# The experience of women following caesarean section in a tertiary hospital in SouthEast Nigeria

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## Abstract

**Objective:** To explore maternal experience following caesarean section.

Methods: The study was a cross-sectional prospective study involving 250 women.

**Results:** The mean age of the study population was  $27.2 \pm 5.5$  years with fifty-three per cent (53.1%) of the women between the ages of 20-29 years. Majority of the participants (67.1%) were multiparous and 37.4% of the parturient had secondary school education. The majority (67.1%) were in social class 3-5. Emergency caesarean section accounted for 74.5% of the caesarean section and the commonest indication was foetal distress. One hundred and forty-four participants (59.3%) were satisfied with their caesarean section experience which was significantly associated with health care attention and foetal outcome. More than half of the study population would not accept caesarean section when indicated in a future pregnancy. The health care attention [AOR 0.53, 95% CI (0.32, 0.88)] and maternal age [AOR 3.05, 95% CI (1.43, 6.49)] were significant predictors.

**Conclusion:** Majority of the women were satisfied with their caesarean section experience which is influenced by the hospital care and foetal outcome. Improvement in maternal caesarean section experience through quality health care is important in increasing uptake when indicated.

Keywords: caesarean section, maternal experience, acceptance of caesarean section

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# Introduction

Caesarean delivery is one of the major surgical operations performed in obstetric practice. It is carried out to achieve the noble goal of the delivery of a healthy baby to a healthy and satisfied mother. Even though the World Health Organization (WHO) recommended that caesare-

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Chidebe C Anikwe, Department of Obstetrics & Gynaecology, Federal Teaching Hospital Abakaliki, Ebonyi state. Tel: (+2348064165965) Email: drchideanikwechristian@gmail.com an section rate should be between 10-15% to avoid harm to the obstetric population<sup>1</sup>, the rate is increasing globally<sup>2</sup>. However, in Africa, there is still unmet need of caesarean section<sup>3</sup> with the attending adverse obstetric outcome. In Nigeria, there is a regional and hospital-based variation of its incidence with incidence rates ranging between  $10.4\%-27.6\%^{4-10}$ .

Caesarean section is not without its complications, but improvement in the surgical procedure, anaesthesia and blood banking services has helped in reducing markedly the morbidity and mortality associated with the procedure. In our environment, the majority of caesarean delivery are emergently performed in un-booked client<sup>4-8, 10</sup>, with increased obstetric complications. Apart from medical complications, there are social, economic and psychological implications of abdominal delivery<sup>11</sup>. Abdominal

African Health Sciences delivery is despised by women in our culture independent of the level of education<sup>12</sup>. This could drive a woman to strive to achieve vaginal delivery at all cost to prove her "womanhood"<sup>13</sup>. The increased cost of abdominal delivery could also lead to a run-away father (in those who cannot afford it) as payment of hospital bill is regarded as a social responsibility of the husband<sup>14</sup>.

Childbirth is a sentinel event in a woman's life which she either treasures or abhors with disdain. It becomes more important with caesarean delivery as it has been reported of its negative correlation with childbirth experience<sup>11</sup>. Maternal experience of childbirth influences her choice of health care in subsequent pregnancies<sup>15</sup>, and as an average family size in Nigeria was estimated to be 5.116, it becomes important that caesarean section experience is evaluated. Assessment of maternal childbirth experience also helps in auditing the care provided as this enquiry X-rays the "tripod" of childbirth satisfaction<sup>17</sup>. The aim of this study is to determine the maternal experience following caesarean section in our hospital and the factors influencing it. It will also help to determine the maternal attitude to future acceptance of caesarean delivery when indicated in her future obstetric endeavour. The findings from this study would help in auditing of care in our centre and in counselling and education of our obstetric population.

