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ORIGINAL RESEARCH

Communication Between Healthcare Providers and their Clients: How Accurately do Mothers Remember the Indications for the Caesarean Section that they had?

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Abstract

Background: The indication for Caesarean delivery is one of the most important information required in the antenatal care and delivery mode for women with previous Caesarean section(s).
Objective: To assess the level of agreement/disparity between mothers' report and the actual medical indication for Caesarean delivery and to explore factors associated with it.
Methods: This cross-sectional study was carried out among 248 women who were delivered by Caesarean section. A comparison was done between the patient's report of the indication for the Caesarean section and the physician's record and the level of similarity was recorded.
Results: More than half (126; 50.7%) of the respondents reported indications that were classified as complete similarity [Group A] while Groups B to E had 54 (21.8%), 21 (8.5%), 26 (10.5%) and 21 (8.5%) responses respectively. Of the group with "non-similar" responses, foetal indication accounted for 36.1% of them. Parity was the only predictor of "similarity". Compared to para 0, para 1-4 were more likely to report "similarity" in the indications for the Caesarean section (AOR = 3.370; 95% CI = 1.277-8.888).
Conclusion: While the past obstetric history is an important aspect of the evaluation of the pregnant woman, it is important to attempt greater verification of facts at history taking for the indications for previous Caesarean section, especially when it has to do with foetal health as the indication, and in the nulliparae.

Keywords: Communication, Indications for Caesarean section, Parity, Post-operative debrief, Vaginal birth after Caesarean section (VBAC).

Introduction

The indication for Caesarean delivery is one of the most important information required in the antenatal care of a pregnant woman with a previous Caesarean delivery and it is a major determinant of the delivery mode in subsequent pregnancies.[1-2] The knowledge of this indication following delivery is based mainly on adequate communication from the managing medical team.[3,4] Other factors that have been reported to influence the knowledge of maternal health services among women include maternal age, educational status, occupation and parity.

Therefore, inadequate communication could lead to wrong decisions by antenatal clients. It is no surprise that poor counselling has been reported as a risk factor for refusal of a trial of scar for vaginal birth in women with one previous caesarean delivery, [3-5] although a trial of the scar is a measure aimed at reducing the continuously increasing global Caesarean section (CS) rate. [1] Adequate and prompt debriefing following Caesarean delivery has been reported to improve women's satisfaction and leads to better decision-making capability. [6]

Since the information on the indication for a previous CS is of great importance in the management of pregnant women, it is important to have a valid way to assess this information. An ideal means of obtaining this information would be to source it from the medical records of the previous delivery. However, in many climes, especially the Low- and Middle-Income Countries (LMICs) like Nigeria, such a task may be difficult. Due to the manual nature of medical records in these climes, the files may be inaccessible, may be lost, there may be errors in the existing documentation and many instances, there may be limited access to the health facility responsible for the previous delivery.

Due to the prevalent challenges of poor access to medical records, reliance is usually placed on obtaining the information from the maternal history. While this method is more feasible, there have been genuine concerns as anecdotal evidence and staff perception suggest that patients may not be fully aware of the indication for the CS. [1] One reason adduced for this is that of poor pre-and post-operative communication from the managing team coupled with a lack of clarity in the information given. Also, women may have poor recall of information provided following delivery, due to many competing demands at that period. [1] A further reason may be the aversion towards CS [6] and the generally poor knowledge of reproductive health issues. [7] This seems corroborated by Prah and colleagues who found that only 45% of their respondents who were pregnant women attending antenatal clinic could correctly identify one indication for CS. [8] The findings of these studies are limited by the fact that they involved mixed populations of women many of whom had never experienced a Caesarean delivery. They also tested mainly general knowledge about CS.

