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Vaginal birth or repeat caesarean section: women's preferred mode of delivery after a primary caesarean section in Maiduguri, Nigeria

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Vaginal birth after caesarean section (VBAC) is an acceptable option for delivery in a woman with one prior lower segment caesarean section (CS) and in the absence of an obvious contraindication to vaginal delivery. This was a cross sectional study that sought to explore the preferred mode of delivery (VBAC or CS) in a cohort of post operative patients that had a primary CS and the reason for such preference using a self administered, structured and pretested questionnaire. The study was conducted between 1st January, 2013 and 30th November, 2013 and consenting women were recruited consecutively. Two hundred and forty five consenting women completed the questionnaires. Majority of the women, 73.5% (180) prefer VBAC in their next pregnancy while 26.5% (65) prefer a repeat CS. The commonest reasons for preference for VBAC were faster recovery, 68.8% (124) and being a natural method of child birth 25.6% (46). The most common reasons for preferring CS were to avoid labour pains, avoid the stress of labour and safety of the baby in 49.5% (32), 24.6% (16) and 15.4% (10), respectively. Maternal age ≥35 years and having attained tertiary level of education maintained statistically significant relationship with preference for CS after controlling for confounding variable. Only 6.1% (15) of the women reported that they will not accept CS under any circumstance and 31% (76) will accept it reluctantly. We advocate the need for counselling of antenatal women as well as public education campaigns so that women can make informed choices.

Key words: Vaginal birth after caesarean section (VBAC), caesarean section (CS), anaesthesia, aversion, labour.

INTRODUCTION

Caesarean section (CS) rates have risen globally and repeat elective CS is one of the main reasons for the rise in Maiduguri, Nigeria (Geidam et al., 2009). In an effort to reduce the rising CS rate, various regulating bodies (ACOG, 2010; NIH, 2010), have suggested a trial of labour after CS to attempt a vaginal birth as an acceptable option for a woman who has undergone one prior CS with a lower segment transverse uterine incision

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and in the absence of an obvious contraindication to vaginal delivery. It is estimated that 60 to 80% of women who are considered candidates for a trial of labour after CS will have a vaginal delivery (Mozurkewich and Hutton, 2000).

It has been shown that women who have had a prior vaginal birth in addition to one prior CS are more likely to have a vaginal birth after caesarean section (VBAC) compared with women without a prior vaginal delivery (Olagbuji et al., 2010), and for the subset of women with prior vaginal birth as well as a CS, a trial of labour as opposed to an elective repeat caesarean delivery is associated with a decreased rate of major maternal morbidities, postpartum fever and need for blood transfusions (Cahill et al., 2006). The chances of a VBAC are also increased when labour starts spontaneously and shows normal progress regarding cervical effacement and dilatation (Omole-Ohonsi et al., 2007). One prior CS, that was performed early in labour and for a none recurrent indication is another factor that favours VBAC (Cunningham and Wells, 2013). In cases where the trial of labour fails, delivery will be accomplished by emergency CS with its attendant risk.

Research has suggested that women who experience a trial of labour followed by an emergency CS may have their expectations quashed and the inability to be delivered vaginally could have serious emotional and psychological trauma that might hinder adjustment to motherhood (Chigbu et al., 2007a; Fenwick et al., 2003). In addition, failed VBAC is associated with a higher incidence of chorioamnionitis, postpartum hemorrhage, blood transfusion, uterine rupture, and hysterectomy (Oboro et al., 2010). A recent study in a tertiary hospital showed that a failed vaginal delivery among women with previous CS is associated with adverse neonatal outcomes with potential developmental risks (Olusanya and Solanke, 2009). This could also increase the risk of litigation to the obstetrician and even more when the condition is somewhat predictable (Oboro et al., 2010; Omole-Ohonsi, 2011).

