

Research Article

Awareness, Attitudes and Perception of Antenatal Patients to Caesarean Section: The Jos, Nigeria Experience

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A B S T R A C T

Background: Caesarean section (CS) rates have been increasing steadily globally. Although caesarean section is becoming increasingly safe, women still have an aversion to it in our environment.

Objective: To determine the perception, knowledge and attitude of antenatal clinic (ANC) attendants in Jos University Teaching Hospital towards caesarean section as a mode of delivery.

Method: This was a descriptive cross-sectional study. A pre-tested structured questionnaire was administered to pregnant women who received care at the antenatal clinic of the Jos University Teaching Hospital between 1st December 2013 and 31st January 2014.

Results: The average age of the respondents was 29.06 ± 6.00 years. Fifty-five (24.2%) of the respondents did not know any indication for caesarean section while 172 knew at least one correct indication out of which four (1.8%) knew three correct indications for caesarean section. Caesarean section was considered to be dangerous by 55.1%. The commonest reason given was that the mother could die (47.37%). Vaginal delivery was preferred by 88.5%, 6.20% had no preference while 5.30% preferred caesarean section. The commonest reason given for preference for vaginal delivery was that it is safer (32.34%). Eleven out of 12 respondents that preferred caesarean section preferred it because the stress of labour is eliminated. The commonest reasons for aversion to caesarean section were fear of operation (48.98%), lack of finance (30.61%) and fear of being stigmatised (26.53%). There was a statistically significant relationship between income, religion and willingness to undergo a caesarean section.

Conclusion: There is a high level of awareness of caesarean delivery among ANC attendants at the Jos University Teaching Hospital. Client education is necessary to address some concerns about the safety of the operation, indications for the operation, and stigmatisation.

Keywords: Attitude, Caesarean section, Knowledge, Perception

Introduction

Caesarean delivery is defined as the birth of a foetus through incisions in the abdominal wall (laparotomy) and uterine wall (hysterotomy).¹ It is performed in the interest of foetal or maternal health and is as old as modern obstetrics.

In the past, its use was associated with high maternal mortality with a rate of 3.5 per 1000 births in the United Kingdom in 1962.² More recently, with the era of improved operative techniques, thromboprophylaxis, availability of antibiotics and blood, there has been a sharp decline of maternal death associated with caesarean section. It is however still not devoid of complications.³ Caesarean section is an important aspect of modern obstetric care that is very useful in addressing obstetric complications.^{4,5}

The World Health Organization (WHO) has reported a doubling of Caesarean section (CS) rates in the last few decades especially in high-income nations such as Australia, France, Germany, Italy, North America, Great Britain and Northern Ireland with similar trends documented in low-income countries such as Brazil, China, India and Sub-Saharan Africa.³ According to the WHO, though there is no ideal caesarean section rate, CS rates above 10-15% do not confer additional health benefits in terms of foetal and maternal morbidity and mortality and in developing countries, it has major implications on the limited health care resources.^{6,7} The caesarean section rate in the United States in 2002 was 26.1% an increase of 7% over 2001.⁸ The caesarean section rate in developing countries is not as high as that of developed countries. This is a result of poor access to the available facilities, and lack of facilities and personnel.⁹

The caesarean section rate in Sub – Saharan Africa varies with rates as high as 14% in Kenya. Some authors have suggested that the high maternal and perinatal morbidity and mortality in this sub-region may be a reflection of the low caesarean section rate.^{10,11} It is also thought that a caesarean section rate of 3.6% to 6.5% is needed to take care of obstetric complications in West Africa and that a rate of 2% should be the minimum. There are however reports of a rising rate of caesarean section in some developing countries with an incidence of 15-21% reported in some West African countries.¹² In Ghana, one hospital-based study revealed an incidence of 21.0%, this is as against 10.9% reported in the same hospital 20 years ago.¹³ In Nigeria, C.S rates of 10.5, 13.95, 25 and 34.5% have been reported from studies in tertiary hospitals in Maiduguri, Delta and Enugu states respectively.^{6,7,14} Generally, there has been a progressive rise in C.S rates in Nigeria as was documented in a multicentre study which reported a rise in C.S rates from 9.4% in the 1970s to 34.6% in 2002.¹⁵ In a study of caesarean delivery at the Olabisi Onabanjo University

