# Factors influencing decision-making to accept elective caesarean section in a hospital in Ghana: A descriptive cross-sectional study

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# Abstract

### Background

Elective caesarean section rates are on the rise and socioeconomic status, perceptions of safety, cultural and social influences are contributory factors. Inspite of the benefits of medically-indicated caesarean section, some women refuse this due to a complexity of factors. This study aimed at determining the factors that influence women to accept medically-indicated caesarean section in a district hospital in Ghana.

### Methods

A descriptive cross-sectional study was conducted among 163 purposively-sampled postnatal women in a hospital. A questionnaire was used for data collection after the women gave their consent to participate. Data was analyzed using SPSS version 25.0, Chi-square test was done to determine the association between the factors that facilitated respondents' acceptance of caesarean section and the duration of decision-making.

### Results

Major factors influencing their decision-making process were support from their husbands/relatives (39.3%), their baby's life being at risk (24.5%), history of previous caesarean section and knowledge about the procedure (19.6%). Age ($R^2 = 0.19$, $p < 0.001$); previous caesarean section ($R^2 = 0.14$, $p<0.001$) are the major predictors of the duration of the decision-making process.

### Conclusion

Most women will make decisions to accept elective caesarean section within a week's duration based on consultation with relatives. There is the need to involve relatives during the antenatal care period in order for younger women in particular to be readily supported to make the decision early to avoid any complications and allay their fears.


# Background

Caesarean section (CS) rates are on the rise and elective caesarean section is being performed more often than it was a few decades ago [1, 2] with very high rates of over 40% in some developed countries and 7.3% in Africa [3]. Some factors responsible for the rise include high socioeconomic status, availability of service; psychological factors, perceptions of safety, socio-cultural influences, women's experience with previous vaginal birth and advanced maternal age [4–7]. In Ghana, an average of 12.8% of deliveries is by caesarean section [8].

Caesarean section is usually performed when vaginal birth is deemed hazardous either to the foetus or the mother [9]. Major clinical indications include foetal distress, failure to progress in labor, previous caesarean sections, breech presentation among others [10]. Elective CS can be recommended by the client's doctor/healthcare provider or can be requested by the client. Factors accounting for the healthcare provider's recommendation include foetal weight estimation (above 3.0 kg), risk to the foetus, risks of perineal injury, urinary and anal incontinence [11].

Other researchers have identified from the clinician's point of view what factors influence the decision to perform caesarean section and found these to be the clinician's personal beliefs, health care systems factors and clinician's characteristics which includes confidence, skills and convenience [12]. On the other hand, in patient-initiated caesarean section, women make this decision based on maternal and infant-related factors, social influences, the certainty about the timing of the delivery, choosing a lucky day for baby birth and unpleasant experiences with previous vaginal delivery [13–16].

When clinicians make a decision on the need for elective caesarean section for a client, this will have to be accepted by the woman in order to ensure good health outcomes for the woman and baby, cooperation between the healthcare team, the client and family. The decision-making process for the woman involves a multiplicity of factors which include knowledge of the CS process, finances and readily available family support for childcare.

Women's knowledge on caesarean section plays a significant role in decision-making for the procedure and there is still a gap in knowledge between those in developed and the developing countries [17]. Findings from studies in Nigeria and Ghana indicate that some traditional women are unwilling to have caesarean section because of the general belief that abdominal delivery is reproductive failure on their part, and others for fear of mockery [18–20]. Chigbu and Iloabachie [19] found a high prevalence of caesarean section refusal among their study participants and noted very poor maternal and perinatal outcomes as a result of this refusal.

Some researchers [21] observed that women's decision-making regarding their healthcare seems not to be fully autonomous especially in developing countries. Women have been noted to have low decision-making power and this results in delays in accessing or receiving health care which contributes to the high maternal mortalities [22]. In some cultures, other family members are entrusted with the rights to make the decisions for the women and these could be the husband, mother-in-law or grandmother of the pregnant woman. Though caesarean sections are noted to be safe when performed under the right health condition with adequate infrastructure and resources, people still have fears regarding the safety of the procedure and this influences the decisions they make for it and how quickly that decision is made. Where other relatives make input or control the decision-making process, this could affect when the doctor's determination for the CS would be accepted and could pose health challenges such as complications for both the woman and the baby. In patient-initiated elective caesarean section, factors which influence the decision-making process are known [23]. Women will consider the benefits of the process, complications and the possible barriers it will create in living their normal life [13], in making the