While trial of labour is generally advocated for the aforementioned reasons, caesarean delivery is also increasingly been seen as a viable option to vaginal delivery even in the absence of medical or obstetrics contraindication to vaginal birth (Pakenham et al., 2006). It could be speculated that this may not be unconnected to the recent trends in patient centred maternity care and greater attention being paid to the women's views. Studies have shown that women's satisfaction with their experience of childbirth is related to their degree of involvement in decisions regarding delivery and that lack of involvement in the decision-making process is associated with an increased risk of litigation (Chong and Mongelli, 2003). Equally important in the decision making is the woman's previous experience of childbirth and a negative birth experience may affect future childbearing. About 20 to 60% of all pregnant women experience fear of childbirth to some degree (Rouhe et al., 2009; Okonkwo et al., 2012). Approximately 20% of women who have given birth suffer from post-traumatic stress disorder (Modarres et al., 2012; Ayers et al., 2006), which can create fear of future childbirths.

Previously, aversion to CS was the norm in our environment in Nigeria because of the associated mortality (Ozumba and Anya, 2002). Furthermore, most women perceived vaginal delivery as a fulfilment of womanhood with them often take pride from having a vaginal birth (Aziken et al., 2007). However, with increasing safety of CS even in the developing world, the aforementioned view might have changed with some evidence suggesting that some women may even request caesarean delivery (Okonkwo et al., 2012; Chigbu et al., 2007b; Chigbu and Ezenyeaku, 2008). Also a study amongst antenatal attendees in Nigeria showed that 81.2% of the women interviewed would accept caesarean delivery if their life or that of their fetus is in danger (Sunday-Adeoye and Kalu, 2011).

Previous studies in Nigeria have examined CS on maternal request and choice of mode of deliver among antenatal women, but we are not aware of any study that assessed the choice of mode of delivery amongst women with previous CS. These women have the experience of a prior caesarean delivery and their choice about their subsequent delivery may be different from that of the general population and the finding can be of importance in counselling for future deliveries.

PATIENTS AND METHODS

This was a cross sectional study conducted at the department of Obstetrics and Gynaecology, University of Maiduguri Teaching Hospital, Maiduguri between 1st January, 2013 and 30th November, 2013. The hospital is the major tertiary hospital in the northeast region of Nigeria. The available hospital data showed that 3271 deliveries were conducted in 2012 with a CS rate of 15.2%. Using the aforementioned data, the required sample size was calculated to be 196 and with an additional 20% for attrition, this was rounded up to 245. Post partum women who had been delivered via primary CS were sampled. Data were collected 5 to 7 days after the operation and before being discharged.

Self-administered, structured, pretested and validated questionnaires were instituted after explaining the research and obtaining consent. The questionnaire contained 17 items with both open and closed ended questions. The questions were also translated into the local language to ascertain that the patients truly understand. Patients were asked about their preferred mode of delivery in the next pregnancy and also choice of anaesthesia. They were asked to indicate the reason for their choice. Their view on repeat CS was also sorted and graded. This grading was an adaption from previous published work in Nigeria (Sunday-Adeoye and Kalu, 2011). The grading was as follows: very good, will accept CS by choice to avoid the complications of labour, labour pains and safety of the baby; good, will accept CS if their life or that of their baby is in great danger; bad, will reluctantly accept CS if the doctor says so; very bad, will not accept CS under any circumstance.

Other questions included: patients' sociodemographic characteristics, the type of CS, indication, type of anaesthesia and their awareness of the right to request a caesarean delivery without

a medical indication.

The social classes of the women were determined using Olusanya's classification which makes use of the educational status of the woman and her husband's occupation (Olusanya et al., 1985).

The questionnaires were distributed by trained medical interns and the lead researcher. Informed consent was obtained before recruitment after detailed explanation of the study's purpose and that refusal to participate did not affect care. The participants were assured of confidentiality and the questionnaires were anonymous. Patients were recruited consecutively until the desired sample size was reached.