Teaching Hospital, Sagamu, Nigeria, the rate increased from 10.3% in 1989-1991 to 23.1% in 2000-2003.¹⁶ In Jos, Aisen et al. conducted a study in 2002 and found the caesarean section rate to be 18%.¹⁷ Despite the increase in caesarean section rates, there is a widely held belief that women in the West African sub-region have an aversion to surgical delivery.¹⁸

In spite of its relative safety and usefulness in modern obstetric practice, caesarean section is still viewed with suspicion by most pregnant women in our society. We, therefore, sought to determine the awareness of, perceptions and attitudes towards caesarean section among our antenatal population.

Materials and Method

An interviewer-administered pretested structured questionnaire that included closed and open-ended questions already containing items on demographic characteristics and assessment of knowledge, perceptions and attitudes towards caesarean delivery was administered to women attending the Jos University Teaching Hospital's antenatal clinic from 1st December 2013 to 31st January 2014.

Details of the Method

Only pregnant women who consented to participate were recruited into the study. Verbal consent was obtained. The study was carried out from 1st December 2013 to 31st January 2014. A pre-tested structured questionnaire was administered to antenatal patients. Each morning, consenting women were assigned numbers serially as they reported at the antenatal clinic. The first registered client was picked. Every third attendant from the one picked was interviewed. Any woman that was interviewed had her antenatal card marked 'X' to avoid repeat recruitment during any subsequent clinic attendance. The women answered both closed and open-ended questions. Data collected include information on age, parity, marital status, educational background and occupation. The women were asked whether they had ever heard of Caesarean section as a mode of delivery and whether or not they considered it dangerous to the mother and/or the baby. They were also asked whether, if they had the choice, they would prefer caesarean (caesarean section on demand) or vaginal delivery and whether if it was indicated they would be willing to undergo Caesarean section. Their opinions were sought concerning the need for education on a caesarean section at the antenatal clinic as well as the need for preoperative information on the indication for the operation in each particular case. A woman was considered to be aware of caesarean section if she had ever heard about it as an alternative to vaginal delivery. Their perceptions were assessed by the concerns for the safety of CS as a

means of delivery. Their attitudes were assessed by the preference for CS as a means of delivery, willingness to undergo the operation when indicated and their desire for client education on CS at the ANC and for preoperative information on the indication for the operation.

The issue of stigmatisation was addressed. Questions pertaining to the mockery of women who have had CS in the past were also asked.

Sample Size Determination

The minimum sample size for the study was obtained using the previously reported caesarean section rate from this environment with the following formula:

$$n = p \times (1 - p) \times (Z^2 / d)^2.$$

This is the same as:

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

where: $q = 1 - p$;

$Z = 1.96$ (coefficient of Z statistics for normal distribution table);

$p =$ caesarean section rate from previous studies (18% from the study by Aisen et al in 2002);

$d =$ sampling error tolerated = 0.05.

$$n = 0.18 \times (1 - 0.18) \times (1.96)^2 / (0.05)^2$$

$$n = 0.567 \approx 227 \approx 0.0025$$

The sample size was adjusted to compensate for an attrition rate of 10%.

Therefore 10% of 227 = 22.7 \approx 23.

Minimum sample size = 227 + 23 = 250

The data collected were analysed using the SPSS statistical package version 20.0 (SPSS Inc., Chicago, IL).

Results

A total of 250 questionnaires were distributed. However, 23 questionnaires were not properly filled so 227 were analysed.

Table 1. Mean of Age, Number of Deliveries, Number of Children Alive, Number of Deliveries via Caesarean Section and Average Income

Variable	Mean	Standard Deviation (\pm)
Age (years)	29.06	6.00
Number of deliveries	1.89	1.74
Number of children alive	1.62	1.58
Number of CS	1.33	0.69
Income	6786.00	1053.92

The average age of the respondents was 29.06 \pm 6.00 and the mean number of deliveries was 1.89 \pm 1.74, while the average income per month was 6786 \pm 1053.92 (Table 1).