Some other studies moved a step further to assess the recall of delivery events by comparing with the medical records as the gold standard. Tuncalp, *et al*. [9] reported 22% disparity in the classification of Caesarean delivery as either elective or emergency. Liu, *et al*. [10] amongst others, [11,12] found mixed results of maternal recall of delivery events and opined that maternal recall depended on the information required. Puia, in a comprehensive review of Caesarean delivery decisions, reported that women's reports of the indication for CS were largely ambiguous. Therefore, he recommended a study to compare maternal perception and the medical indication for CS in women who have experienced Caesarean delivery. [13]

Information on previous CS is essential for the management of subsequent pregnancies. Such information includes the indication for the previous CS, kind of the previous incision, and whether there were any complications at the time or during CS and recovery. Currently, in clinical practice, there is a reliance on the information in the medical records which have not proven to be reliable sources due to paucity of records keeping. The wide use of paper records especially in the LMICs has made missing medical records rampant, further compounding the difficulty in obtaining information on previous deliveries. Therefore, difficulty places a lot of dependence on the maternal report of the indications for the previous CS. Realizing the paucity of scientific evidence on the reliability of the information given by the mothers on this important issue and

worse still in LMICs and the limitations of previous studies, it becomes imperative for this study to assess the level of agreement/disparity between the report of mothers and the documented medical indications in women who recently had Caesarean delivery and to explore some of the factors that may be associated. The findings from this study will provide a background for the design and implementation of strategies to address the shortcomings identified in the maternal report of indication for Caesarean delivery and factors associated with it. This will also contribute to the basis for designing communication strategies in this important area of obstetric care.

Methods

This cross-sectional survey was conducted at the Lying-in ward of the University of Benin Teaching Hospital, Benin City, Nigeria. The population of the catchment area of the hospital is over 5 million. The hospital offers Caesarean section both to patients booked at its facility and those unbooked who are either referred to or present as emergencies requiring care, including CS. CS makes up 48% of the total deliveries in the hospital. At the decision for CS, the clients are informed of the diagnosis and why a CS is preferred in a language they can understand. They are then required to give written consents for the surgery. By the second to the third day following surgery, preparatory to discharge from the hospital, the clients are once again given a debrief on the events leading to the surgery and the implications.

The study population in this study included all women who had CS over the 4 months of this study from January to April 2014. Patients who had altered sensorium or were unconscious and considered unfit for counselling were excluded from the study. The survey was conducted either on the third or fourth postoperative day when the patient was considered fit for discharge and had been reviewed by the managing team.

This study was approved by the Ethics and Research Committee of the University of Benin with ethical approval certificate number CMS/PO/109/Vol.I/146. Verbal informed consent was also obtained from the respondents.

Using a pretested interviewer-administered, semi-structured questionnaire, information on the indications for the CS was obtained from the patient. Other information obtained included the socio-demographic characteristics, booking status, history of previous CS, parity (the parity preceding the index pregnancy was used in this study to help better assess the effect of previous pregnancy experience) and if the women felt satisfied with their delivery by CS. Information on the actual indication and type of Caesarean (elective or emergency) were obtained from the case file. The interviewers were doctors who were trained on the study objectives and how to administer the questionnaire.

The information obtained was then stored on the computer. A comparison was done between the patient's report of the indications for the CS and the physician's indication as recorded in the case file. The comparison was done independently by the researchers of this study and the level of similarity between the indications on the case record and that reported by the patient was recorded as A, B, C, D or E. 'A' represented complete similarity; 'B' for moderate similarity e.g. abnormal lie for transverse/oblique lie; 'C' for slight similarity and can be remotely deduced e.g. big baby/prolonged labour for foeto-pelvic disproportion/obstructed labour; 'D' for dissimilarity; 'E' for 'I don't know'. The independent assessment of the level of similarity by the researchers was compared. Individual cases were re-assessed if there was a difference in the assessed levels of similarity by the researchers. If a difference still existed, they

assessed the case together and gave a consensus level of similarity. For analysis, A, B and C were classed as "similar" while D and E were classed as "non-similar". There was a 68% inter-rater agreement between the researchers after the first independent assessment on the level of similarity which increased to 94% after the reassessment of those cases that had differences. However, there was a 100% agreement based on the grouping of "similar" vs. "non-similar" after the initial assessment.