The data were analysed using Statistical Package for the Social Sciences (SPSS, version 20.0) and presented as numbers and percentages. In the statistical analysis of the data, chi-square test, Fisher's exact test and logistic regression analysis were performed where appropriate. P values less than 0.05 were accepted to be statistically significant. Logistic regression analysis was used to determine the independent factors affecting women's preference for CS in next delivery. The study was approved by the ethics committee of the institution.

RESULTS

During the study period, 245 consenting women completed the questionnaires. The mean age and parity of the respondents were 28.00 ± 5.77 years and 3.04 ± 2.45, respectively. Most of the women, 75.9% (186), had attained at least secondary school education but only 23.3% (57) of the families were from the high socioeconomic background and 51.8% (127) of them were from low socioeconomic background.

CS was done on emergency basis for 67.3% (165) and the remaining 32.7% (80) had elective CS. Spinal anaesthesia was used in 64.9% (180) of the CS and the remaining had general anaesthesia. Majority of the women, 73.5% (180), responded that they would prefer VBAC in their next pregnancy while the others, 26.5% (65) elected to deliver by a repeat CS in the next delivery. The most common reason for choosing VBAC was that vaginal delivery: allows faster recovery, 68.8% (124) and is the natural method of child birth, 25.6% (46), plus wanting to avoid complications of surgery, 12.2% (22). Among those preferring CS, the most common reasons were: to avoid labour pains, avoid the stress of labour and for the safety of the baby in 49.5% (32), 24.6% (16) and 15.4% (10), respectively.

Table 1 shows the factors associated with preference for CS in the next pregnancy. Women aged 35 years or older, those with a tertiary education and those delivered by elective CS were more likely to prefer to be delivered by CS in their next pregnancy. On the other hand, younger, less educated and women from low and middle socioeconomic background were more likely to prefer VBAC.

However, only age ≥35 years and having attained a tertiary level of education maintained statistically significant relationship with preference for caesarean delivery after controlling for other variables (Table 2).

About 91% (223) of the women reported that they have the right to decide on the mode of delivery but only about half of them, 45% (110) were aware that they could request for CS in the absence of any medical indication. Women's view on repeat CS is as shown in Table 3. Only 6.1% (15) of the women reported CS as very bad and they will not accept CS under any circumstance and 31% (76) reported it as bad and will accept it reluctantly.

DISCUSSION

This study shows that majority of the women report a preference for VBAC after a primary CS. This stand is welcomed in contemporary obstetric practice with the growing concern over rising CS rate reported in most centres. Many studies have supported the efficacy and safety of VBAC after one CS and reliable figures of success rate and complications are available for counselling women (Mozurkewich and Hutton, 2000; Olagbuji et al., 2010; Cahill et al., 2006). A similar preference for VBAC has also been reported in the UK among women with the experience of both CS and vaginal delivery (Aslam et al., 2003).

Some of the women see vaginal delivery as the natural method of child birth and even more appealing to them is the faster recovery after a vaginal delivery as compared to CS. These are the reasons given by more than 90% of the women that choose VBAC for their next delivery. It was also discovered that, VBAC is preferred by younger (<35 years) and women with less education (secondary school or less). Also most of the women of low socioeconomic status prefer VBAC which might be accounted for in part by cost consideration. Cost is an important factor in our region where majority of the hospitals operate the policy of pay-as-you-go for health care services. The preference for CS among women of high socioeconomic class has earlier been reported in Turkey (Buyukbayrak et al., 2010) and Australia (Roberts et al., 2012).

Older women and those with higher education were found to be more likely to choose CS for their next delivery after a prior CS. These women might view their pregnancies as 'precious' and are less willing to risk vaginal delivery. This may be because of concerns about baby's safety in addition to avoiding pains and stress of labour.

Good counseling can allay patient's anxiety and proper intrapartum fetal monitoring could allow detection of fetal distress and appropriate action could be instituted to save the baby. However, epidural anaesthesia is not readily available in our setting because of lack of man-power and that could make the management of tocophobia difficult. It is therefore encouraged that such women should be delivered in settings that can make epidural available for them and be encouraged to attempt VBAC.

