

Knowledge of Caesarean Section among Antenatal Attendees in a Tertiary Hospital, South-South Nigeria

*Obarisiagbon OE,¹⁻³ Obi AI¹⁻³

ABSTRACT

A caesarean section is an effective surgical intervention to deliver a baby when a vaginal delivery is not possible or safe for the mother or the baby. Accessibility to emergency obstetric care services including caesarian section, when indicated, is essential for reducing maternal and neonatal deaths. To assess the knowledge of caesarean section among antenatal attendees in the University of Benin Teaching Hospital, Benin City, Edo State. A quantitative descriptive cross-sectional study was conducted among 409 pregnant women selected using a simple random sampling technique. Data was obtained with interviewer-administered questionnaires and analyzed with IBM SPSS version 25.0, with a statistical significance set at $p < 0.050$. The mean age of respondents studied was 30.6 ± 5.1 years. Majority of the respondents studied 359(87.8%) were aware of the term Caesarean section. Two hundred and ninety-nine (73.1%) and 110(26.9%) of the respondents had good and poor knowledge of caesarean section respectively. Level of education [OR = 0.311, 95% CI= 0.139-0.696, $p = 0.004$] of respondents was a significant determinant of knowledge. Majority of the respondents had good knowledge of caesarean section. Health workers should educate pregnant women on the merits of and indications for caesarian section.

Keywords: Caesarian section, knowledge, pregnant women, antenatal clinic

INTRODUCTION

Neonatal and perinatal mortality in low-and middle-income countries is a matter of concern. This is because, in the year 2015 alone, almost half (2.7 million) of the 5.9 million under-five deaths occurred during the neonatal period.¹ Yearly, 18.5million caesarean births are recorded worldwide, this caesarean rate constitutes an average of 19.1% of total births with great variations across the geographic regions, 3.6% caesarean section in sub-Saharan Africa.²

Neonatal and perinatal deaths are closely related to the quality of care a woman receives during pregnancy and labor. Therefore, accessibility of emergency obstetric care services including caesarean section when indicated is essential for reducing these deaths.³ It is estimated that

improved care at birth has the potential of preventing 1.3 million stillbirths within these regions by the year 2021, especially since the majority of the causes of stillbirths are preventable.⁴

In developing countries, inadequate knowledge of caesarean section and the role it plays in the health and safety of both mother and baby contributes to the rejection of this mode of delivery by many pregnant women. This results in underutilization of the procedure compared to the large number of complications in pregnancy requiring intervention by caesarean section. Caesarean section acceptance remains low due to lack of correct knowledge, and lack of proper counselling of women during Antenatal care.⁵

In sub-Saharan Africa, delivery by caesarean section is viewed as a reproductive failure by many people. When a woman delivers through caesarean section, the mode of delivery is usually not disclosed, because the woman is ashamed of being labelled a weakling. It is a popular perception that women can achieve vaginal delivery with a skilled traditional birth attendant taking the delivery. Most families in Nigeria do have a negative perception regarding caesarean section. They see vaginal delivery as a strength of womanhood.⁶

Department of Public Health and Community Medicine,¹University of Benin, Benin City, PMB 1154, Edo State, Nigeria

Department of Public Health and Community Medicine,^{1,2} University of Benin Teaching Hospital, Benin City, PMB1111, Edo State, Nigeria.

Centre of Excellence for Reproductive Health Innovation (CERHI),³ University of Benin, Benin City, Edo State, Nigeria.