Table 2. Socio-demographic Characteristics of the Respondents

Age (Years)	Frequency (227)	Percent (100%)
< 20	10	4.4
20-29	112	49.3
30-39	92	40.5
\geq 40	13	5.7
Marital status		
Married	220	96.9
Separated	3	1.3
Single	4	1.8
Educational level of respondent		
Islamic	18	7.9
None	3	1.3
Primary	15	6.6
Secondary	111	48.9
Tertiary	80	35.2
Educational level of spouse/partners		
Islamic	16	7.1
None	6	2.6
Primary	12	5.3
Secondary	80	35.2
Tertiary	112	49.3
No response	1	0.4
Occupation		
Applicant	5	2.2
Artisan	14	6.2
Business	68	30.
Farmer	16	7.0
Housewife	69	30.4
Student	18	7.9
Salary employed	30	13.2
Others	7	3.1
Income of the respondents		
No income	48	21.1
< 20000	44	19.4
20000-49000	50	22.0
50000-99000	43	18.9
100000	42	18.5
Religion of the respondents		
Christianity	158	69.6
Islam	69	30.4

The age group 20 to 39 years comprised 89.8% of the respondents. Majority of the respondents were married (almost 97%). However, 1.3% were separated and another 1.8% were single. About 8% of women had Islamic education as compared to almost 49% and approximately 35% who have had some secondary and tertiary education respectively (Table 2).

49.3% of the respondent's partners had tertiary education while 2.6% had no form of education. Sixty-nine (30.4%) of the respondents are housewives, 16 (7%) are farmers and 68 (30%) are businesswomen. About 19.4% of the respondents earn less than 20,000 naira monthly, 18.9% earn between 50,000 to 99,000 naira monthly and 18.5% earn more than 100,000 monthly. Majority of the respondents (69.6%) are Christians while 30.4% are Muslims.

Awareness

All the women knew vaginal delivery and caesarean Section as a mode of delivery (100%).

Table 3. Distribution of Women by the Number of Indications for CS that They Know

Number of indications	Frequency	Percentage
0	55	24.2
1	111	48.9
2	57	25.1
3	4	1.8
Total	227	100.0

Fifty-five (24.2%) of the respondents did not know any indication for caesarean section while 172 knew at least one correct indication out of which four (1.8%) knew three correct indications for caesarean section (Table 3).

Table 4. Indications for CS known by the Respondents

Indication	Frequency (N = 172)	Percentage 100%
2 Prev Cs	2	1.2
Abnormal lie	34	19.8
APH	7	4.1
HIV/ PMTCT	4	2.3
Maternal request	6	3.5
Obstructed labour	16	9.3
Breech	24	14
Fatal distress	12	7
Prolonged labour	32	18.6
Contracted pelvis	21	12.2
Eclampsia	10	5.8
Others	4	2.3

The various indications for caesarean section known by the respondents are shown in Table 4. Note that some respondents listed more than one indication.

Perception

Assessing the perception of the respondents about how dangerous caesarean section showed that 121 (55.1%) considered caesarean section to be safe while 76 (33.5%) considered it to be dangerous. 26 (11.4%) of the respondents were undecided (Figure 1).

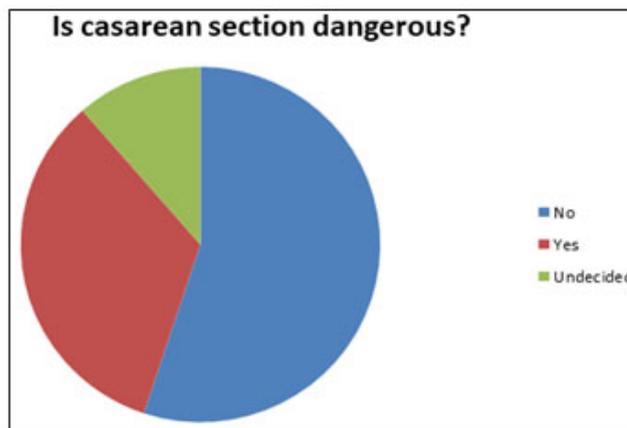


Figure 1. Perception regarding Caesarean Section

Among the 76 women that considered caesarean section to be dangerous, more women (36) attributed their fears to the possible death of the mother. Twenty women attributed their fears to possible harm to the baby while 32 women felt caesarean section was dangerous because of pain during and after the procedure (Figure 2).