The data were recorded on a spreadsheet and analysis was done using IBM SPSS for Windows, version 21.0 (Armonk, NY: IBM Corp). Descriptive statistics were done for the basic data. While the continuous variables were compared using the Student's t-test, Chi-Square test of association was performed to examine the relationship between the demographic and obstetric characteristics and the similarity in the reported indications for the Caesarean section. Logistic regression was carried out to determine factors associated with the similarity of indications. The significance level was set at 0.05.

Results

There was a total of 256 women who were delivered by CS during the study period out of which 248 met the inclusion criteria while 8 were excluded. Table I shows the socio-demographic characteristics of the respondents. The average age of the respondents was 30.9±5.3 years while the median parity was 2. The type of CS was emergency in 179 (72.2%) of the respondents while 89 (35.9%) had at least one previous CS. A majority of the respondents were booked for antenatal care (158; 62.7%) and had tertiary education (129; 52%).

Two hundred and one (81.0%) responses revealed similar indications for CS while 47 (19%) responses were non-similar. More than half [126 (50.8%)] of the respondents reported indications that were classed as complete similarity [Group A] while Groups B to E had 54 (21.8%), 21 (8.5%), 26 (10.5%) and 21 (8.5%) responses respectively. The indications that accounted for the 26 dissimilar responses included foetal distress (11), cephalopelvic disproportion (6), two previous CS in labour (4), and others (5). The 21 responses of 'I don't know' were accounted for by foetal distress (6), preeclampsia/pregnancy-induced hypertension (5), failure to progress in labour (2), twin gestation (2), and others (6).

Table II shows the association between the obstetric and socio-demographic characteristics of the respondents and the similarity between the reported and the recorded indications for CS. Parity was the only factor that was significantly associated with the level of similarity ($p = 0.01$).

Table III shows the logistic regression analysis between the respondents' variables and the finding of similarity between the reported and the recorded indications for CS. Parity was the only predictor of similarity. Compared to para 0, women who were para 1-4 were more likely to report similar indications for the CS (AOR = 3.370; 95% CI = 1.277-8.888).

Discussion

Accurate past obstetric history, especially of the previous CS and its indications, is essential in planning the care of a woman in pregnancy. This study showed that about one out of every five women who delivered by CS are either unsure or do not know the indications for the surgery. The major contributor to this group was CS indicated by foetal distress.

Table I: Baseline socio-demographic and obstetric characteristics of the 248 respondents

Characteristics	*Frequency*	*Percentage*
Parity		
0	106	42.7
1-4	125	50.4
≥5	17	6.9
Educational qualification		
Primary	37	14.0
Secondary	82	33.1
Tertiary	129	52.0
Type of Caesarean section		
Elective	69	27.8
Emergency	179	72.2
Antenatal Care Booking status		
Booked	158	62.7
Unbooked	90	37.3
Previous caesarean delivery		
Yes	89	35.9
No	159	
Satisfaction with previous Caesarean delivery		
Yes	161	64.9
No	87	35.1

This study has also shown that the odds favoured increased parity for similarity in the reported and recorded indications, indicating that nulliparity is associated with patients' lack of knowledge of the indications for their Caesarean delivery. These findings have implications for the delivery of health care to the pregnant woman.

Many previous studies have examined the disparity between maternal reports of delivery events and the hospital records using different post-delivery durations. [9-11,13] There is yet no major study that demonstrated a difference between the outcomes based on the different durations between the delivery and the findings. The present study used the immediate post-delivery period, between day 3 and 5, following the surgery. This is based on feasibility and convenience as maternal hospital records following retrospective reviews may be difficult to assess afterwards. Getting a large pool of women for such a study may also pose a challenge. We also hypothesized that, compared to the results obtained in the present study, the disparity could only get worse as any information not available now may not be gotten subsequently except at the post-natal clinic which is poorly attended in this environment. [14]

