Impact of Free Maternity Service on Caesarean Acceptance and Perception in Delta State. South South Nigeria

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Abstract

Background. Although the Increasing rate of Caesarean section has remained a source of concern in different part of the world, it nevertheless remains an important intervention in the reduction of maternal and perinatal mortality during childbirth. Women in developing countries remain averse to caesarean section. The contribution of cost to caesarean section acceptance and perception is not clear.

Aims. To determine the impact of cost-free maternity service on caesarean section acceptance and perception in Delta State**. Setting and design.** A cross-sectional descriptive study**.**

Subjects and Method. A structured questionnaire was administered to a total of 600 consenting antenatal women, in two secondary health facilities in Delta State**,** Eku Baptist Government Hospital(EBGH) and Central Hospital Warri (CHW).

Statistical Analysis. Statistical Package for Social Sciences version 24. With descriptive statistics for frequency, mean and standard deviation. Chi-square and student's t-test for comparison of variables. Level of significance set as $p<0.05$.

Results. There was no significant difference in the proportion of respondents that have had previous Caesarean section in the two centers, 20.6% and 20.9% at Eku Baptist Government hospital(EBGH) and Central Hospital Warri(CHW) respectively. Caesarean section was acceptable to a large number of the respondents, 60.6% and 68.3% at EBGH and CHW respectively. Average of 15.8% respondents will not accept caesarean section for any reason. Postoperative pain was the major reason of respondents objecting to Caesarean section in both centers, 38% and 20.5% at EBGH and CHW respectively**.**

Conclusion. This study revealed a high level of caesarean section acceptance among pregnant women under free maternity service policy. The need for well informed and continuous health enlightenment during the antenatal visits is required to overcome the negative perception about CS.

Key words. Free maternity service, Caesarean section, Perception

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Introduction

Caesarean section refers to the delivery of the viable foetus through a surgical incision on the uterus[1] It is perhaps, the most common major obstetric surgery globally[2] . Inspite of WHO recommendation of 15% for CS, there is global increase in rates.[3,4] In Nigeria, though rate as high as 34.5% has been reported in a tertiary health facility, in the Niger Delta[5] This high rate was largely due to the high proportion of the unbooked emergency cases[5]. Women in developing countries remain averse to CS,[6,7] despite being an important life-saving intervention.

Caesarean section is a major obstetric procedure that is paid for by the patients in most health facilities in Nigeria. It is argued that due to the current safety of the procedure, several CS are done for both justifiable medical and non-medical indications and occasionally for monetary incentives[7,8]. What has not been widely researched is the impact removal of user-fee will have on caesarean section acceptance and perception in Nigeria.

A policy of free maternity service was introduced by the government of Delta State, South South Nigeria, in the year 2009. This was after the high caesarean section rate documented by Igberase et al[5], in a 10- year review of deliveries in the Niger Delta region of Nigeria, a period in which women paid for maternity services. By this new policy, all aspects of antenatal, intrapartum and post-natal services became cost-free. This included free ultrasound and laboratory services. This policy that has resulted in an increase in both antenatal attendance and delivery rates in all government secondary health facilities in the State.

The aim of this study is to determine the impact of free maternity services to caesarean section acceptance and perception among antenatal women in Delta State. The findings from this study may help address the contribution of cost to caesarean section acceptance and perception and serve as a partial audit of the state's policy on cost-free maternity service.

Materials and Method

This study was conducted in two secondary health facilities in Delta State, Eku Baptist government hospital(EBGH) and Central hospital Warri(CHW).

EBGH is a rural secondary health facility with 160 beds. It has 20 beds in it's maternity ward. It is located within 10 kilometers of the state owned university, Delta State University. It has two consultant obstetricians. It has a residency training program in Family Medicine. It is a referral health facility in the area, traditionally drawing patients from other villages and cities in Delta State.

CHW is a 254-bed secondary health facility located in a densely populated commercial capital of Delta State, Warri. It has 4 consultant obstetricians, among other specialists. It has about 47 beds in her maternity section. This is made up of labour wards(16 beds), maternity/post natal ward(31 beds).

Subjects

The study population consisted of consenting pregnant women attending antenatal clinics in both health facilities in Delta State, from September 3, to December 3, 2018. Participants were assured of confidentiality and told that refusal to participate will not affect their care.

Only those that required emergency consultation because of their health conditions and women who did not give their consent were excluded.