decision. However, the factors influencing the process and duration of decision-making in accepting a medically-indicated elective caesarean section are less known. The duration taken in accepting the medically-indicated CS is important because it influences the woman's preparation towards the postnatal period and effective childcare including breastfeeding. Women will have to be emotionally prepared in order to effectively initiate and breastfeed and this can be influenced by CS experience [24]. This study therefore aimed at exploring the factors that women considered and what influenced their decision to accepting elective caesarean section.

# Methods

A descriptive cross-sectional study was carried out from April to September 2016 in a hospital. The hospital provides services in Medicine, Surgery, Child health, Public health, Obstetrics and Gynaecology among others. The reproductive health services provided include antenatal care, labor and delivery, family planning, and adolescent friendly services. A total of 3210 deliveries were conducted in 2015, out of which 568 were caesarean sections. At the time of the study, the hospital had a staff strength of 210, including 95 nurses, 14 midwives, 2 permanent Obstetrician Gynaecologists. The hospital receives referrals from private hospitals, health centres and maternity homes. Ethical approval for the study was obtained from the Committee on Human Research Publications and Ethics (CHRPE/AP/175/16), KNUST. Administrative approval was given by the hospital management before the respondents were contacted. Ethical principles of informed consent, autonomy, privacy, confidentiality and voluntary participation were adhered to during the entire research process. Participants' data were accessible only to the researchers involved in the study.

The study population consisted of postnatal women who had undergone a caesarean section and were on admission at the Manhyia District Hospital. Using Yamane's formula and an estimated 50% of the 2015 caesarean section of the hospital to be elective CS, a sample size of 105 was needed for the study period of 6 months. Purposive sampling was used to contact women who had elective caesarean section at the district hospital. The inclusion criteria was women who are 18 years and above, had a medically-indicated elective caesarean section and gave consent to participate. Exclusion criteria was those below 18 years of age, had emergency caesarean section or requested elective caesarean section themselves.

A questionnaire with 36 items was developed by the researchers based on literature review of factors influencing health behavior, caesarean section; and the decision-making process [21, 23, 25]. The questionnaire covered respondents' demographic characteristics, their source of information and knowledge on caesarean section, the indications for their elective CS, their initial reaction when they were informed of the need for the CS, and the factors which influenced their decision-making to accept the procedure and the duration. The questionnaire was developed in English, translated into Twi (the widely spoken local language in the research setting) and was translated back into English to ensure consistency in the use of terms and the interpretation of questions and responses. The content validity of the instrument was established by it being critically reviewed by midwives with academic and professional qualifications in the subject; and the reliability was done through pre-testing. The

questionnaire was pretested in 20 women in another hospital which has similar characteristics like the study setting. Necessary revision of the instrument was done to eliminate any ambiguity in questions and responses to ensure respondents' understanding.

Two research assistants administered the questionnaires after the women had given verbal consent to participate in the study. Verbal consent was used since this was preferred by the respondents because the study was being conducted in the clinical setting coupled with the low literacy level of most of the respondents [26]. The completion of the questionnaire by literate respondents and subsequent return to the research assistants served as a form of informed consent. The questionnaire was administered to each respondent after the purpose of the study was explained to them and they were assured of confidentiality of the data. No personal identifier was linked to them. They were also informed that participation was voluntary and they could choose to terminate their responses at any point during the interaction with the researchers in case they did not feel comfortable in providing responses. One hundred and sixty-three women in the postnatal ward provided their responses. For those who could read and write, the questionnaire was self- administered. For those who could not do this on their own, research assistants translated the questions into the local language and the participants provided their responses. Indications for the CS was confirmed from the patient's records.

Data was managed and analyzed using the Statistical Package for Social Sciences (IBM SPSS Version 25.0, USA). Descriptive statistics of respondents' demographic and obstetric characteristics was done and categorical variables were presented using frequencies and percentages. Pearson Chi-square test was done to determine the association between the factors that facilitated the respondents' acceptance of CS and their demographic characteristics and decision-making duration (days). Linear regression was also performed to determine the predictors of the decision-making time to accept the CS; and statistical significance was set at $p < 0.05$.