About a fifth of the respondents was either unaware or had a wrong knowledge of the indications for their CS. This is quite significant and agrees with some previous reports. Tuncalp and colleagues, in their studies among women who recently had Caesarean deliveries in Ghana and the Dominican Republic, reported about 20% disparity in maternal reporting of CS as either elective or emergency. [9] Quigley in a large cohort study in the United Kingdom also reported 10.7% disparity in the description of planned versus emergency CS. [11] Some of these disparities have been attributed to poor

counselling, poor maternal recall due to many competing demands immediately after delivery, the general lack of information on reproductive health matters and the lack of importance attached to the issue. [1,10,12]

Table II: Association between obstetric and demographic characteristics and physician-patient similarity of indication for Caesarean section

Characteristics	*Similarity of indications for Caesarean section*		*Chi-Square*	*p-value*
	Similar (n = 201)	Dissimilar (n = 47)		
Parity				
0	77 (38.3)	29 (61.7)	9.10	0.01
1-4	108 (53.7)	17 (36.2)		
≥5	16 (8.0)	1 (3.1)		
Educational qualification				
Primary	30 (14.9)	7 (14.9)	0.27	0.87
Secondary	65 (32.3)	17 (36.2)		
Tertiary	106 (52.7)	23 (48.9)		
Type of Caesarean section				
Elective	59 (29.4)	10 (21.3)	1.24	0.29
Emergency	142 (70.6)	37 (78.7)		
Antenatal Care Booking status				
Booked	127 (63.2)	31 (65.9)	0.13	0.72
Unbooked	74 (36.8)	16 (34.1)		
Previous caesarean delivery				
Yes	75 (37.3)	14 (29.8)	0.94	0.33
No	126 (62.7)	33 (70.2)		
Satisfaction with previous Caesarean delivery				
Yes	130 (64.7)	31 (65.9)	0.03	0.87
No	71 (35.3)	16 (34.1)		

Figures in parentheses are percentages of the respective total

Though it has been shown in some reports from LMICs that women generally have poor knowledge of reproductive health issues, [7,8] their recall of information made available to them also depends on the importance they attach to that information. Certain basic information such as mode of delivery had almost 100% recall in previous studies. [10,11] However, some reports showed that there was a reduced recall for foetal and maternal medical problems in pregnancy. [10] Also, nulliparity was one of the major factors associated with disparity in the present study. This was also in tandem with the report by Quigley, *et al.* [11] and Elkadry, *et al.* [12] This is believed to be due to the relative inexperience with issues concerning childbirth. It could also be related to the inability to cope with multiple new information especially for the first-time mother which the multiparae may have better ability to cope with based on experience.

A history of a previous Caesarean section was not found to affect the disparity between the reported and recorded indications. This further buttress the fact that it is the experience of a previous delivery in whatever form that matters rather than the mode of delivery. It is a bit curious too that neither antenatal care booking status nor the type of CS affected the concordance.

Table III: Predictors of similarity between the reported and the recorded indications for Caesarean section

Characteristics	*Crude OR (95% CI)*	*p-value*	*Adjusted OR (95% CI)*	*p-value*
Age (Years)	1.055 (0.991-1.123)	0.0093	1.011 (0.943-1.085)	0.749
Parity				
0	1			
1-4	2.393 (1.229-4.658)	0.010	3.370 (1.277-8.888)	0.014
≥5	6.026 (0.764-47.513)	0.088	8.452 (0.879-81.305)	0.065
Educational qualification				
Primary	1			
Secondary	0.892 (0.335-2.379)	0.820	1.006 (0.346-2.919)	0.992
Tertiary	1.075 (0.421-2.748)	0.879	1.724 (0.584-5.092)	0.324
Type of Caesarean section				
Elective	1		1	
Emergency	1.537 (0.718-3.293)	0.268	1.391 (0.588-3.290)	0.453
Antenatal Care Booking status				
Booked	1		1	
Unbooked	0.886 (0.454-1.728)	0.722	0.723 (0.318-1.645)	0.440
Previous caesarean delivery				
Yes	1		1	
No	1.403 (0.706-2.790)	0.334	0.615 (0.232-1.634)	0.330
Satisfaction with previous Caesarean delivery				
Yes	1		1	
No	0.945 (0.484-1.845)	0.868	0.775 (0.379-1.584)	0.484

OR – Odds Ratio; CI – Confidence Interval.