Study design

This was a cross sectional descriptive study on impact of free maternity service on Caesarean section acceptance and perception. Sample size for this study was calculated from the formula: $n= z^2pq/d^2$ where z is the standard deviation set 1.96, with confidence interval set at 95% , and error margin, d at 5%, q =1-p. P is the prevalence (rate of 13.4% for women who rejected caesarean section in a recent study in Abakalike.[7]

The minimum sample size was calculated to be 178.3. A total sample size of 600 was used for the two study centers, to add strength to our study, 300 in each center.

Research Instrument

A structured interviewer-administered questionnaire was used to assess sociodemographic variables, as well as information on previous deliveries, CS acceptability and reasons for objecting to CS. Questionnaires were administered by Consultants obstetricians, Resident doctors in Family medicine and Obstetrics and Gynaecology. The questionnaires were anonymised.

Ethical approval was obtained from ethics committee in both institution and informed consent from all participants.

Data Analysis

Statistical analyses was performed using IBM SPSS Statistics 24.0 software (IBM Corporation, NY, USA). Frequency, percentage, mean and standard deviation were used to describe the dataset. For comparisons involving categorical variables, the ^{2} test or Fisher's exact test (for expected counts less than five) was applied; while comparisons involving continuous variables, the independent samples t-test was applied. The level of significance was set at $p<0.05$.

Results

A total of 536(89.3%) questionnaires were suitable for analysis.

Table 1 Shows the demographic characteristics of respondents

The ages of respondents at both center ranged from 15 to 45 years. The mean age of respondents at the rural health facility at Eku was 29.21±5.35 years. They were significantly younger than the antenatal respondents at the WCH, who were 31.23±5.03 years. Over 80% of respondents (83.9%) at the Warri center were less than 35 years. More respondents (36.9%) were in the age range 25-29 years at the Eku Health facility, compared with WCH that had more respondents (35.7%) in the age bracket of 30-34 Years. Only 6(2.1%) and 12(4.8%) were above 40 years at the Eku and Warri health facilities, respectively.

More respondents had tertiary level of education at Eku compared to Warri, 46.0 % versus 40.2%. More of the respondents (48.6%) had secondary level of education in Warri. Only 3 (1.0%) and 8(3.2% had no formal education at the Eku and Warri facilities, respectively.

In both centers, business accounted for majority of respondents occupation, with 34.5% (99/287) and 31.7% (79/249) in Eku and Warri respectively. There was a similar proportion of housewives in both centers, 11.1% and 12.4% in Eku and Warri. (Table 1.)

Table 1: Distribution of demographic data of respondents in study centers

	Eku	Warri	Test-statistics	p
Age group				
18-27yrs	113(39.4)	60(24.1)		
28-37yrs	156(54.4)	159(63.9)		
38-47yrs	16(5.6)	30(12.0)		
48-57yrs	2(0.7)	0(0.0)		
Mean age:	29.21±5.35	31.23±5.03	4.494	0.000
Level of Education				
No formal education	3(1.0)	8(3.2)		
Primary	42(14.6)	20(8.0)		
Secondary	110(38.3)	121(48.6)		
Tertiary	132(46.0)	100(40.2)		
Occupation				
House wife	32(11.1)	31(12.4)		
Trader	58(20.2)	67(26.9)		
Artisan	48(16.7)	23(9.2)		
Business	99(34.5)	79(31.7)		
Civil Servant	1(0.3)	1(0.4)		
Professional	49(17.1)	48(19.3)		

Student t-test

More respondents, 84.3%(210/249) at the Warri center have had previous pregnancy experience, compared with 67.9%(195/287) at Eku. Over 30% of respondents were primigravidae at Eku versu 15.7% in warri. These differences was significant(P -value 0.000)

Previous CS among respondents in both centers was similar 20.6% versus 20.9 % in Eku and Warri, respectively. Caesarean section was acceptable to a large number of the respondents in both centers, 60.6(174/287) versus 68.3% (170/249) in Eku and Warri, respectively(Table 2)

Table 2: Distribution of respondents according to Previous pregnancy history, Previous CS history and CS Acceptance.

	Eku	Warri	$\chi 2$	p
Previous Pregnancy				
Yes	195(67.9)	210(84.3)	19.402	0.000
No	92(32.1)	39(15.7)		
Previous CS				
Yes	59(20.6)	52(20.9)	0.009	0.926
No	228(79.4)	197(79.1)		
Acceptability of CS				
Yes	174(60.6)	170(68.3)	3.390	0.066
No	113(39.4)	79(31.7)		

About 60% (172/287) of the respondents at Eku will not object to CS, if the decision is taken by their doctor followed by 24.0% who will accept the decision if it is an emergency. Women at the Warri center were more likely to accept CS for various reasons, ranging from when advised by their doctors(77.9%), to when it is an emergency(71.5%), if partner approves(64.7%) and when endorsed by their pastors(53.4%). CS will never be an option in 14.3% and 17.3% of the respondents, at Eku and Warri centers respectively.(Table 3)