# Results

### Demographic and obstetric background of respondents

Two-fifths of the study respondents were in the age range of 21 to 25 years (40.5%), with a few above 40 years (3.1%). Most of them were married (77.3%), had at least Junior High School education (82.2%) and were in a gainful employment (74.2%). For the majority, that was their first or second delivery and four of them had a parity between five and seven (Table 1). Out of the total respondents, 55 (33.7%) had a previous caesarean section (CS) and for the rest 108 (66.3%), that was their first caesarean section. Of the 55 who had a previous CS, 45 (81.8%) of them have had it once, and the rest 10 (18.2%) have had it twice.

### Table 1. Demographic and Obstetric background of respondents

| Variables | Category | N (%) |
|---|---|---|
| Age (years) | 18-20 | 3 (1.8) |
| 21-25 | 66 (40.5) | |
| 26-30 | 56 (34.4) | |
| 31-35 | 28 (17.2) | |
| 36-40 | 5 (3.1) | |
| Above 40 | 5 (3.1) | |
| Marital Status | Single | 6 (3.7) |
| Co-habiting | 31 (19.0) | |
| Married | 126 (77.3) | |
| Educational status | No Formal education | 3 (1.8) |
| Primary | 26 (16.0) | |
| Junior High School | 74 (45.4) | |
| Secondary | 38 (23.3) | |
| Tertiary/Commercial | 22 (13.5) | |
| Occupation | Public sector | 7 (4.3) |
| Private sector | 8 (4.9) | |
| Trader | 64 (39.2) | |
| Artisan | 42 (25.8) | |
| Unemployed | 42 (25.8) | |
| Religion | Christianity | 95 (58.3) |
| Islamic | 68 (41.7) | |
| Parity | 1 | 50 (30.7) |
| 2 | 69 (42.3) | |
| 3 | 36 (22.0) | |
| 4 | 4 (2.5) | |
| >4 | 4 (2.5) | |
| Indications for respondents' CS | Big baby | 33 (20.2) |
| Abnormal presentation e.g breech presentation | 39 (23.9) | |

| | |
|---|---|
| Poor obstetric history e.g. pre-eclampsia | 25 (15.3) |
| Previous caesarean section | 33 (20.2) |
| Multiple gestation | 12 (7.4) |
| Post-date | 21 (12.9) |

†CS-Caesarean section

### Factors influencing acceptance of CS and the decision-making time

Factors which influenced the respondents' decision to undergo the caesarean section were assessed and the period they took to conclude their decision. The decision-making period for the respondents was between the same day and within one week. Eighty-four (51.5%) of them made their decisions on the same day, and the rest made this between the next day and a week. The decisions were influenced by relatives, respondents' experience with previous caesarean section, perceived risk to their life and that of the baby among others (Table 2).

**Table 2. Factors that influenced respondents' decision to accept Caesarean Section**

| Influencing Factors | Frequency (N) | Percentage (%) |
|---|---|---|
| My husband/partner/relatives encouraged me | 64 | 39.3% |
| I do not have an alternative to the †CS | 33 | 20.2 |
| I trusted God for safe delivery | 34 | 20.9 |
| I had previous CS and was no longer afraid | 32 | 19.6 |
| I had previous CS and was informed I will have CS again | 17 | 10.4 |
| The Health professional's education | 25 | 15.3 |
| My life was at risk | 25 | 15.3 |
| My baby's life was at risk | 40 | 24.5 |

†CS-Caesarean section

The association between demographic characteristics and the influencing factors was assessed and age and parity were significant factors however age was only significant for the influence of husband, partner or relative ($p<0.01$). Three influencing factors were significantly related to the parity of the respondents. These were those who accepted the CS because they felt they did not have an alternative to the †CS ($p<0.005$), because they had previous CS and were no longer afraid ($p<0.001$) and those who consented because they felt their life was at risk ($p<0.035$).

The respondents were requested to indicate how long it took them to make a decision in accepting to undergo the CS after the doctor informed them of the need for the procedure. There were significant differences in decision-making time for those who had previous CS and were informed they will have another CS, those who trusted in God to see them safely through the procedure; and those whose decision was supported by their husbands, partners or relatives (Table 3).