#### Methods

#### Study background

This cross-sectional prospective study was carried out in the obstetric department of Federal Teaching Hospital, Abakaliki, Ebonyi State. Ebonyi State is one of the states in the southeast geopolitical zone of Nigeria and was created in 1996 from the old Enugu state. It has a total land mass of 5,533km<sup>2</sup> and a population of about 1.7 million according to 2006 Nigeria census. It has 13 local governments, one urban, one semi-urban and others are rural. The major occupation of the population is farming. Federal Teaching Hospital, Abakaliki is the only teaching hospital in the state receiving a referral from private and mission hospitals in the state and from neighbouring states. The department of obstetrics and gynaecology is managed by 27 consultants and Resident Doctors with help of trained nurses. The average delivery rate in the unit was 245 deliveries per month in 2016. The caesarean section rate was 20% of all deliveries in 2016 and more than 70% of caesarean section in the hospital was emergency operation. Ethical approval was obtained for the study from the Research and Ethics committee of the hospital.

#### Sample size/study population

The sample size for the study was calculated using the formula for cross-sectional study at an estimated population of 16.4%<sup>5</sup>, the acceptable error of 5% at a confidence level of 95% and after 10% attrition rate was added. The sample size was increased to 250 from 231. The study population was recruited in the postnatal ward of the hospital between January 2016 and 31st December 2016. They were women who consented to participate in the study and were recently delivered by caesarean section within the previous five (5) days. An exit interview was performed. The questionnaire was administered by a trained research assistant who read the questions (sometimes translating the questions into the Igbo language for those who are not literate enough to understand the English language) to them and chose the answers based on their response. Relevant information was also obtained from the patient case note. They were interviewed on day 4 or 5 postoperatively using a semi-structured questionnaire. The questionnaire, adapted from a previous study<sup>18</sup> with modification, was composed of two parts: socio-demographic/ obstetric characteristics of the women and 20 satisfaction related variables which came up with a high internal consistency (Cronbach's alpha=0.82). The satisfaction variables were grouped into four categories: healthcare (four questions); health workers communication (six questions); attitude of the health workers (six questions) and the hospital physical environment (four questions). The maternal assessment of caesarean section experience was evaluated using four-point Likert Scale of strongly agree, agree, disagree and strongly disagree. Those that strongly agree or agree are grouped as satisfied with care while those that disagree or strongly disagree are classified as dissatisfied.

To assess women's overall satisfaction with the quality of hospital care, the summary section of the questionnaire contained three indicators which included one direct and two indirect summary questions asked against the background of women's responses to previous enquiries on the various aspects of hospital care. It would be expected that this "overall satisfaction" variable would reflect women' overall perception of the quality of care received. This variable was determined by respondents' affirmative answers to these three questions: "Would you register at the facility again? Would you recommend the facility to somebody else?" and "In general, are you satisfied with the care you have received in the hospital?" For the purpose of this study, an affirmative answer to all of the three questions by respondent was considered an index of true maternal satisfaction with care received. Some of the data obtained from the case note include booking status, indication for the surgery, neonatal outcome and post-operative care. The social class of the study population was determined based on the social class classification of Olusanya et al.<sup>19</sup>. The educational level of the women and the occupation of the husband were used in the classification. They were graded into social class 1 to 5.

#### Data analysis

The data were analysed using IBM SPSS statistic 20 software (IBM Corp., Armonk, NY, USA). Simple percentages, Chi-square ( $X^2$ ) and logistic regression were used for categorical variables. The test of significance was at 0.05. Some of the data obtained were re-classified for easy analysis. The social classes were re-classified into upper and lower class: social class 1 to 3 as an upper social class while social class 4 and 5 as lower social class.

#### Results

A total of 250 consenting parturients were interviewed and 243 responded to all items in the questionnaire, giving a response rate of 97.2% and form the basis for the analysis. The remaining 2.8% could not complete the study due to challenges of caring for their baby in the newborn unit.