With the advancement made in CS, more than 60% of the women studied viewed a repeat CS as at least good and are willing to accept it if their life or that of their baby

Table 1. Factors associated with preference for CS in the next delivery.

Factor	Preferred CS (%)	Preferred VBAC (%)	Total
Age (year)			
<35	44 (21.9)	157 (78.1)	201 (100)
≥35	21 (47.7)	23 (52.3)	44 (100)
	χ^2=12.36, P=0.000, OR=1.49, (CI=1.12-2.66)		
Parity			
Nulliparous	10 (13.2)	66 (86.8)	76 (100)
Parous	55 (14.8)	114 (85.2)	169 (100)
	χ^2=0.81, P=0.451, OR=0.88, CI=0.12-2.48)		
Living children			
Yes	63 (26.6)	174 (73.4)	237 (100)
No	2 (25.0)	6 (75.0)	8 (100)
	χ^2=0.10, P=0.92, OR=1.02, CI=0.68-1.53		
Educational level			
Secondary or less	27 (18.9)	116 (81.1)	143 (100)
Tertiary	38 (37.3)	64 (62.7)	102 (100)
	χ^2=10.31, P=0.001, OR=2.55, CI=1.43-4.56		
Social class			
Low	22 (17.3)	105 (82.7)	127 (100)
Middle	16 (26.2)	45 (73.8)	61 (100)
High	27 (47.4)	30 (52.6)	57 (100)
		χ^2=18.23, P=0.000	
Type of CS			
Elective	33 (41.3)	47 (58.7)	80 (100)
Emergency	32 (19.4)	133 (80.4)	165 (100)
	χ^2=13.20,P=0.000, OR=2.92, CI=1.62-5.26		
Type of anesthesia			
General	17 (19.8)	69 (80.2)	86 (100)
Spinal	48 (30.2)	11 (69.8)	159 (100)

Table 2. Multinomial logistic regression analysis for factors associated with preference for CS in the next delivery.

Factor	Odd ratio	95% Confidence interval	P value
Age (Years)			
≥35	2.46	1.98-4.34	0.0001
<35	-	-	-
Parity			
Multiparity	1.32	0.74-4.73	0.09
Primiparity	-	-	-
Living children			
Yes	3.15	0.56-18.90	0.19
No	-	-	-

Table 2. Cont'd.

Educational level			
Tertiary	2.33	1.22-4.37	0.01
Secondary or less	-	-	-
Type of CS			
Elective	1.52	0.76-3.04	0.24
Emergency	-	-	-
Type of anaesthesia			
General	1.16	0.29-1.23	0.64
Spinal	-	-	-

Table 3. Women's view on repeat CS.

S/N	View of the women	Frequency	Percentage
1	Very good	50	20.4
2	Good	104	42.4
3	Bad	76	31.0
4	Very bad	15	6.1
	Total	245	100

is in danger. However, 6.1% are aversive to repeat CS and will not accept it under any circumstance. Our findings could mean that aversion to CS may be lower than previously thought in our environment particularly among the women with previous CS. This calls for more counseling of our antenatal women and community education in order to make women accept CS when necessary.

One of the limitations of the study was that the patients' prior infertility and treatments were not taken into account. Most patients that conceive following infertility treatment may be more disposed towards CS delivery. Secondly, the patients were recruited 5 to 7 days after surgery and their choice of mode of delivery may differ after complete recovery. A larger multi-centre study on antenatal patients may be required to further buttress our findings.

Conclusion

Most women will prefer VBAC after a primary CS and this is more likely among younger, less educated and women of middle and low socioeconomic status, while CS is preferred by the older and highly educated women. We advocate for counselling of antenatal women as well as public education campaigns so that women can make informed choices.

Conflict of Interest

The authors report no conflicts of interest.

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