Intuitively, it is expected that the booked patient and those who had elective Caesarean section will have a higher concordance than the corollaries. This is because they would have been counselled on the need for CS in the course of the antenatal clinic visits. In the setting of the study where most of the unbooked respondents are referred for reasons necessitating CS, that may not hold as they would have been counselled and have enough time to process such information during the referral. On arrival at the referral centre, the diagnosis is again reiterated before surgery, hence they appear to also have a better understanding and eventual recall of the indications for the surgery.

Incidentally, the diagnosis of foetal distress presented the most discordance between reported and recorded indications for CS in the present study. This may be explained by the urgency that is often required for the performance of the CS in this situation. This urgency sometimes limits the amount of information that the pregnant woman is given before the surgery. This will stress the need for postoperative debriefing to explain the indication

and the outcome of the surgery. Liu, *et al.* reported that there was a relatively poor recall of foetal issues, including foetal distress. [10] In many instances following surgery, the diagnosis is difficult to substantiate. Githens, *et al.* [15] reported that, though women generally had a good recall for reproductive health events, technical knowledge was better for issues affecting their health than that of their babies. They also reported that this recall was not affected by adverse events. Therefore, it can be extrapolated that satisfaction or otherwise with CS may not affect concordance between reported and recorded details of events as found in the present study.

While the above findings are quite revealing, exploring possible aetiologies is also important. Counselling is a major issue to be considered in the maternal recall of birth events. Previous reports have stressed the importance of maternal counselling and post-operative delivery debriefing [3-5] and the desire of mothers to be so informed soon after delivery. [6] Dougan, *et al.* [1] reported that postoperative debriefing improved the patients' clarity on issues concerning CS and increased their ability to decide on vaginal birth after CS. This finding was also corroborated by the report of Gardener, *et al.* [4] These are areas that are also worth looking into in subsequent researches to ascertain the level of information that mothers are provided with pre-and post-CS.

The strength of this study lies in the fact that it is original and probably one of the very few, if any, that has addressed this important reproductive health issue hence, it creates a useful baseline. Also, it involved a wide array of mothers who had just delivered by CS and were about being discharged from the hospital. On the other hand, it has only assessed short term recall. Long term recall can be assessed at a much later time though previous studies on maternal recall found only modest effect of time duration on recall, stressing though that it depends on the relevance attached to the event under investigation. [16,17]

Conclusion

This study found about 80% similarity between the patients' knowledge of the indications for CS and the documented indications. Primiparae had a significantly lower rate of similarity, unlike other obstetric and demographic parameters. The low rate of similarity was more prominent for foetal distress compared to other indications for CS. Therefore, it is important to attempt greater verification of facts during history taking, for the indications for the previous CS, especially when it has to do with foetal health as the indication for the surgery, and among nulliparae. Considering the findings, it indicates the need for further implementation research to address factors that may result in the disparity in maternal knowledge of the indications for CS as she remains the most feasible source of the history of indication in most clinical settings in LMICs.

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References

1. Dougan C, Smith E, Ploski J, Mc Nally A, Johnston K. Patients at the centre of care: Debriefing patients after Caesarean section. BMJ Open Quality 2019; 8: e000454. https://doi.org/10.1136/bmjoq-2018-000454.

2. Begum T, Rahman A, Nababan H, Hoque DME, Khan AF, Ali T, *et al.* Indications and

determinants of Caesarean section delivery: Evidence from a population-based study in Matlab, Bangladesh. PLoS One 2017; 12: e0188074. https://doi.org/10.1371/journal.pone.0188074.

3. Royal College of Obstetricians and Gynaecologists. Green-top guideline No. 45: Birth after previous Caesarean birth. London, UK: RCOG; 2015.