In table 1, one hundred and twenty-nine women (53.1%) were within the age range of 20-29 years with mean age of 27.2  $\pm$  5.5 years. One hundred and sixty-three participants (67.1%) were multiparous. Ninety-one (37.4%) of the parturient had secondary education, 30.9% had a tertiary education while 17(7.0%) had no formal education. The majority (60.0%) were in social class 3-5 while 42(17.3%) were employed. One hundred and seventy-nine (73.7%) were residing in rural communities. The participants were all Christians and of Igbo ethnic nationality. Figure 1 below shows that majority 181(74.5%) of the caesarean sections performed within the study period were emergencies while 62(25.5) were electives.

**Table 1:** Socio-demographic characteristics of the parturient that had caesarean section at our facility

Variable	Frequency	Percentage (%)
<20	32	13.2
20-34	46	18.9
25-29	83	34.2
30-34	45	18.5
> 35	37	15.2
Parity		
Primipara	80	32.9
Multipara	163	67.1
Social class		
1	35	14.4
2	62	25.5
3	43	17.7
4	30	12.3
5	63	25.9
Educational level		
No formal education	17	7.0
Primary	60	24.7
Secondary	91	37.4
Tertiary	75	30.9
Occupation		
Government employed	42	17.3
Not government employed	197	81.3
Place of residence		
Urban	64	26.3
Rural	179	73.7

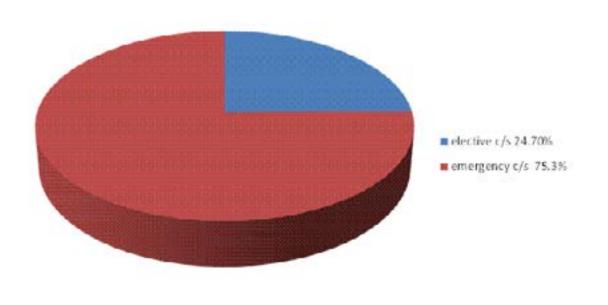


Figure 1: Types of caesarean section

Figure 2 shows that the common indications for caesarean section were foetal distress (19.8%); two or more previous caesarean section (16.5%), obstructed labour (12.3%), and one previous caesarean section coexisting with other morbidities (10.3%). Table 2 presents the proportion of respondents satisfied with each of the 20 items Majority (216, 88.9%) were satisfied with the time spent with the health care provider. Majority of the respondent was satisfied with medical care and care received from doctors. More than 50% of the respondent was of the view that nursing's care was inadequate. Less than one – third of the study population was dissatisfied with the pain man-

agement they received following caesarean section. On the health worker communication to the respondent, the majority express dissatisfaction with the explanation of their clinical condition (133, 58.4%), provider explanation of drugs administered (177, 72.8%) and information that was given to them at discharge (151, 62.1%). On the health worker attitude to the respondent, the majority of the respondents are of the view that doctors and nurses are courteous and respectful to them during their stay in the hospital. However, they felt dissatisfied (146, 60.1%) with the attitude of the staff to their family. Majority of the respondents are dissatisfied with the quality of the meal (175, 72.0%) and hospital cleanliness (132, 54.3%).