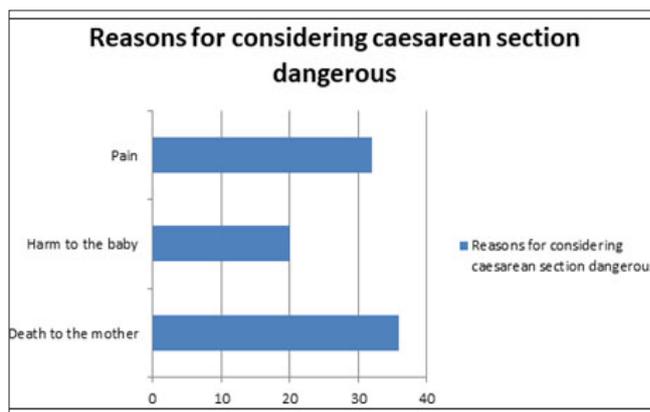


Figure 2. Reasons why CS is considered Dangerous

Note: Some women gave more than one reason.

Attitude

88.5% prefer vaginal delivery, 6.20% have no preference while 5.30% prefer caesarean section (Figure 3).

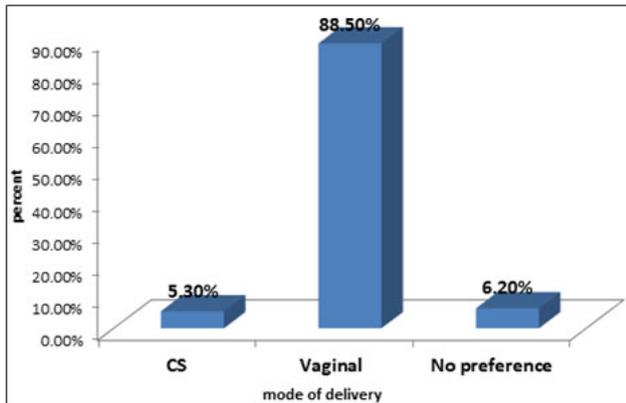


Figure 3. Preferred Mode of Delivery

Table 5. Reasons Why Vaginal Delivery is Preferred

Reason	Frequency (N = 201)	Percentage (100%)
It is cheaper	12	5.97
Fear of surgery/ don't like operation	3	1.49
Faster recovery/ short hospital stays	8	3.81
It allows a woman to give birth to many children	2	1.0
It has fewer complications	4	1.99
It is less painful	12	5.97
It is natural	31	15.42
It is safer	65	32.34
To experience it	8	3.81

The commonest reason given for preference for vaginal delivery is that it is safer (32.34%) (Table 5). Eleven (91.67%) out of 12 respondents that prefer caesarean section prefer it because the stress of labour is eliminated.

Among the interviewed respondents, 51 (22.4%) of them have had caesarean section (Table 6).

Table 6. Interview of the Respondents and Outcome after CS

Ever undergone CS?	Frequency	Percentage
No	176	77.5
Yes	51	22.4
Total	227	100.0

62.75% of the respondents that have had caesarean section were happy after the surgery because the outcome was good (healthy baby and mother) (Table 7).

Table 7. Feeling of the Respondents and Outcome after CS

Feeling and outcome after CS	Frequency	Percentage (100%)
Happy because the outcome was good	32	62.75
Unhappy because the baby died	12	23.53
Deep regret because of severe pain	1	1.96
No response	6	11.76
Total	51	100.0

Another important finding from this study is that among the 227 respondents interviewed, 160 (70.5%) of them are willing to undergo caesarean delivery if indicated, 18 (7.9%) are undecided and 49 (21.6%) are not willing even if indicated. This shows that the majority understands the importance of this procedure but a lot still needs to be done to educate women on the importance of the procedure if indicated.