*Corresponding author: otaniyenuwa.obarisiagbon@uniben.edu
Date manuscript was received: 13/6/2023
Date manuscript was accepted: 23/7/2023

In a study carried out among 200 pregnant women in Enugu State, 134(67%) of the women interviewed, were of the view that vaginal delivery makes them more of a woman.⁷ Vaginal delivery is regarded as the ideal and a status symbol of womanhood; therefore, women who have had a caesarean section might feel the loss of the idealized birth they had hoped for, loss of part of their womanhood, and live in fear that other women may ridicule them.⁸

A significant number of maternal morbidity and mortality are associated with failure to accept caesarean section as a mode of delivery. A lot of pregnant women with contraindications to vaginal delivery turn to traditional birth attendants and attempt a vaginal delivery, leading to fatal outcomes for both mother and baby. As often as one thousand times a day, women die while giving birth. Many of which occur due to the refusal of caesarean delivery in some low resource settings.⁹ This study was conducted to assess the knowledge and determinants of caesarian section among antenatal attendees attending antenatal clinics in UBTH, Benin City, Edo State, Nigeria.

METHODOLOGY

This quantitative study was carried out in the University of Benin Teaching Hospital, Benin City, Edo State, from June 2020-July 2021. Edo State is one of the 36 States of the Federal Republic of Nigeria and located in the South-South geopolitical zone of the country (6°30'N 6°00'E).¹⁰ Edo State was created in 1991 out of the defunct Bendel State with Benin City as its capital.¹⁰ Edo State has a total of 18 Local Government Areas.¹⁰

A descriptive cross-sectional study was conducted involving a sample size of 409 pregnant women, calculated using the Cochran formula for sample size determination based on prevalence of 40.5% from a previous study.¹¹⁻¹²

A simple random sampling technique (by balloting) was used to select participants for this study. Sequential numbers were assigned to the participants as they presented at the antenatal clinic. The required number of

respondents for each day were drawn randomly from a ballot. The selected pregnant women that are were to participate in the study were recruited and the questionnaires were administered to them.

An interviewer-administered questionnaire was the tool for data collection, with pre-test conducted at Faith Mediplex, Nigeria. Data obtained was assessed for completeness, coded, subsequently entered and analyzed using IBM SPSS version 25.0 statistical software.

Knowledge of caesarean section was assessed with 7 questions. Each correct response was given a score of 1. The minimum score attainable was 0 while the maximum score attainable was 7. Respondents' scores were computed into percentages. Good knowledge: respondents with scores greater than or equal to 50.0%. Poor knowledge: respondents who scored less than 50.0%.

Ethical approval was obtained from the Ethical Committee of the University of Benin. The ethical protocol number is CMS/REC/2021/176. Written informed consent was obtained from the respondents. Names and addresses of respondents were omitted to ensure confidentiality.

RESULTS

In relation to the socio demographic characteristics of the respondents studied, (Table 1) The mean age (SD) was 30.6 ± 5.1 and married women accounted for 380(92.9%) of the respondents. Respondents who were unmarried (cohabiting) 28(6.8%), and 1(0.2%) was divorced. Most of the respondents 152(37.2%) fell within the age group of 26-30 years while the age group of 41-45 years accounted for the least number 13(3.2%) of respondents. Christians accounted for 373(91.2%) of the respondents.

The majority 225(55.0%) of the respondents had a tertiary level of education followed by those with a secondary level of education 106(25.9%). The majority of the women, 151(36.9%) fell into skill level 1 and women earning between ₦20,000-30,000 accounted for a higher proportion 144 (35.2%).

The majority 323(79.0%) of the respondents had 1-4 previous deliveries followed by those with no previous delivery 64(15.6%). The majority of the women, 270(66.0%) delivered via vagina in their last delivery and most of them, 315(77.0%) had their last delivery in a health facility.

In table 2, majority 359(87.8%) of the respondents were aware of caesarean section and most of them 142(39.6%) heard of it from a friend. Hospital and social media were also major sources of information accounting for 115(32.0%) and 66(18.4%) respectively.

Regarding knowledge of caesarian section, majority 348(96.9%) of the respondents knew the correct meaning of caesarean section, 319(88.9%) had knew a caesarean section patient 164(51.4%). Majority of the respondents, 330(91.9%) agreed that there are instances where caesarean section is done. Over half of the respondents cited prolonged labor 187(56.7) and 273(76.0%) of the respondents believed that caesarean section was done to save the life of the baby (Table 3).