**Table 3. Relationship between decision-making time and factors influencing acceptance of CS**

| Influencing Factors | Decision-making time (Days) | $c^2$ | P-value | | | |
|---|---|---|---|---|---|---|
| Same day | 1 – 3 days | 4 days – 1 week | | | | |
| My husband/partner/relatives encouraged me | Yes | 13 | 40 | 11 | 42.53 | 0.001** |
| No | 71 | 25 | 3 | | | |
| I do not have an alternative to the †CS | Yes | 16 | 12 | 5 | 2.28 | 0.32 |
| No | 68 | 53 | 9 | | | |
| I trusted God for safe delivery | Yes | 8 | 23 | 3 | 14.85 | 0.001** |
| No | 76 | 42 | 11 | | | |
| Because I had previous CS and was no longer afraid | Yes | 29 | 2 | 1 | 24.48 | 0.001** |
| No | 55 | 63 | 13 | | | |
| Because I had previous CS and was informed I will have CS again | Yes | 16 | 0 | 1 | 14.41 | 0.001** |
| No | 68 | 65 | 13 | | | |
| The Health professional's education helped me | Yes | 17 | 8 | 0 | 4.55 | 0.103 |
| No | 67 | 57 | 14 | | | |
| My life was at risk | Yes | 10 | 14 | 1 | 3.41 | 0.182 |
| No | 74 | 51 | 13 | | | |
| My baby's life was at risk | Yes | 19 | 18 | 3 | 0.59 | 0.745 |
| No | 65 | 47 | 11 | | | |

**NB: **p<0.001, †CS-Caesarean section**

Respondents' background characteristics that influenced the duration of the decision-making process to accept the caesarean section were determined and they predicted the levels of variation in the duration of the decision (Table 4). The variations were significantly related to the respondents' age, experience with previous caesarean section and the parity. Significant difference was observed between those without formal education and those with tertiary education ($p<.05$). Regarding occupation, significant differences were noted between the unemployed respondents and the traders or artisans ($p<0.03$; $p<0.01$) respectively.

**Table 4. Respondents' background characteristics as predictors of decision-making time (days) to accept caesarean section**

| Variables | Category | Unstandardized coefficient (B) | Standard error | df | $R^2$ | P-value |
|---|---|---|---|---|---|---|
| Age (years) | Constant (18 -20) | 1.00 | 0.19 | 4 | 0.19 | 0.001** |
| 21 -25 | 0.83 | 0.19 | | | 0.001** | |
| 26 – 30 | 0.27 | 0.07 | | | 0.001** | |
| 31 – 35 | 0.12 | 0.05 | | | 0.023* | |
| Above 35 | 0.06 | 0.04 | | | 0.142 | |
| Education | Constant (Tertiary) | 1.73 | 0.10 | 3 | 0.05 | 0.06 |
| SHS | -.06 | 0.06 | | | 0.32 | |
| Basic | -.31 | 0.16 | | | 0.06 | |
| No formal | -.10 | 0.04 | | | 0.02* | |
| Parity | Constant (Parity 1) | 1.78 | 0.09 | 4 | 0.08 | 0.02* |
| 2 | -.13 | 0.06 | | | 0.03* | |
| 3 | -.14 | 0.05 | | | 0.01* | |
| 4 | -.13 | 0.08 | | | 0.11 | |
| Above 4 | -.04 | 0.07 | | | 0.50 | |
| Occupation | Constant (Unemployed) | 1.81 | 0.10 | 4 | 0.05 | 0.07 |
| Civil servant | -.24 | 0.26 | | | 0.36 | |
| Private sector | -.22 | 0.12 | | | 0.08 | |
| Trader | -.09 | 0.04 | | | 0.03* | |
| Artisan | -.10 | 0.04 | | | 0.01* | |
| Previous †CS | Constant (No previous CS) | 1.74 | 0.06 | 1 | 0.14 | 0.001** |
| Had previous CS | -.50 | 0.100 | | | | |

****p<0.001, *p<0.05, †CS-Caesarean section**

# Discussions

The aim of this study was to determine the factors that influence women to accept medically-indicated caesarean section. The current caesarean section for 33 (20.2%) of the respondents was due to previous CS, giving a high incidence (60%) among this category of respondents. This is consistent with findings of earlier researches on the possibilities of having repeat CS [27] and the respondents' fore-knowledge of this influenced their decision-making [28, 29]. This was however contrary to findings where respondents with previous CS were reluctant to have another CS because of fear of death and mockery [20] which contributed to women preferring vaginal delivery.