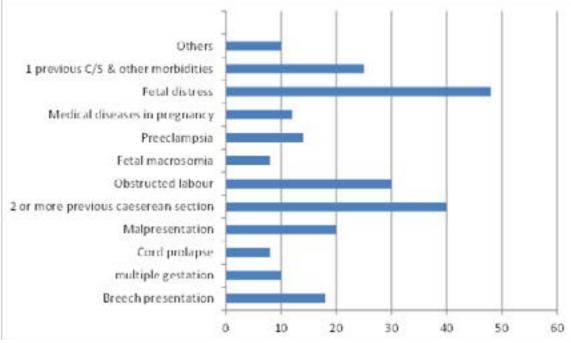


Figure 2: Indications for caeserean section

Table 2: Mothers	level of satisfaction	(n=243)
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Variables	Satisfied (%)	Dissatisfied (%)
Health care		
Time spent with provider	216(88.9)	27(11.1)
Medical care received today	198(81.5)	45(18.5)
Care received from medical	105(43.2)	138(56.8)
staff		
Waiting time to see a	147(60.5)	96(39.5)
provider		
Pain control	78(32.1)	165(67.9)
Health workers communication	on	
Provider explained your	110(41.6)	133(58.4)
condition		
Provider explained about	66(27.2)	177(72.8)
drug		
Doctors listen to your	189(77.8)	54(22.2)
worries		
The nurse listens to your	96(39.5)	147(60.5)
worries		
Information about procedure	159(65.4)	84(34.6)
& exam		
Information at discharge	92(37.9)	151(62.1)
Health workers attitude		
Courtesy, respect by Doctor	178(73.3)	69(26.7)
Courtesy, respect by nurse	156(64.2)	87(35.8)
The way staff treated you	221(90.9)	22(9.1)
The way staff treated family	97(39.9)	146(60.1)
or companion		
Acceptance of opinion by	88(36.2)	155(63.8)
staff		
Hospital Environment		
Amount of freedom in the	221(90.9)	22(9.1)
ward		
Amount of privacy in the	56(23.0)	187(76.9)
ward		
Quality of meal	68(27.9)	175(72.0)
Facility cleanliness	111(45.7)	132(54.3)

As shown in table 3, one hundred and forty-four (59.3%) of the participants had a satisfactory experience following the caesarean section. Two hundred and thirty-one (95.1%) of the participant agreed that they were well informed before the surgery while seven (2.9%) were not well informed. Also, 207(85.2%) of the participants described their health care attention as "always" while 12(4.9%) felt they "seldom" received adequate attention. Thirty-six (14.8%) of the participants had stillbirth giving a perinatal mortality rate of 148/1000 live birth. The health care attention (P<0.001) and the neonatal out-

come (P<0.005) were significantly associated with the overall experience of the respondents. Table 4 shows that 127(52.3%) of the study population would not accept caesarean section in the subsequent obstetric endeavour. Logistic regression model shows the adjusted Odd ratio for acceptance of caesarean section in subsequent pregnancy according to socio-demographic variables, maternal experience and foetal outcome. There was a significant association when the model was adjusted for age (AOR 3.05, 95%CI (1.43, 6.49); P=0.02) and maternal experience (AOR 0.53, 95%CI (0.32, 0.88); P=0.01).

Table 3: Relationship between	footal matarna	l variables and	motornal ornarianaa
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Variable	Maternal experience					
	Satisfied (%)	Dissatisfied (%)	Total	X <sup>2</sup>	P value	
Social class						
Upper	55(53.9)	47(46.1)	102			
Lower	89(63.1)	52(36.9)	141	2.074	0.15	
Total	144	99	243			
Age						
< 35	118(57.3)	88(42.7)	206			
> 35	26(70.3)	11(29.7)	37	2.09	0.13	
Total	144	99	243			
Informed consent						
Yes	137(59.3)	94(40.7)	231			
No	7(63.6)	5(36.4)	11	0.05	0.814	
Total	144	99	243			
Previous history						
Yes	54(60.0)	36(40.0)	90	0.03	0.85	
No	90(60.8)	63(39.2)	153			
Total	144	99	243			
Type of C/S						
Elective	40(64.5)	22(35.5)	62			
Emergency	104(57.5)	77(42.5)	181	0.92	0.33	
Total	144	99`	243			
Health care attention						
Always	131(63.3)	76(36.7)	207			
Often	12(48.0)	13(52.0)	25	10.74	0.001*	
Seldom	1(8.3)	11(91.7)	12			
Total	144	99`	243			
Fetal outcome						
Alive	128(66.0)	79(34.0)	207			
Dead	16(32.7)	20(67.3)	36	3.84	0.005*	
Total	144	99	243			

 $X^2$ = Chi-square, \* statistically significant Health care attention and foetal outcome significantly determined if the participant was pleased with her surgical experience