A majority 299 (73.1%) of the respondents had a good knowledge of caesarean section while 110 (26.9%) had poor knowledge of caesarean section. (Figure 1).

In relation to factors associated with knowledge of caesarean section, increasing level of education was significantly associated with increasing knowledge of caesarean section (p = 0.001) Age group of respondents (p=0.132), marital status (p=0.363), monthly income p=0.268) and parity (p=0.129) were not significantly associated with knowledge of caesarian section (Table 4).

With respect to determinants of knowledge of caesarean section, increasing level of education among respondents was a significant determinant for knowledge of caesarean section. Respondents with no formal education, primary and secondary level of education were 0.156 times (95% CI= 0.010-2.349, p = 0.180), 0.053 times (95% CI = 0.013-0.211, p = 0.001), 0.053 times (95% CI = 0.139-0.696, p = 0.004) less likely respectively to have good knowledge compared to those with tertiary level of

education. Age group {OR= 0.695 (95% CI= 0.110-4.390, p =0.699}, Religion {OR=7.056 (95% CI = 0.365-136.278, p = 0.196}, Marital Status {OR=0.001 (95% CI= 0.001-0.001, p > 0.999}, Monthly income {OR=0.671(95% CI = 0.177-2.550, p = 0.558) Parity {OR=2.410 (95% CI=1.004-5.783, p=0.049 were not significant determinants of knowledge of caesarian section.

Table 1: Sociodemographic characteristics of respondents.

Variables	Frequency (n=409)	Percent
Age group (years)		
21-25	69	16.9
26-30	152	37.2
31-35	119	29.0
36-40	56	13.7
41-45	13	3.2
Mean (SD)= 30.6 (5.1)		
Marital status		
Married	380	93.0
Unmarried (Cohabiting)	28	6.8
Divorced	1	0.2
Level of education		
None	4	1.0
Primary	37	9.0
Secondary	106	25.9
Tertiary	225	55.0
Monthly income (Naira)		
Below 20,000	105	25.7
20,000-30,000	144	35.2
30,000- 40,000	95	23.2
Above 40,000	65	15.9
Number of children		
0	64	15.6
1- 4	323	79.0
Above 5	22	5.4
Mode of last delivery		
Vaginal	270	66.0
Caesarean section	75	18.3

Table 2: Awareness and source of information of caesarean section among respondents.

Variables	Frequency	Percent
Awareness (n=409)		
Aware	359	87.8
Unaware	50	12.2
Source of information*(n=359)		
Friends	142	39.6
Hospital	115	32.0
Social media	66	18.4
Television	47	13.1
Workplace	29	8.1
Radio	18	5.0

*multiple responses

Table 3: Knowledge of caesarean section among respondents.

Variab les	Frequency (n=409)	Percent
Meaning of caesarean section (n=359)		
The operation to deliver a baby	348	96.9
No idea	11	3.1
Know someone who had a caesarean section		
Yes	319	88.9
No	40	11.1
The person that had a caesarean section (319)*		
Family member	164	51.4
Friends	93	29.2
Neighbors	59	18.5
Colleagues	34	10.7
Know instances for caesarean section		
Yes	330	91.9
No	29	8.1
Indications for caesarean section (n=330) *		
Prolonged labor	187	56.7
Obstructed labor	114	34.5
Fetal macrosomia	77	23.3
Fetal distress	23	7.0
Reason doctors do CS*		
To save baby	273	76.0
To save mother	163	45.4
To make money	18	5
To save time	8	2.2
To acquire skills	6	1.7

*multiple responses

Table 4: Sociodemographic characteristics of respondents and knowledge of caesarean section