Table 3: Distribution of attitude of respondents towards CS acceptance

	Eku	Warri
It is acceptable to me when advised by my doctor	172(59.9)	194(77.9)
I will accept it if my husband approves	33(11.5)	161(64.7)
I will accept if my pastor approves	14(4.9)	133(53.4)
i will accept it if it is emergency C/S	69(24.0)	178(71.5)
i will accept it if it is elective C/S	14(4.9)	106(42.6)
I will never accept C/S no matter what	41(14.3)	43(17.3)

The leading (38%) reason for respondents at Eku, objecting to CS is because of pain following surgery, followed by 19.5% of respondents who felt CS was against their cultural belief, 16% felt it may prolong their hospital stay, 15% saw surgery for childbirth as a mark of failure as a woman, 11.5% felt CS will limit the number of children they may have. A few (4.4%) felt CS will prevent early breastfeeding of their baby. At the Warri center, reasons adduced for objecting to CS were: Pain(20.5%), reduced number of children(17.3%), prolonged hospital stay(17.3%), failure as a woman(14.5%), delay in breastfeeding (12.9%) and lastly, cultural factor, 12.0% (table 4).

Table 4: Distribution of reasons for objecting to C/S in study centers

	Eku	Warri	χ^2	p
C/S is a mark of failure as a woman	43(15.0)	36(14.5)	.0029	0.864
It's more painful than normal vaginal delivery(Post-op.)	109(38.0)	51(20.5)	19.493	0.000
It will not allow me breastfeed my baby early	12(4.2)	32(12.9)	13.301	0.000
It will reduce the number of children I might have	33(11.5)	43(17.3)	3.649	0.056
It will prolong my stay in hospital	46(16.0)	43(17.3)	.0148	0.700
It is against my cultural/tribal belief	56(19.5)	30(12.0)	5.514	0.019

Discussion

Average of 21% (111/536) of our respondents in both study centers have had CS in the past for various reasons. A total of 16 respondents from both centers will not accept a repeat caesarean section in future. The major reason for this decision, was post -operative pain. The proportion of women with previous CS in our

study is much higher than the 8.6% and 10% documented in studies from Abakalike.[7,8] In a study conducted in Enugu[9], 7.22% of respondents have had CS in the past. While the exact reasons for the high previous CS in this study may not be obvious, it is important to note that the removal of user fee for delivery service may be a contributory factor. In addition, both centers serve as referral health facilities to other public and private health facilities in the region.
Caesarean Section was an acceptable mode of delivery for average of 64.5% (344/536) of respondents: 60.6% and 68.3% at Eku and Warri health facilities respectively. A study conducted over a decade earlier in a tertiary health facility in Benin City reported 6.1%,[10] CS acceptability as a method of delivery and 81% of the study respondents, would accept CS if needed to save their baby. Another study from South Western Nigeria, also in a tertiary health facility had 85% of the respondents, favourably disposed towards CS. In Kumasi Ghana, 90.5% of study participants would accept CS if indicated. These high rates of positive disposition towards CS, perhaps reflects the confidence our women now have in the safety of the surgical procedure. A negative attitude was however expressed towards CS, by 14.3% and 17.3% among respondents at Eku and Warri health facilities respectively. These respondents would not accept the option of CS delivery for any reason. This finding is similar to the 12.1% and 13% reported in Benin[10] and Enugu[9] respectively. In a study over a decade earlier, at Ilesa by Orgi et at[11], some of the respondents felt CS was a punishment for marital infidelity, while others think it was the devils work.

The major reason for objecting to CS in both centers was pain. Average of 30% % of respondents from both centers considered the pain from CS, greater than vaginal delivery. The perception of post operative pain can be addressed during the antenatal period by adequate enlightenment of women on pain management in vaginal and caesarean delivery. Other reasons for objecting to CS, among respondents included, prolong stay in hospital, cultural factors, CS seen as mark of reproductive failure, CS may affect early breasting and reduction of family size. These reasons have also been cited in previous studies.[8,9,11.] Overcoming negative perception towards CS, remains an important aspect of well-informed antenatal health enlightenment. This remains an aspect of maternity service that requires more emphasis.

In conclusion, this study revealed a high level of CS acceptance among pregnant women in Delta State, under the policy of free maternity service. The need for well informed and continuous health enlightenment during the antenatal visits is required to address some negative perception about CS among some of our women.

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