The respondent's age and parity were parameters that significantly related to the type of factors that influenced the respondents' decision to accept the CS and the decision-making time. Younger women were significantly influenced by family members whilst those having their delivery for the first time felt they had no alternative to the CS and these were largely younger women. Patient-initiated elective CS is known to be common among women of advanced age [7]. Betrán and colleagues [3] opined that CS decisions are complex including women's fears of dying, societal and cultural beliefs. In addition, other researchers [19] found that maternal reasons for refusing caesarean section include fear of death and economic issues. Others may not be convinced of the need for the CS but had to accept it [30] and the cues to action have been noted to include advice from health care professionals, relatives and friends [13] hence family support is important in making this critical decision.

Women's decision-making regarding their health is influenced by several factors including socioeconomic background, cultural factors and family involvement. In the current study, most of the respondents who depended on social support (husband/partner/relatives) made their decisions between the first and seventh day with few making the decision the same day they were informed of the need for the CS. Caesarean section as an invasive procedure requires informed consent hence involves a multiplicity of factors and steps which includes the role of family members (e.g social and financial support). For women, decisions regarding their healthcare may not be, or appear not to be fully autonomous because of the cultural and social context especially in developing countries [21]. Family support in making the decision is reassuring and the lack of it can have detrimental effects during the postnatal period. Tham and others [31] found long-term postpartum fatigue and inadequate help from husbands as some influencing factors in women with post-traumatic stress syndrome (PTSS) after emergency caesarean section. This could probably be because family members were not prepared for the situation since it was an emergency. Additionally, women who have CS are concerned about breastfeeding ability and have reported maternal mobility limitations, positioning difficulties, and frustration at the need for assistance as breastfeeding obstacles [24]. An elective caesarean section provides a good opportunity for health professionals to prepare relatives for their role before and during the postnatal period.

Studies have indicated age, education, and income as factors that significantly affect the autonomy of women in making healthcare decisions. [32, 21]. In the current study, respondents' characteristics that predicted the variation in the decision-making time for the CS were age (19%), previous CS (14%) and parity (8%). Having a previous CS and being informed and educated by health professionals prepares women and reduces their fears. Yilmaz and colleagues [33] found that 36.2% of their study participants who had previous caesarean section for their last birth were well informed about CS and this helped to significantly prepare them to accept the procedure. This reiterates the need for health professionals to have a targeted education for the different categories of clients based on their background characteristics. There is also the need to intensify their education on the procedure together with reassurances and involve significant others/relatives early in the process to enhance the woman's social support.

A strength of this study is the adequate sample size used, indicating it was sufficiently powered and lends support to the findings which can be replicated in similar settings. Additionally it elicits the key factors that influence women to make decisions in a timely manner to accept medically-indicated elective caesarean sections. This will prevent complications and reduce maternal mortality associated with delayed decision-making. The study however had limitations such as the use of only one health facility hence generalization of findings should be done with this in view. Further research is needed to develop social support systems for women who will have elective caesarean section.

# Conclusion

Having a previous caesarean section, family support and the perceived risk to the woman and the foetus' life are major influencing factors for women to accept medically-indicated elective caesarean section. Most women in the absence of a previous caesarean section will make decisions within a week's duration based on consultation with relatives. There is the need to involve relatives during the antenatal care period for counselling in order for women to be readily supported to make the decision for elective CS early to avoid any complications and allay their fears. An elective caesarean section offers health professionals opportunity to engage relatives of their client. This will afford families the time to plan for the needed support for the woman and enhance the woman's postnatal experience.

# Abbreviations

CS
Caesarean section
KNUST
Kwame Nkrumah University of Science and Technology

# Declarations

### Ethics approval and consent to participate

Ethical approval for the study was obtained from the Committee on Human Research Publications and Ethics (CHRPE/AP/175/16) of the Kwame Nkrumah University of Science and Technology (KNUST). Administrative approval was given by the hospital management. Informed consent was given by participants and all ethical principles were adhered to during the entire research process. Participants' data were accessible only to the researchers involved in the study.

