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Original Research Article

Knowledge of caesarean section and its complications among women attending antenatal clinic in a tertiary facility

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ABSTRACT

Background: Caesarean section is a common surgical procedure performed to deliver a baby when a vaginal birth poses risks to the mother or child. Understanding the procedure among pregnant women could influence their perception of the procedure. This study therefore aimed to assess the knowledge of Caesarean sections among pregnant women attending antenatal care at the University of Benin Teaching Hospital (UBTH).
Methods: This was a descriptive cross-sectional study, involving 131 consenting pregnant women attending antenatal care at UBTH. Ethical approval was obtained from the Ethics Committee of the University of Benin Teaching Hospital. Data were collected through structured questionnaires. Quantitative data were analyzed using descriptive and inferential statistics using statistical package for the social sciences (SPSS) 26.0, and p values of less than 0.05 were considered statistically significant.
Results: The findings reveal that while 91.6% of respondents understood the meaning of caesarean section. There are gaps in knowledge regarding specific issues, such as the safety of the procedure and its implications for future pregnancies. The study highlights that fear of surgery (67.9%), financial constraints (64.9%), and cultural influences (55.0%) are major barriers to accepting the procedure. Infection, bleeding and anaesthetic injuries were recognized as possible complications of caesarean section in 65.6% of respondents.
Conclusions: The study underscores the need for targeted educational interventions and supportive counseling that involve both women and their families to address misconceptions regarding caesarean section.

Keywords: Caesarean, Knowledge, Delivery, Pregnancy

INTRODUCTION

Caesarean section is a common obstetric surgery performed worldwide. Following introduction of the procedure, it was associated with high rates of morbidity and mortality, largely because of the poor knowledge of sterility, antibiotic use and control of bleeding. Consequently, it was greeted in some instances with outright rejection, only to be performed when maternal death is almost inevitable. However, with advances in medical practice, there has been considerable improvement in maternal safety associated with caesarean delivery and therefore recommended in several obstetric complications.[1-4] In developed countries, women often accept caesarean delivery because of their improved understanding of its role and safety but this is not same in sub-Saharan African countries where the procedure may not be accepted for social, religious and cultural reasons.

Few studies have assessed the knowledge of pregnant women regarding caesarean section procedure and its complications. Misconceptions about Caesarean sections are numerous and can significantly influence pregnant women's decision-making and attitudes towards the procedure.[5] These misconceptions not only affect the decision-making process but deter women from accepting the procedure when indicated. This is important because women are likely to be reversed towards a treatment method which they do not understand. Many studies have been conducted on perception of women regarding

caesarean section but their knowledge of the procedure itself seems under researched. Poor knowledge of the procedure may affect its uptake which could be challenging in situations where it is the recommended route of delivery. Understanding these misconceptions is crucial in ensuring informed decisions regarding delivery options. Therefore, this study sets out to assess women's knowledge of caesarean section and its complications.

METHODS

This study was conducted in the Obstetrics and Gynecology Department of University of Benin Teaching Hospital (UBTH), Edo State. It was a descriptive cross-sectional study among consenting women attending antenatal clinic. This study was conducted between 01 January 2025 and 30 June 2025.

Sample size determination

The sample size was determined using the Cochran formula.

$$n = Z^2Pq/d^2$$

Using a prevalence of 96.9%[6] (respondents knew the correct meaning of caesarean section in a previous study), a minimum sample size of 46 was calculated. Eventually, a total of 131 respondents participated in the study. The level of precision was set at 5%.

Participants were selected from women that attends antenatal care at UBTH. Every woman attending antenatal care at UBTH during the data collection period was approached for participation. The study participants were selected using a simple random sampling technique.

Data were collected using quantitative method to ensure a comprehensive understanding of the participant's knowledge and perceptions. A well-structured questionnaire was shared amongst participants. The questionnaire is designed to collect data on section A: demographic information, section B: knowledge of caesarean section, section C: perception of caesarean section, and section D: factors influencing the knowledge of caesarean section.

The quantitative data were analysed using statistical package for the social sciences (SPSS), version 26.0 descriptive statistics, including frequencies, percentages, and mean, were calculated to summarize the demographic characteristics, knowledge levels, perceptions of the participants and factors influencing knowledge of participants. Chi-square test was used to explore associations between demographic factors (e.g. education background, age) and knowledge or perceptions of C-sections.

