Knowledge And Attitudes Of Pregnant Women Towards Anaesthetic Techniques For Caesarean Delivery In A North Central Teaching Hospital

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Abstract

As caesarean deliveries increase globally, more women will be exposed to anaesthesia as part of the surgical procedures. Evaluation of the knowledge and attitudes of parturient will guide patient education and counselling and may improve overall satisfaction with caesarean delivery.

This was a cross sectional study involving parturient aged 21-47 years scheduled for elective caesarean delivery at the University of Ilorin Teaching Hospital, Ilorin, Nigeria. Sampling method was purposive, informed consent was obtained from all participants and data collection was through an interviewer-administered questionnaire. Data analysis was by SPSS version 20.0 and $p<0.05$ was significant.

Awareness about anaesthetic techniques for caesarean delivery was 85(78%) but 31 (37%) were adequately informed about the techniques. The preferences of parturient for specific anaesthetic techniques favoured regional anaesthesia (spinal [68.3%], epidural [5%]), compared to general anaesthesia (18.3%). Educational level, previous anaesthetic experience, types of occupation, partner's level of education among others had likelihood of improving the knowledge and choice of anaesthetic techniques for caesarean delivery among the respondents.

Conclusion from the study revealed that spinal anaesthesia was preferred for caesarean delivery similar to the global trend due to its perceived safety. Adequate information at antenatal clinic and involvement of anaesthestists may help to improve knowledge and acceptance of anaesthetic techniques by parturient.

Keywords: Knowledge, Attitudes, Pregnant women, Anaesthetic techniques, Caesarean section.

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Introduction

Anaesthesia remains an important component of surgical procedures; its introduction was one of the milestones in surgical practice. At inception, caesarean delivery was associated with a high complication rate to both the mother and the baby. However, the associated risk has reduced significantly and the procedure is now safer due to improved surgical technique, better anaesthesia, effective antibiotics and safer blood transfusion.[1]

The choice of any anaesthetic method is determined by maternal health status, urgency of the surgical delivery as well as patients' desire and surgeon's preference.[2] In addition, safety of anaesthetic technique, degree of maternal comfort, the depressant effects of the agent to the foetus and the extent of provision of optimal working condition for the obstetrician also influence the choice of technique.[2] Regional anaesthesia (RA) in surgical specialties has gained popularity worldwide. Subarachnoid block, epidural, and combined spinal-epidural anaesthesia are now attractive options for caesarean deliveries. Regional anaesthesia is increasingly being preferred because it is considered safer, associated with reduced blood loss, eliminates the trauma of awareness under general anaesthesia[3] and allows immediate interaction between mothers and their newborns.[4] Reported drawbacks of RA include fear of backache, headache and inadequate anaesthesia.[5] In our environment, attitudes to anaesthetic techniques have been negatively affected by misinformation, myths and wrong cultural beliefs. Therefore, this study determined the knowledge and attitudes of pregnant women, scheduled for elective caesarean delivery towards anaesthetic techniques. This will provide opportunity to correct misconceptions on anaesthetic techniques for caesarean sections through adequate information of parturient.

Materials and methods

The study was a prospective cross sectional descriptive study conducted at the University of Ilorin Teaching Hospital, Ilorin following the institutional ethical review committee approval between May 2015 and February 2016. Participants were parturient scheduled for elective caesarean delivery irrespective of the indication. Parturient admitted for vaginal deliveries or other instrumental interventions were excluded from the study. Patient who refused to participate in the study were also excluded. The

sampling technique was purposive, involving inclusion of all consenting eligible parturient until the sample size was completed. Informed consent was obtained from all eligible participants following which an interviewer-administered questionnaire was used for data collection. All required pre-operative preparations were made for all participants including review by anaesthesiologist and blood grouping and cross matching.