The commonest reason for aversion to caesarean section is fear of operation (48.98%) followed by lack of finance (30.61%) then fear of being stigmatised (26.53%). Stigmatisation is therefore a major reason (Table 8).

Table 8. Reasons for Aversion to Caesarean Section

Reason	Frequency (N = 49)	Percentage (100%)
Fear of operation	24	48.98
Financial reasons	15	30.61
Stigmatisation	13	26.53
Prolonged hospitalisation	4	8.16
Fear of anaesthesia	2	4.08
Death of mother	11	22.45
Death of baby	6	12.25

Note that some women gave more than one reason.

Majority (83.30%) of the respondents are in support of caesarean section as an option of delivery to be incorporated into the antenatal topics to increase its acceptance (Figure 4).

Stigmatisation

Most of the women (75.3%) are not aware of stigmatisation after having a caesarean section (Table 9).

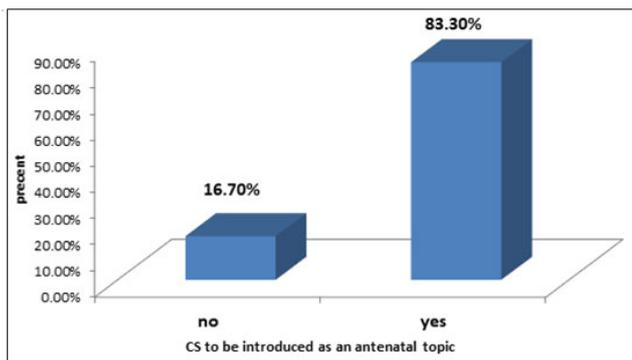


Figure 4. Respondents Desirous of Client Education on Caesarean section at Antenatal clinic

Table 9. Stigmatisation

Response	Frequency	Percentage
No	171	75.3
Yes	56	24.7
Total	227	100.0

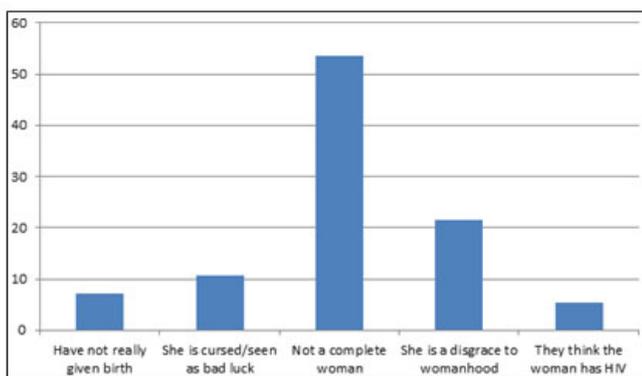


Figure 5. Misconceptions about Women who have had Caesarean Section

The commonest misconception about women who have had caesarean delivery is that people think they are not 'complete women' (53.57%) (Figure 5).

Table 10. Relationship between Income and Willingness to Undergo Caesarean Section if Indicated

Income	Willingness to Undergo CS if Indicated		
	No = 49 n (%)	Yes = 160 n (%)	Total = 209 n (%)
Low	28 (57.1)	103 (64.4)	131 (62.7)
High	21 (42.9)	57 (35.6)	78 (37.3)
$X^2 = 0.839$		$p = 0.360$	

The relationship between the income of the respondents and their willingness to undergo caesarean section if indicated was also analysed as shown in Table 10. Low income was assigned to women with income less than 50,000 naira and

high income was assigned to women with income equal to or greater than 50,000 naira. The relationship between income and willingness to undergo caesarean section was not statistically significant.

Table 11. Relationship between Religion and Willingness to Undergo Caesarean Section if Indicated

Religion	Willingness to Undergo CS if Indicated		
	N = 49 n (%)	Yes = 160 n (%)	Total = 209 n (%)
Christianity	33 (22.6)	113 (77.4)	146 (69.9)
Islam	16 (25.4)	47 (74.6)	63 (30.3)
$X^2 = 0.191$		$p = 0.662$	

The relationship between religion of the respondents and their willingness to undergo caesarean section if indicated was also analysed as shown in Table 11. The relationship between religion and willingness to undergo a caesarean section was not statistically significant.