4. Gardner K, Henry A, Thou S, Davis G, Miller T. Improving VBAC rates: The combined impact of two management strategies. Aust N Z J Obstet Gynaecol 2014; 54: 327–332. https://doi.org/10.1111/ajo.12229.

5. Folsom S, Esplin MS, Edmunds S, Metz TD, Jackson GM, Porter TF, *et al*. Patient counseling and preferences for elective repeat Cesarean delivery. AJP Rep 2016; 6: e226–e231. https://doi.org/10.1055/s-0036-1584529.

6. Nilsson C, van Limbeek E, Vehvilainen-Julkunen K, Lundgren I. Vaginal birth after Cesarean: views of women from countries with high VBAC rates. Qual Health Res 2017; 27: 325–340. https://doi.org/10.1177/1049732315612041.

7. Naa Gandau BB, Nuertey BD, Seneadza NAH, Akaateba D, Azusong E, Yirifere JY, *et al*. Maternal perceptions about Caesarean section deliveries and their role in reducing perinatal and neonatal mortality in the Upper West Region of Ghana; a cross-sectional study. BMC Pregnancy Childbirth 2019; 19: 350. https://doi.org/10.1186/s12884-019-2536-8.

8. Prah J, Kudom A, Lasim O, Abu E. Knowledge, attitude and perceptions of pregnant women towards Caesarean section among antenatal clinic attendants in Cape Coast, Ghana. Texila Int J Public Health 2017; 5. https://doi.org/10.21522/TIJPH.2013.05.

9. Tunçalp O, Stanton C, Castro A, Adanu R, Heymann M, Adu-Bonsaffo K, *et al*. Measuring coverage in MNCH: validating women's self-report of emergency Cesarean sections in Ghana and the Dominican Republic. PLoS One 2013; 8: e60761. https://doi.org/10.1371/journal.pone.0060761.

10. Liu J, Tuvblad C, Li L, Raine A, Baker LA. Medical record validation of maternal recall of pregnancy and birth events from a twin cohort. Twin Res Hum Genet 2013; 16: 845–860. https://dx.doi.org/10.1017%2Fthg.2013.31.

11. Quigley MA, Hockley C, Davidson LL. Agreement between hospital records and maternal recall of mode of delivery: Evidence from 12,391 deliveries in the UK Millennium Cohort Study. BJOG: Int J Obstet Gynaecol 2007; 114: 195–200. https://doi.org/10.1111/j.1471-0528.2006.01203.x.

12. Elkadry E, Kenton K, White P, Creech S, Brubaker L. Do mothers remember key events during labor? Am J Obstet Gynecol 2003; 189: 195–200. https://doi.org/10.1067/mob.2003.371.

13. Puia DM. The Cesarean decision survey. J Perinat Educ 2013; 22: 212–225. https://doi.org/10.1891/1058-1243.22.4.212.

14. National Population Commission (NPC) [Nigeria] and ICF. Nigeria Demographic and Health Survey 2018. Abuja, Nigeria, and Rockville, Maryland, USA. 2019.

15. Githens PB, Glass CA, Sloan FA, Entman SS. Maternal recall and medical records: an examination of events during pregnancy, childbirth, and early infancy. Birth 1993; 20: 136-41. https://doi.org/10.1111/j.1523-536X.1993.tb00438.x.

16. Catov JM, Newman AB, Kelsey SF, Roberts JM, Sutton-Tyrrell KC, Garcia M, *et al*. Accuracy and reliability of maternal recall of

infant birth weight among older women. Ann Epidemiol 2006; 16: 429–431. https://doi.org/10.1016/j.annepidem.2005.09.004.

17. McCarthy KJ, Blanc AK, Warren CE, Kimani J, Mdawida B, Ndwidga C. Can surveys of women accurately track indicators of maternal and newborn care? A validity and reliability study in Kenya. J Glob Health 2016; 6: 020502. https://doi.org/10.7189/jogh.06.020502.