The information obtained from participants included demographic factors, knowledge and attitudes of the parturient about anaesthetic techniques for caesarean delivery, the sources of the information, individual preferred choice for anaesthesia and the reasons for the choices. Provision was made for an interpreter in each of the local dialects who assisted in the interpretations of the questionnaire to women who could not communicate in English language. The recruited interpreters were non-health personnel who were educated and trained about meaning of terms to ensure uniformity of interpretation followed by pretest before commencement of data collection. The sample size was determined using Fisher's formular.[6]

Data collation and editing was done manually to detect omission and ensure uniform coding; and descriptive data analysis was done to obtain frequencies and percentages using the Statistical Package for the Social Sciences version 20.0 (SPSS Inc., Chicago Illinois.). Age of the parturient was expressed in mean with standard. Fisher's exact test was calculated between knowledge of parturient about options of anaesthetic technique and education level, previous exposure to anaesthesia, sources of information and occupation of the respondents. There was no conflict of interest in the conduct of the study.

Results

A total of 109 respondents participated in the study; the mean age was 30.8±5.3 (range 21-47) and median gravidity of 2 (range 0-7) while 60(76.9%) had tertiary level of education as shown in Table 1. Awareness about anaesthetic techniques for cesarean delivery was 85 (78%) while the commonest sources of information were the obstetrician (34.1%) and friends

Table 1: Biosocial characteristics of participants

Parameter	Frequency (%)
Age (years)	
Mean : 30.8±5.3	-
Range: 21-47	-
Parity	
Median: 2.0 (range 0-7)	-
Parturient level of education	
None	1(0.9)
Primary	2(1.8)
Secondary	15(13.8)
Tertiary	60(55.1)
Not stated	31(28.4)
Parturient occupation	
Artisan	6(5.5)
Housewife	10(9.2)
Civil servant	34(31.2)
Trading	50(45.9)
Not stated	9(8.3)
Partner's occupation	
Retiree	2(1.8)
Artisan	7(6.4)
Driving	3(2.8)
Trading	24(22.0)
Civil servant	64(58.7)
Not stated	9(8.3)
Partner's level of education	
None	4(3.7)
Primary	2(1.8)
Secondary	17(15.6)
Tertiary	77(70.6)
Not stated	9 (8.3)

Table 2: Knowledge about anaesthetic techniques for caesarean delivery

Parameters		Frequency (%)
Awareness about techniques	: Yes	85(78)
	No	24(22)
Adequate information about techniques:	Yes	31(36.5)
	No	54(63.5)
Sources of information		
Radio		1(1.2)
Films		2(2.4)
Obstetrician		29(34.1)
Nurses		1(1.2)
Anaesthetists		9(10.6)
Read about it		7(8.2)
Friends		27(31.8)
Family members		9(10.6)
Anaesthetic techniques known		85(100)
General anaesthesia		15(17.7)
Spinal		66(77.7)
Epidural		4(4.7)
Are you aware of any complication of the technique	: Yes	32(29.4)
	No	77(70.6)
Total parturient aware of complication		32(100)
Death from anaesthesia		20(62.5)
Severe hypotension		9(28.1)
Wrong endo-tracheal tube placement		2(6.3)
Meningitis		1(3.1)

Table 3: Previous experiences and current attitude to anaesthetic techniques

Parameters:		Frequency (%)
Have you undergone surgery before?	Yes	66(60.6)
	No	(10.1)
	No response	32(29.4)
Which anaesthetic technique was used (n=66)		
General anaesthesia		20(30.3)
Spinal		39(59.1)
Epidural		7(10.6)
Any problem from the previous anaesthesia?	Yes	14(21.2)
	No	52(78.8)
Description of experiences with the previous anaesthesia (n=109)		
Satisfied		104(95.4)
Not satisfied		3(2.8)
A terrible experience		2(1.8)
Concerns about anaesthetic techniques? (n=109)		
No concern at all		29(26.6)
Fear of delayed recovery or death Fear of inadequate anaesthesia		38(34.9)
Fear of inadequate anaesthesia		5(4.6)
Fear that something may going wrong		13(11.9)
Desire to see baby immediately after delivery		24(22.0)
Preferred anaesthetic techniques for this surgery (n=80)		
General		18(22.5)
Spinal		58(72.5)
Epidural		4(5)
Reasons for choosing anaesthetic technique (n=80)		
Spinal techniques:		
I have undergone it before		11(13.8)
I think it is safer		64(80)
Desire to see baby		5(6.3)
General anaesthesia:		
Unwillingness to see during surgery		2(40)
Previous experience		1(20)
The only offered choice		2(20)