### Consent for publication

Not applicable

### Availability of data and materials:

The dataset for this study is available upon reasonable request to the corresponding author Victoria Bam (vbbam.chs@knust.edu.gh)

### Competing interests

The authors declare that they have no competing interest in this study.


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The study was funded by the authors.


### Authors' contributions

VB contributed to the concept and design of the study, analyzed the data and drafted the manuscript. AYL contributed to study design and critical review of manuscript. AKA contributed to data analysis, critically reviewed and edited the manuscript. HIB critically reviewed and edited the manuscript. DBA and GM contributed to the study design and data collection. All authors read and approved the manuscript.


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## References


1. World Health Organization (WHO). WHO recommendations: non-clinical interventions to reduce unnecessary caesarean sections. Geneva: WHO; 2018.
2. Boema T, Ronsmans C, Melesse DY, Barros AJ, Barros FC, Juan L, et al. Global epidemiology of use of and disparities in caesarean section. Lance*t*. 2018;392(10155):1341–8. doi.org/10.1016/S0140-6736(18)31928-7.

3. Betrán AP, Moller A, Zhang J, Gülmezoglu M, Torloni MR. The Increasing Trends in Caesarean Section Rates: Global, Regional and National Estimates: 1990–2014. Plos One. 2016. doi:10.1371/journal.pone.0148343.
4. Feng XL, Xu L, Guo Y, Ronsmans C. Factors influencing rising caesarean section rates in China between 1988 and 2008. Bull World Health Organ. 2012;90:30–9A. doi:10.2471/BLT.11.090399.
5. McCourt C, Weaver J, Statham H, Beake S, Gamble J, Creedy DK. Elective Cesarean Section and Decision Making: A Critical Review of the Literature. BIRTH. 2007;34:1.
6. Black M, Entwistle VA, Bhattacharya S, Gillies K. Vaginal birth after caesarean section: why is uptake so low? Insights from a meta-ethnographic synthesis of women's accounts of their birth choices. BMJ Open. 2015. doi:10.1136/bmjopen-2015-008881.
7. Factors Associated With Increased Rates of Caesarean Section in Women
Janoudi G, Kelly S, Yasseen A, Hamam H, Moretti F, Walker M. Factors Associated With Increased Rates of Caesarean Section in Women.
8. of Advanced Maternal Age. J Obstet Gynaecol Can. 2015;37(6):517–26.
9. Ghana Statistical Service (GSS), Ghana Health Service (GHS), and ICF International. 2015. Ghana demographic and health survey. Rockville, MA: GSS, GHS, and ICF International; 2014.
10. Ashimi AO, Amole TG, Aliyu LD. Knowledge and attitude of pregnant women to caesarean section in a semi-urban community in northwest Nigeria. J West Afr Coll Surg. 2013;3(2):46–61.
11. Naeem M, Khan MZUI, Abbas SH, Khan A, Adil M, Khan MU. Rate and indications of elective and emergency caesarean section; a study in a tertiary care hospital of Peshawar. J Ayub Med Coll Abbottabad. 2015;27(1):151–4.
12. Bergholt T, Østberg B, Legarth J, Weber T. Danish obstetricians' personal preference and general attitude to elective cesarean section on maternal request: A nation-wide postal survey. Acta Obstetricia et Gynecology Scandinavica. 2004;83(3):262–6.
13. Panda S, Begley C, Daly D. Clinicians' views of factors influencing decision- making for caesarean section: A systematic review and metasynthesis of qualitative, quantitative and mixed methods studies. PLoS One. 2018;13(7):e0200941.
14. Loke AY, Davies L, Li S. Factors influencing the decision that women make on their mode of delivery: the Health Belief Model. BMC Health Services Research. 2015;15:274. DOI 10.1186/s12913-015-0931-z.
15. Walana W, Acquah EK, Ziem JB, Vicar EK, Acquah SEK, Muhiba AS, et al. Preference of Birth Delivery Modes among Women Attending Antenatal and Postnatal Clinics in the Tamale Metropolis of Ghana. J Preg Child Health. 2017;4:297. doi:10.4172/2376-127X.1000297.
16. Liang H, Fan Y, Zhang N, Chongsuvivatwong V, Wang O, Gong J, et al. Women's cesarean section preferences and influencing factors in relation to China's two-child policy: a cross-sectional study. Patient Preference Adherence. 2018;12:2093–101.
17. Konlan KD, Baku EK, Japiong M, Konlan KD, Amoah RM. Reasons for Women's Choice of Elective Caesarian Section in Duayaw Nkwanta Hospital. Journal of Pregnancy. 2019.

doi.org/10.1155/2019/2320743.