This study adhered to ethical principles to ensure the protection of participant's rights. All participants were provided with detailed information about the study, data collected were kept confidential and stored securely. Participant's identities were anonymized to protect their privacy. Ethical approval was obtained from UBTH Research and Ethics Committee before the commencement of the study.

RESULTS

The socio-demographic characteristics of the respondents are presented in Table 1. The mean age of the study participants was 27.85 years. A large portion of respondents are self-employed (35.9%) and 19.8% are students. Respondents who had tertiary education were about 60%, while 19.1% completed secondary education. The majority of respondents were Christians (84.7%), while 10.7% are Muslim and 4.6% belong to other religions. Only 18.3% had experienced a caesarean section.

The participant's knowledge of caesarean section was explored in Table 2. Most respondents (91.6%) correctly identified caesarean section as a surgical procedure used to deliver a baby through incisions in the abdomen and uterus. Surprisingly, 6.9% choosing thought it was a method of inducing labor using medication. About 66% correctly identified caesarean section as a method of delivery when complications arise during childbirth that may endanger mother or baby. About a third of the respondents (33.6%) did not believe a woman can have vaginal delivery after caesarean section. About 21% of the respondent's believed women are unable to bear children in future after caesarean section. About two-third of the respondents (65.6%) correctly identified complications of caesarean section to be infection, bleeding and anaesthetic injury.

The knowledge of participants regarding caesarean section was further explored especially in relation to vaginal delivery (Table 3). Seventeen (13%) of the respondents strongly believed caesarean section to be more dangerous than vaginal delivery. Only 8.4% strongly agreed to the fact that caesarean section has a quicker recovery compared to vaginal delivery. If given the choice, 9.2% wound strongly prefer a caesarean section to vaginal delivery. Twenty (15.3%) strongly believe caesarean sections were performed unnecessarily even when vaginal birth was possible. Even when caesarean section is recommended by a health care provider, 7.6% of the respondents would strongly disagree with the procedure. Eighteen (13.7%) strongly believe that women who deliver by caesarean section are often stigmatized for not having a natural delivery.

About half of the respondents (44.1%) were favourably disposed to caesarean section. Among the pregnant women, 67.9% believe they do not have adequate knowledge of caesarean delivery and 59.5% were of the opinion that their husbands would prefer vaginal delivery. Financial constraint was cited as one of the factors against

caesarean births as identified by 64.9% of respondents. Unfortunately, 67.9% feared that they could die during the procedure. Cultural influence was identified by 55% of the respondents as one of the reasons affecting caesarean section uptake (Table 4).

Table 1: Socio-demographics characteristics of respondent.

Variables	Frequency (n=131), N (%)
Age group (years)	
≤18	7 (5.3)
18-24	33 (25.2)
25-29	38 (29.0)
30-34	30 (22.9)
>35	23 (17.6)
Mean±SD=27.85±6.08	
Occupation	
Student	26 (19.8)
Employed	27 (20.6)
Self-employed	47 (35.9)
Civil servant	16 (12.2)
Others	15 (11.5)
Educational background	
Primary	8 (6.1)
Secondary	25 (19.1)
Tertiary	79 (60.3)
Others	19 (14.5)
Marital status	
Single	38 (29.0)
Married	73 (55.7)
Divorced	10 (7.6)
Others	10 (7.6)
Religion	
Christianity	111 (84.7)
Islam	14 (10.7)
Others	6 (4.6)
Ethnicity	
Benin	81 (61.8)
Yoruba	19 (14.5)
Igbo	25 (19.1)
Hausa	6 (4.6)
Previous mode of delivery	
Vaginal delivery	50 (38.2)
Caesarean section	24 (18.3)
None	57 (43.5)
Number of children	
0 (First pregnancy)	53 (40.5)
01-Apr	64 (48.9)
>5	14 (10.7)

Table 2: Knowledge of caesarean section amongst pregnant women attending antenatal clinic in UBTH.

Variables	Frequency (n=131), N (%)
What is a caesarean section?	
A surgical procedure used to deliver a baby through incisions in the abdomen and uterus	120 (91.6)
A method of inducing labor using medication	9 (6.9)
A natural method of childbirth involving minimal medical intervention	2 (1.5)
When is a caesarean section usually performed?	
When complications arise during childbirth that may endanger mother or baby	87 (66.4)

Continued.