Variables	Knowledge		Chi-square Test	p-value
	Good n =299 Freq (%)	Poor n = 110 Freq (%)		
Age group(years)				
21-25	48(69.6)	21.0(30.4)	7.077	0.132
26-30	118(77.6)	34(22.4)		
31-35	90(75.6)	29(24.4)		
36-40	36(64.3)	20(35.7)		
41-45	7(53.8)	6(46.2)		
Marital status				
Unmarried (Cohabiting)	16(57.1)	12(42.9)	2.027	0.363
Married	239(62.9)	141(37.1)		
Divorced	0(0.0)	1(100.0)		
Level of education				
None	2(50.0)	2(50.0)	22.150	0.001*
Primary	10(27.0)	27(73.0)		
Secondary	93(65.0)	50(35.0)		
Tertiary	150(66.7)	75(33.3)		
Monthly income				
Below 20,000	61(58.1)	44(41.9)	3.941	0.268
20,000-30,000	85(51.0)	59(41.0)		
30,000-40,000	66(69.5)	29(30.5)		
Above 40,000	43(66.2)	22(23.80)		
Parity				
0	47(73.4)	17(26.6)	9.705	0.129
1- 4	200(61.9)	123(38.1)		
Above 5	8(36.4)	14(63.6)		

*Statistically significant (p<0.050)

Table 5: Logistic regression model for determinants of knowledge of caesarean section among respondent.

Predictors	B regression coefficient	Odds ratio	95% CI for OR		p-value
			Lower	Upper	
Age(years)					
21-25	-0363	0.695	0.110	4.390	0.699
26-30	-0.129	0.879	0.155	4.985	0.884
31-35	-0.546	0.579	0.101	3.315	0.540
36-40	-.698	0.497	0.084	2.959	0.443
*41-45		1			
Religion					
Christian	1.954	7.056	0.365	136.278	0.196
Islam	1.713	5.548	0.625	116.169	0.270
ATR	0.025	1.026	0.020	53.195	0.990
*Atheist		1			
Marital status					
Married	-22.123	0.000	0.000	0.000	>0.999
Unmarried (cohabiting)	-21.926	0.000	0.000	0.000	>0.999
*Divorced		1			
Level of education					
None	-1.855	0.156	0.010	2.349	0.180
Primary	-2.937	0.053	0.013	0.211	<0.001**
Secondary	-1.167	0.311	0.139	0.696	0.004**
*Tertiary		1			
Monthly income					
Below 20,000	-0.399	0.671	0.177	2.550	0.558
20,000-30,000	-0.553	0.575	0.178	1.855	0.354
30,000- 40,000	-0.735	0.479	0.150	1.530	0.214
*Above 40,000		1			
Number of previous deliveries					
0	-0.060	0.941	0.277	3.202	0.923
1- 4	0.835	2.304	0.843	6.300	0.104
*Above 5	0.879	2.410	1.004	5.783	0.049

*RC= Reference category CI = Confidence interval, OR = Odds Ratio **Statistically significant (p<0.050).

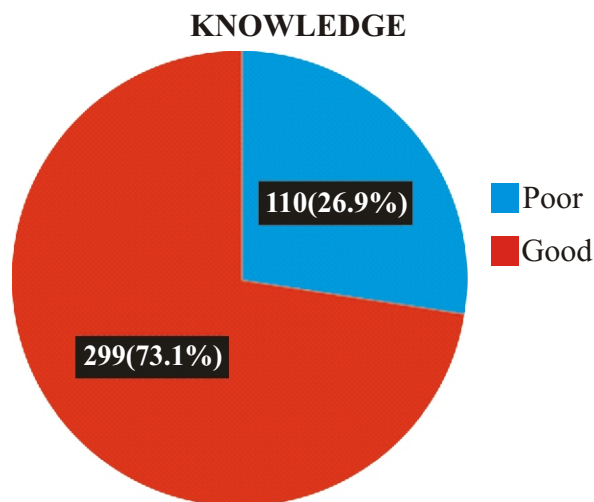


Figure 1: Composite score of knowledge of caesarean section among respondents.