18. Amiegheme FE, Adeyemo FO, Onasoga OA. Perception of pregnant women towards caesarean section in Nigeria: a case study of a missionary hospital in Edo state, Nigeria. International Journal of Community Medicine Public Health. 2016;3(8):2040–4.
19. Jeremiah I, Nonye-Enyidah E, Fiebai P. Attitudes of antenatal patients at a tertiary hospital in southern Nigeria towards Caesarean section. J Public health Epid. 2011;3(13):617–21.
20. Chigbu CO, Iloabachie GC. The burden of caesarean section refusal in a developing country setting. BJOG. 2007;114(10):1261–5.
21. AfayaRA,BamV,ApiribuF,AganaVA,AfayaA.Knowledge of Pregnant Women on Caesarean Section and their Preferred Mode of Delivery in Northern Ghana. NUMID HORIZON 2018;2*(1)*: 62–73.
22. Osamor PE, Grady C. Women's autonomy in health care decision- making in developing countries: a synthesis of the literature. International Journal of Women's Health. 2016;8:191–202.
23. Combs Thorsen V, Sundby J, Malata A. Piecing Together the Maternal Death Puzzle through Narratives: The Three Delays Model Revisited. PLoS One. 2012;7(12):e52090. doi:10.1371/journal.pone.0052090.
24. Kornelsen J, Hutton E, Munro S. Influences on Decision Making Among Primiparous Women Choosing Elective Caesarean Section in the Absence of Medical Indications: Findings From a Qualitative Investigation. J Obstet Gynaecol Can. 2010;32(10):962–9.
25. Tully KP, Ball HL. Maternal accounts of their breast-feeding intent and early challenges after caesarean childbirth. Midwifery. 2014;30(6):712–9.
26. Chiamaka A, Adetomi A. Perception and Cultural Belief of Pregnant Women towards Caesarean Section: A Case Study of Pregnant Women Living In a Rural Community in Southwest Nigeria. IOSR Journal of Nursing Health Sciences. 2017;6(5):22–6.
27. Gordon EJ. When Oral Consent will do. Field Methods. 2000;12(3):235–8.
28. Mascarello KC, Matijasevich A, Barros AJD, Santos IS, Zandonade E, Silveira F. Repeat cesarean section in subsequent gestation of women from a birth cohort in Brazil. Reprod Health. 2017;14:102.
29. Chen S-W, Hutchinson AM, Nagle C, Bucknall TK. Women's decision-making processes and the influences on their mode of birth following a previous caesarean section in Taiwan: a qualitative study. BMC Pregnancy Childbirth. 2018;18:31. DOI 10.1186/s12884-018-1661-0.
30. Gholami A, Faraji Z, Lotfabadi P, Foroozanfar Z, Rezaof M, Rajabi A. Factors Associated with Preference for Repeat Cesarean in Neyshabur Pregnant Women. Int J Prev Med. 2014;5(9):1192–8.
31. Ohaeri BM, Aideloje F, Ingwu JA. Women's involvement in decision-making before caesarean section and its influence on their satisfaction with procedure in a tertiary health institution Edo State – Nigeria. Int J Nurs. 2019;6(1):197–205.
32. Tham V. Ryding EL, Christensson K. Experience of support among mothers with and without post-traumatic stress symptoms following emergency caesarean section. Sexual Reproductive Healthcare 2010; 1*(4)*: 175–80.

33. Acharya DR, Bell JS, Simkhada P, van Teijlingen ER, Regmi PR. Women's autonomy in household decision-making: a demographic study in Nepal. Reprod. Health 2010; 7(15).
34. Yilmaz SD, Bal MD, Beji NK, Uludag S. Women's Preferences of Method of Delivery and Influencing Factors. Iranian Red Crescent Med Journal. 2013;15(8):683–9.

## Supplementary Files

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- CaesareanSectionQuestionnaire.docx