just accidental nicks and scrapes during the surgical procedure. It is rare, but not out of risk. Organ injuries occur beneath the skin and muscle (Childs et al., 2020). While organ damage qualifies as an internal injury, it describes a much more specific condition and it increases to death. One of the mother participants noted:

*The doctor who performed the Caesarean section on my baby mistakenly posed for my baby's head. When I looked at a baby after the birth, I noticed a cut mark on the bottom of my baby's head with bleeding a little. My baby would have died if the cut had been a little deeper”* MP27.

The majority of caesarean mother participants told that, after delivery, their babies had more health problems, such as physical and mental. Most of the doctor participants expressed the same views like mothers stating that a Caesarean section typically takes 50 minutes to an hour. So, in this long hour, it may occur many types of accidents both for the babies and mothers.

#### **4.4 Long-term risk and complexities of Caesar on the health of babies can cause tears for the rest of the life**

The severe continuous breathing issues of the caesarean babies lead to asthma and the babies become often affected by different

allergies. Affected immune development, allergy, atopy, asthma, and diminished intestinal gut microbiota diversity are among the short-term concerns (Tita et al., 2009). The persistence of these early childhood impacts into adulthood has received little attention. Diabetes and high blood pressure are the two major risks that caesarean babies face in later life. Similarly (Sandall et al., 2018) stated that various studies have discovered a connection between CS birth and metabolic disorder traits such as adiposity, high blood pressure, type 1 diabetes, asthma, expand body mass, changes in liver works, immune-related conditions, neurological and stress-related issues, and immune system gastrointestinal illness in children. One of the mother participants stated:

*“A total of six friends, including my son, study together. Among them my son and another boy were born through Caesar, and they both suffered from high blood pressure. The remaining four are much healthier and more industrious than they are”*MP14.

Most caesarean babies are found to be overweight. But their working capacity is much less compared to their body size. This type of obesity has a number of negative effects on the body and mind, which can lead to low self-esteem among children. It is also noted that Caesarean section increased the risk of obesity and asthma up to the age of 12 years. These disparate results could be due to the obfuscation of linkages caused by a variety of childhood encounters. One of the doctor participants noted:

*“Caesarean delivery is associated with reducing urinary excessiveness but with increasing complexities of asthma and obesity in the children”*DP10.

Echoing to the above findings (Blustein & Liu, 2015) revealed that it is disconcerting to think that a procedure that results in a newborn who appears healthy could raise the child's risk of developing a chronic illness in the future. However, it has long been known that prenatal and early

childhood exposures might change a person's lifetime risk for cardiovascular disease. Additionally, obesity contributes to an increase in both physical and mental issues. As (Alenazy & Almutairi, 2021) said that obese people who are stigmatized are more likely to develop negative physical, behavioral, and psychological health effects. One of the mother participants said:

*“My baby doesn't eat much, but he's still gaining weight. At this age, hundreds of diseases have settled in his body. Obesity is constantly hampering his normal life”*MP18.

In some minor cases, the participants stated that there is a close link between the caesarean birth delivery and reduction of offspring cognitive functions. As (Blake et al., 2021) said that binging down of cognitive execution is related with expanded chance of mental ailment, social issues and physical wellbeing results in adults counting expanded depression, cardiovascular illness, cancers and all-cause mortality. Similarly a study findings conducted by (Gurol-Urganci et al., 2022) revealed that neuro cognitive performance and health outcomes of the babies develop with each week up to the 40 weeks of gestation, so the early delivery or surgery of the infants can have significant effects on the improvement of a percipient functions.

## **5. CONCLUSION WITH POLICY IMPLICATIONS**

The rate of Caesarean delivery among Bangladeshi women has been increasing for the last 10 years. This unnecessary Caesars take place due to the unethical practices of the healthcare providers and upon request of the patient's relatives. Sometimes it is necessary to have a caesarean delivery on an emergency basis for saving the lives of pregnant mothers and babies considering their different risks and complexities. However, most of the pregnant women are willingly and unconsciously showing interest for Caesars to avoid delivery pain, which lead to the major short and long-term

health risks for themselves and their infants including organ injuries, bleeding, dangerous clots, surgical injuries and pain, infection, risks of future pregnancies, uterine rupture, asthma, obesity, and diabetes, hamper normal life and so on.

In developing countries, like Bangladesh, these risks tend to be higher due to lack of infrastructure, lack of expertise doctors, lack of technology, lack of awareness and insurance. The risks on the health of pregnant mothers and infants should be minimized through increasing awareness among women regarding the avoidance of unnecessary adverse outcomes. Health awareness and educational programs are essential focusing on educating women, on appropriate delivery types based on their specific health status. Develop better infrastructure and capacity of the health centers are eminent to avoid the risks of Caesars on mothers' health. It consists of the structural elements of interconnected systems that deliver the goods and services required to maintain, advance, and improve society living standards and the environment. The improvement of expertise skills, equipment, ethical practices, and management structure with ensuring public accountability and transparency are essential to reduce the health risks of caesarean delivery. The Bangladeshi health authorities should set up community-based intervention initiatives to raise awareness of the bad effect of unnecessary Caesarean delivery and complexities on the health of mothers and babies. Since this study critically investigates the risks and complexities of elective caesarean delivery on the health of mothers and babies, the study findings can help policy makers, health practitioners, and respective communities better follow and understand the ethical health policy and guidelines to avoid the short and long-term life risks. Future researchers can use quantitative design involving large scale of sample from different angles in the same field, which would help to measure the strength and missing perspectives of this study. The study findings obtained based on

the field interviews in Sylhet district in Bangladesh, representing the health sectors in emerging countries. Hence, the evidence of this study findings calls for careful elucidation in developed nations.

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