Variables	Frequency (n=131), N (%)
Only when the mother requests it, even if no medical issues are present	22 (16.8)
It is performed routinely for all first-time mothers	22 (16.8)
Can a woman have a vaginal birth after a caesarean section?	
Yes, many women can have a successful vaginal birth after a caesarean section, depending on their medical condition	75 (57.3)
No, once a woman has had a caesarean section, she can never have a vaginal birth	44 (33.6)
Yes, but only if the caesarean was done more than 10 years ago	12 (9.2)
Which of the following is a reason for performing a caesarean section?	
Fetal distress or lack of oxygen during labor.	92 (70.2)
The mother prefers a caesarean section for convenience	34 (26.0)
The baby's gender can only be determined through a caesarean section	5 (3.8)
What are the possible outcomes of a caesarean section for future pregnancies?	
Most women can have healthy pregnancies and deliveries after a caesarean section	81 (61.8)
Women who have had a caesarean section can never conceive again	28 (21.4)
Caesarean sections prevent women from having multiple children	22 (16.8)
What is the typical recovery time after a caesarean section?	
About 6 weeks, depending on individual healing and complications	79 (60.3)
1 week, as recovery is very quick and easy	30 (22.9)
12 months, as recovery takes longer than vaginal delivery	22 (16.8)
Which of the following is not a common reason for performing a caesarean section?	
Maternal preference without any medical reasons	54 (41.2)
Placenta previa, where the placenta blocks the cervix	52 (39.7)
Breech presentation, where the baby is positioned feet-first	25 (19.1)
Are babies born via caesarean section typically less healthy than those born through vaginal delivery?	
No, caesarean sections are often performed to protect the health of the baby	66 (50.4)
Yes, babies born via caesarean sections are always less healthy	35 (26.7)
Yes, because they don't pass through the birth canal	30 (22.9)
Can a caesarean section be planned in advance?	
Yes, in cases where there are known complications or risks, such as multiple prior C-sections	75 (57.3)
No, caesarean sections can only be done during emergency situations	33 (25.2)
Yes, but only if it's the mother's first child	23 (17.6)
What is the main risk associated with a caesarean section?	
The risk of surgical complications such as infection, bleeding, or reactions to anesthesia	86 (65.6)
The risk that the baby will be born prematurely	33 (65.6)
The risk of never being able to walk again	12 (9.2)

Table 3: Exploring knowledge of caesarean section compared to vaginal delivery amongst pregnant women attending antenatal clinic in UBTH.

Variables	Frequency (n=131), N (%)
I am afraid of having a caesarean section because I believe it is more dangerous than a vaginal delivery	
Strongly agree	17 (13.0)
Agree	38 (29.0)
Undecided	27 (20.6)
Disagree	39 (29.8)
Strongly disagree	10 (7.6)
Recovering from a caesarean section is easier and quicker than recovering from a vaginal birth	
Strongly agree	11 (8.4)
Agree	21 (16.0)
Undecided	21 (16.0)
Disagree	51 (38.9)
Strongly disagree	27 (20.6)
I would prefer a caesarean section over a vaginal birth if given the choice	
Strongly agree	12 (9.2)

Continued.

Variables	Frequency (n=131), N (%)
Agree	27 (20.6)
Undecided	22 (16.8)
Disagree	44 (33.6)
Strongly disagree	26 (19.8)
Caesarean sections are often performed unnecessarily, even when vaginal birth is possible	
Strongly agree	20 (15.3)
Agree	31 (23.7)
Undecided	25 (19.1)
Disagree	38 (29.0)
Strongly disagree	17 (13.0)
If recommended by a healthcare provider, I would feel comfortable opting for a caesarean section	
Strongly agree	25 (19.1)
Agree	41 (31.3)
Undecided	30 (22.9)
Disagree	25 (19.1)
Strongly disagree	10 (7.6)
Women who have caesarean sections are often stigmatized for not giving birth 'naturally'	
Strongly agree	18 (13.7)
Agree	31 (23.7)
Undecided	24 (18.3)
Disagree	43 (32.8)
Strongly disagree	15 (11.5)

Table 4: Factors influencing the perception of caesarean section amongst pregnant women attending antenatal clinic in UBTH.