	Acceptance of subsequent C/SAccept (%)Do not accept (%)		OR (CI)	P value
Variable				
Social class				
Upper class	60 (56.6)	46(43.4)	2.17(0.16-0.48)	0.23
Lower class	67 (48.9)	70(51.1)		
Educational status				
Educated	79(47.6)	87(47.7)	1.2(0.72-2.01)	0.49
Uneducated	48(49.5)	49(50.5)		
Age(years)				
< 35	116(56.3)	90(43.7)	3.05 (1.43-6.49)	0.02*
> 35	11(29.7)	26(70.3)		
Place of residence				
Urban	40(62.5)	24(37.5)	1.60(0.89-2.89)	0.11
Rural	87(50.9)	84(49.1)		
Maternal experience				
Satisfied	66(45.8)	78(54.2)	0.53(0.32-0.88)	0.01*
Dissatisfied	61(62.6)	38(38.4)	. /	
Fetal outcome	. /	· /		
Alive	106(51.2)	101(48.8)	0.75(0.37-1.53)	0.43
Dead	21(58.3)	15(41.7)	. /	

Table 4: Relationship between subsequent caesarean section acceptance with social	
demographic variables, maternal experience and foetal outcome	

OR: odd ratio, CI: confidence interval. \* Statistically significant

#### Discussion

This cross-sectional study was embarked upon to determine the maternal experience following caesarean section and the factors influencing it. It was able to highlight the contribution of service delivery to the overall experience and its influence on future acceptance of caesarean delivery in the future obstetric endeavour. Among the 243 respondents, the majority had an emergency caesarean section. This is in conformity with another finding in Nigeria that shows that the majority of caesarean section are emergency in nature<sup>4-8,10</sup>. Late presentation to the hospital is one of the reasons as the majority of the patient that was delivered by emergency surgery were unbooked. Delivery under skilled birth attendant is low in Africa compared to the developed world and this also is a contributing factor<sup>20</sup>. The commonest indication for caesarean section in our study is foetal distress. This is similar to the finding in Ogbomoso<sup>14</sup> but differs with the majority of studies in Nigeria<sup>5,6,8,9,10,21</sup>. In these studies, cephalopelvic disproportion obstructed labour and previous caesarean section was the commonest indication. This difference could be as a result of the caesarean section being performed on account of presumed foetal distress as the diagnosis was only clinical. "Obstetrician distress" might be a contributing factor.

Our study showed that 59.3% of the study population described their overall experience as satisfactory as against 40.7% who had an opposite view. The maternal satisfaction recorded in this study is low compared to other studies in Nigeria<sup>22</sup>, Iran<sup>23</sup> and Ethiopia<sup>24</sup>. This difference could be accounted for by the strong aversion for caesarean section in our culture<sup>25</sup> with many obstetric clients regarding vaginal delivery as the preferred route of delivery<sup>14</sup>. The difference in study population could also account for the difference as the majority of the respondent in one of the above study were booked and were satisfied with the quality of antenatal care received prior to surgery. Our finding, however, is comparable to the work of Owonikoko et al14 in Ogbomoso, Nigeria that reported a caesarean section satisfaction rate of 61.5% among the study population. The health care attention and foetal outcome were the only foeto-maternal variables that contributed significantly to the overall maternal satisfaction. This finding is in keeping with the influence of "process" and "outcome" according to Donabedian<sup>17</sup> to childbirth satisfaction in developing countries<sup>26</sup> such as Nigeria. Majority of the study population described their health care attention as "always" and this emphasizes the importance of the adequate client-provider relationship to childbirth care satisfaction. It is also apparent from our study that the majority of the respondent was dissatisfied with pain management, information about drugs given, hospital cleanliness and quality of the meal. Support for these findings in our study was seen in the work of Melese et al.<sup>18</sup> in Ethiopia, therefore adequate attention needs to be paid to these factors in the study area so as to increase maternal satisfaction. Improvement in nurses communication to the clients and provision of adequate privacy to clients are necessary to increase satisfaction. It does appear from the study that maternal experience following caesarean section is not significantly influenced by age, social class, type of caesarean section, and previous history of caesarean section. These findings are not in agreement with the work of Enabudoso et al.<sup>22</sup> that showed that these variables are a significant contributor to maternal satisfaction. The difference in study population might be responsible for this as the majority of our respondent are unbooked and had a failed attempt at vaginal delivery. They accepted the caesarean section as a last resort and were probably disappointed.