Discussion

In this study, all the respondents were aware of caesarean section as the alternative to vaginal delivery. In a similar study done in an urban setting by Aziken et al in Nigeria, in keeping with the study by Adageba et al. in Ghana where 96% of the respondents were aware of caesarean section.²⁰

most of the respondents were also aware of caesarean section as the alternative to vaginal delivery.¹⁹ This is also

The commonest misconception about women who have had caesarean delivery is that people think they are not 'complete women' (53.57%) (Figure 5).

This study has shown obviously that caesarean section is not the preferred route of delivery in our society as shown by the fact that 88.50% prefer vaginal delivery. This finding is in agreement with most studies.^{21,22} In the study by Adageba et al. majority of the women interviewed (93.3%) preferred vaginal delivery to caesarean section.²⁰ In a similar study involving 180 pregnant women in Chile where the caesarean section rate is reported to be as high as 60% in private clinics, 77.8% of the women preferred vaginal delivery, 9.4% preferred caesarean section and 12.8% had no preference.²³ Another study in Australia involving 290 pregnant women also showed a high preference for vaginal delivery (93.5%), with only 6.4% of them preferring caesarean section.²⁴ The result of these studies are therefore similar to the result of this study which shows that majority of women still prefer to deliver their babies vaginally. Some of the reasons cited in this study for the preference for vaginal delivery are that it is natural (15.42%), safer (32.34%) and cheaper (5.97%). Out of the twelve (5.30%) respondents that preferred Caesarean section, eleven of them (91.67%) preferred CS

in order to avoid labour pain. This is similar to the findings of Adageba et al.²⁰

Correct knowledge regarding the indication for caesarean section was seen in 172 (75.8%) of the respondents. This finding is different from some other studies. However, the finding is not surprising as most of the respondents had secondary and tertiary education. More than half of the women in this study (55.1%) did not consider caesarean section as being dangerous. This is not in keeping with the finding of Adageba et al. who found that 51.7% considered caesarean section to be dangerous.²⁰ About 33.5% of the respondents in this study considered caesarean section to be dangerous. Reasons given for this perception were death of the mother, harm to the baby and pain. This is similar to the finding by Adageba et al.²⁰ The study showed that the majority of the women (70.5%) would readily undergo the operation when indicated. A higher percentage was reported in a study by Awoyinka et al. in Southwest Nigeria where the acceptability of the operation was found to be 85%.¹⁸ Adageba et al. reported an even higher percentage of 90.5%.²⁰

The relationship between income and willingness to undergo caesarean section if indicated was found not to be statistically significant. Also, the relationship between religion and willingness to undergo caesarean section if indicated was not statistically significant. This means that from this study, income or religion alone cannot be used to explain the respondents' perception of caesarean section. Other factors, therefore, play a role.

The commonest reasons for aversion to caesarean section were fear of operation (48.98%), lack of finance (30.61%) and fear of being stigmatised (26.53%). The above finding is similar to some other studies.^{22, 25, 26}

The fear of operation as a reason for not accepting the caesarean section cuts across social class and educational status because of the general belief in our society that a surgical operation is associated with a bad omen.^{25,27} Stigmatisation of these patients by their peers often makes them an object of social ridicule and at any slightest opportunity, they are reminded that they are lazy and a social misfit. This view is supported by one study carried out in the Western part of Nigeria.^{28,29} Financial factors are also an important reason because the cost of hospital care is always an issue in health care delivery in Nigeria.^{30, 31}

Most of the women in this study (83.30%) wanted caesarean section to be included in antenatal health education topics. The study by Adageba et al. reported that 98.1% of the respondents wanted a caesarean section included. However, studies may be required to determine the content of the caesarean section educational messages since untested information about the risks of caesarean delivery may scare

women from the operation when it is actually indicated.

A limitation of this study is the fact that it was cross-sectional in design which makes the likelihood of recall bias high. However, this study provides a background for further studies to explore issues concerning women's perception and attitude towards caesarean section.

Conclusion

There is a high level of awareness of caesarean delivery among ANC attendants at the Jos University Teaching Hospital. Client education is necessary to address some concerns about the safety of the operation, indications for the operation, and stigmatisation after the operation.

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