Variables	Frequency (n=131), N (%)
Inadequate information on caesarean section	
Yes	89 (67.9)
No	42 (32.1)
Husband's preference for vaginal delivery	
Yes	78 (59.5)
No	53 (40.5)
Financial constraints	
Yes	85 (64.9)
No	46 (35.1)
Fear of death during surgery	
Yes	89 (67.9)
No	42 (32.1)
Cultural and religious beliefs	
Yes	72 (55.0)
No	59 (45.0)

DISCUSSION

This study was conducted to assess women's knowledge of caesarean section and its complications. Most respondents (91.6%) correctly identified caesarean section as a surgical procedure used to deliver a baby through incisions in the abdomen and uterus. About 66% correctly identified caesarean section as a method of delivery when complications arise during childbirth that may endanger mother or baby. About a third of the respondents (33.6%) did not believe a woman can have vaginal delivery after caesarean section. Even when caesarean section is recommended by a health care provider, 7.6% of the respondents would strongly disagree with the procedure. About half of the respondents (44.1%) were favourably disposed to caesarean section. Infection, bleeding and anaesthetic injuries were recognized as possible complications of caesarean section.

The knowledge of caesarean section procedure and its peculiarities are important in obstetric practice. A woman who is already well informed about caesarean delivery may easily give consent for the procedure compared to those that are naïve. This is very important in emergency situations where urgent delivery is required with no much time to explain the procedure in details to the woman. In this study, most respondents (91.6%) correctly identified caesarean section as a surgical procedure used to deliver a baby through incisions in the abdomen and uterus. About 66% also identified the importance of the procedure in preventing maternal and foetal complications. Another area of knowledge gap is awareness of possibility of vaginal birth after caesarean section and this may affect uptake of the procedure. As seen in this study, some respondents were not aware of vaginal birth after caesarean section. This data highlights the need for targeted education on less commonly understood aspects of caesarean sections, such as trial of labour after caesarean section. There should be prenatal education programs to address these specific gaps and reduce associated fears and misconceptions. In a previous study, a good number of respondents had good knowledge of the procedure thought there are contrasting results from other related studies.[4-9]

Factors affecting uptake of caesarean section were also identified in this study. One concern for respondents was safety of the procedure. Caesarean births are now relatively safe but women may still refuse the procedure when indicated because of fear of death as seen in this study. Also, some women are even stigmatized for delivering their babies in an 'unnatural' way. This may affect uptake of the procedure despite adequate knowledge. The effect of society, culture and tradition on caesarean delivery cannot be overemphasized. About half the respondents were favourably disposed to caesarean section. Similar to other studies, financial constraint, fear of death and cultural factors had a negative impact on the potential uptake of caesarean section.[10,11]

Caesarean delivery could sometimes be associated with complications. Knowledge of these complications is important as it helps to reduce associated anxiety when they occur. Moyor complications are quite avoidable in the hands of skilled health care providers. This may be a source of concern to women who may deliberately refuse the procedure when indicated because of perceived complications which could be real or false. Education would play a vital role in bridging this knowledge gap. About two-third of respondents correctly identified complications of caesarean section such as infection, bleeding and anaesthetic injury. It is important to inform women of these complications when counseling them for this procedure. With the availability of antibiotics and presence of skilled surgeons and anesthetists, these complications are not commonly encountered. In a related study, 12.6% of the respondents had a good knowledge of the complications of caesarean section.[12] Failure of the health care provider to counsel the pregnant women appropriately regarding the complications of caesarean section may make the patient to seek information from other sources. Such information may not be correct which may further encourage fear and resentment of the procedure with its attendant adverse maternal and foetal consequences.

This study should be commended for its prospective nature and its sample size. It is however not without limitations. It is a hospital-based study which may not be a true reflection of the community perception and knowledge of caesarean delivery. It is also a single centre experience which further limits its generalizability.

CONCLUSION

While a majority of respondents are aware of what caesarean section entails, there are misconceptions about the procedure. Key barriers to uptake of caesarean section were inadequate information, cultural influences and financial concerns. Complications of caesarean section identified by respondents were infection, bleeding and anaesthetic injuries. Empowering women in their childbirth choices requires addressing these challenges through targeted education which could lead to better understanding of caesarean delivery. Community engagement in a culturally sensitive manner will also be helpful in addressing these challenges.

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