Childbirth satisfaction influences maternal obstetric behaviour<sup>15</sup> which becomes more important in women with a scarred uterus. Skilled birth attendance in the future obstetric endeavour is important in preventing the associated increased complication. In this study, 52.3% of respondent would not accept caesarean section if medically indicated in future. This percentage is higher than the finding by Olofinbiyi et al.27 in Ekiti, Nigeria. The high rate of refusal noted in our study is worrisome as it may be associated with increased complication<sup>25</sup>. This could be related to unsatisfactory experience by the women or attributed to the general dislike to abdominal delivery that has been reported in the study area<sup>12</sup>. This study showed that only the maternal satisfaction and age was a significant contributor to future acceptance of caesarean section. A respondent who was dissatisfied with caesarean section experience is half times more likely to reject caesarean section when offered in subsequent obstetric endeavour when compared to those who are satisfied(OR 0.53 95% CI [0.32,0.88]). This highlighted the importance of increasing caesarean section satisfaction and right perception as this might improve its acceptance in Nigeria. This is important in reducing the adverse obstetric outcome associated with refusal of repeat caesarean section

in our environment<sup>25</sup>. According to our study, maternal age has a strong influence on future acceptance of caesarean section with women less than 35 years having increased odds of such acceptance. Evidence has shown that women less than 35 years of age have an adequate understanding of the role of caesarean section to Safe Motherhood and are willing to its acceptance when indicated in future obstetric care<sup>14,27</sup>. It should also be noted that the level of education, social class, and the foetal outcome did not significantly contribute to future acceptance of caesarean section in this study. This is in keeping with earlier findings that this refusal is routed on a culturally biased misconception of the place of caesarean section to safe delivery<sup>27,28</sup>. Caesarean delivery is then regarded as a reproductive failure with the "unfortunate woman" being rejected by the family and community. These harsh realities would drive a woman with a scared uterus to do anything humanly possible to prove her "womanhood" and sometimes to her own peril<sup>25</sup>. Girl child education, women empowerment, community education/re-orientation, and appropriate corrective action in the areas of religious and cultural beliefs will positively influence our women's acceptance of a repeat caesarean section.

## Conclusion

The level of maternal satisfaction recorded in our study is encouraging but a lot has to be done to improve it. The quality of health care delivery is paramount to childbirth satisfaction as it is made evident in our study. This finding has important implications for hospital managers, government and non-governmental agencies involved in health care delivery. There is a need to organise training and re-training of health care personnel on the critical importance of quality service delivery in the health care industry. Improvement of maternal satisfaction, in addition to addressing socio-cultural factors, might contribute positively to attitudinal change towards caesarean delivery in our environment.

# Declarations

# Ethics approval and consent to participate

Ethical approval was obtained for the study from the Research and Ethics committee of the hospital and only consented mothers were recruited for the study.

# Consent for publication

Not applicable.

## Availability of data and material

All data generated or analysed during this study are included in this published article.

## **Competing interests**

The authors declare that they have no competing interests.

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Funding for this study was borne by the authors.

## Authors' contributions

CCE: conceptualized the study and participated in the interpretation of finding. CCA: participated in the study design, data analysis, interpretation of finding and drafting of the manuscript. JOE and CCI: participated in the interpretation of findings and data analysis. ENB: participated in study design, interpretation of findings and drafting of the manuscript. SAI: participated in the interpretation of findings and drafting of the manuscript. NNE: supervised data collection and analysis. All the authors approved the manuscript.

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