DISCUSSION

The mean age of respondents in this study show that most of the respondents attending antenatal clinic in the University of Benin Teaching Hospital were in the reproductive age group. This may be because women in this age group have a better fertility profile. This age group should therefore be the major target group when interventions concerning orientation on the caesarean section are planned, optimizing opportunity for such provided during antenatal care sessions. This finding is similar to an Ogbomosho study where the mean age of respondents was found to be 31.64±6.13 and in contrast to a study carried out in Jigawa, Nigeria where the mean age of respondents was 23.5±5.6.¹³⁻¹⁴

Most of the respondents earned between 20,000 to 30,000 naira monthly, despite their tertiary level of education. This may be due to the high rate of underemployment in the country which is responsible for respondents taking up jobs where they are likely underpaid or engaged in petty trading that generates low income. Pregnant women with a low monthly income are more likely to refuse a caesarean section and are therefore more prone to perinatal as well as maternal morbidity and mortality related to conditions where caesarean sections are needed. Interventions by the government aimed towards reducing the cost of the

procedure will help increase the acceptance of this procedure when indicated. This finding is similar to a study carried out in Ogbomosho where respondents with low income were more likely to refuse a caesarean section because of the relatively high cost of the procedure.¹³

The participants' awareness of caesarean section was high, accounting for about nine-tenth of the respondents. This could be because they reside in an urban area with increased access to social media, television, medical personnel and so on. This finding is in tandem with the results of another study carried out in Jigawa, Nigeria which showed that awareness of caesarean section was very high, also accounting for about nine-tenths of the study population but in contrast to a study carried out in Tamale, Ghana where the level of awareness was low.¹⁴⁻¹⁶ However, a high level of awareness does not necessarily translate to increased utilization of caesarean section services.

The overall knowledge of caesarean section in the study was good accounting for about three-fourths of the respondents. This is in tandem with the high level of awareness of caesarean section among the respondents studied. This may be due to the reported access to information on caesarean section from friends, health talk from antenatal visits, social media and so on. Good knowledge of caesarean section may directly influence acceptance of the procedure. There is need to strengthen information dissemination by health providers where in-depth knowledge of caesarean section would be more verifiable and correct, although this study reported source of information coming from health care providers but friends contributed a higher and possible less reliable source of information. It is therefore pertinent that antenatal care should be utilized as a good opportunity for information gathering and dissemination on caesarian section. This finding is in tandem with a study done in Benin City where the overall knowledge of respondents was good and in contrast to a study done in Sudan where overall knowledge of correspondents was poor.¹⁷⁻¹⁸

Education is a very important tool for acquisition of knowledge. The level of education of the respondents may suggest the reason why the highest proportion for good knowledge of caesarean section was among pregnant women with tertiary level of education and those having partners with tertiary level of education. This may be because well-educated people are more likely to have access to correct information about caesarean section. Creating awareness using the local language easily understood by those with a lower level of education would help to increase awareness and knowledge of caesarean section among this set of respondents. This finding is similar to findings from a study carried out in Ogbomosho, Nigeria where a higher percentage of respondents with good knowledge of caesarean section had a tertiary level of education.¹⁵ Education of respondents is, therefore, key to their possible acceptance of the procedure.

More than three-fourths of respondents with poor knowledge of caesarean section were within skill level 1 and earn a low monthly income. The association between income and knowledge was found to be statistically significant and it may be attributed to the fact that respondents with a low level of education are most likely to be with this skill level and therefore earn a low income. This is similar to a study carried out in Ile-Ife, Nigeria where a high proportion of respondents with low income and skill level had poorer knowledge of caesarean section.¹⁹

CONCLUSION

Majority of respondents studied had good knowledge of caesarean section. The level of education of respondents was a significant determinant of knowledge of caesarian section. Antenatal sessions provide tremendous opportunity for health education, sensitization and clarification of health information by health care workers on the possible need for caesarian section when the need arises.

ACKNOWLEDGEMENT

We the authors express our profound gratitude to the Department of Obstetrics and Gynecology, University of Benin Teaching Hospital, the respondents and research assistants for their support and participation in conducting this research work.

CONFLICT OF INTEREST

We also declare that this entire research was fully sponsored by the authors and free from any form of competing interest.

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