Table 4: Univariate analysis for respondents' knowledge about anaesthetic techniques for caesarean delivery

Variables	Fisher's exact test	p-value	Significance
Educational level	10.422	0.004	s
Partners' educational level	10.597	0.014	s
Pre-delivery counseling	16.449	0.000	s
Occupation	18.513	0.000	s
Past exposure to anaesthesia	11.378	0.002	s

s-significant

with previous experience of anaesthesia (31.8%). Despite high knowledge rate about anaesthetic techniques for caesarean delivery, only 31 (37.2%) were adequately informed about the methods and showed evidence of complete understanding on the various anaesthetic techniques as they asked their healthcare providers no further questions up to the point of provision of the service, Table 2.

The majority of the respondents ([80], 73.4%) preferred spinal anaesthesia for caesarean section; and the reasons given were safety ([64], 80%), previous experience with spinal anaesthesia ([11], 13.8%), and desire to see their babies at delivery ([5], 6.3%). Among the 85 respondents who have heard about different anaesthetic techniques for caesarean delivery, 58 (68%), 15 (18%) and 4 (5%) expressed desires for spinal, general and epidural anaesthesia respectively, Table 2.

The remaining 8 (9.4%) parturient expressed no preference for any particular techniques despite prior counseling on the available anaesthetic methods. Despite strong popularity of spinal technique among the participants, few women still preferred general anaesthesia due to desire to avoid seeing things during surgery 2 (1.8%), previous experience 1 (0.9%), and because it was the only available choice 2 (1.8%).

Majority of the respondents, 77 of the 85 (90.1%), with prior knowledge of the anaesthetic methods for caesarean section knew about the techniques more than a year

earlier; sixty six (85.7%) of whom have had previous surgical operations under different forms of anaesthetic method, spinal 39 (59.1%), general 20 (30.3%) and epidural anaesthesia 7 (10.6%) respectively, Table 3.

Although, satisfaction with the previous anaesthetic techniques was admitted by 59 (89.4%) of the respondents, anaesthesia-related complications occurred in 14 (12.8%) of study group. Of the 24 (22%) respondents who lacked prior knowledge of the various anaesthetic techniques for caesarean delivery in this study, 20 (83.3%) expressed desirability for their surgery to be done under spinal anaesthesia while GA and epidural/combined spinal epidural were chosen by 2 (8.3%) respectively. Two respondents (8.3%) did not state any preferred technique following counseling on the available anaesthetic techniques for caesarean delivery, Table 3.

The observed factors that likely influenced the choice of anaesthetic methods for caesarean sections in our respondents are their educational level, pre-delivery anaesthesia counseling, exposure to anaesthesia in the past, occupation types and level of education attained by their partners, Table 4. More than 50% of the women with at least secondary education were aware and chose methods of anaesthesia for caesarean delivery compared with those with primary or no formal education who chose no anaesthetic technique for their deliveries (p value= 0.004); and 92% of respondents who had pre-delivery anaesthesia counseling during ante-natal care chose anaesthetic technique in comparison with only 62.5% that chose anaesthesia methods in those with no prior discussion about existence of various methods (p-value=0.000). Majority of the traders (92.6%) among the respondents were more aware about anaesthetic methods compared with 70.3% of the civil servants and the difference was statistically significant, (p value = 0.000). Parturient whose husbands were educated demonstrated statistically significant greater awareness of the various forms of anaesthetic methods for their caesarean deliveries compared with respondents whose husbands had no formal education, p value = 0.014, Table 4.

Discussion

In the last decades, the rate of caesarean delivery has been on the increase globally despite the recommendation of the World Health Organization (WHO) to keep it below 10-15%.[7] The experience in UITH Ilorin is not different from the global trend, an increase from 1 in 26 deliveries in 1990 to 1 in 5 deliveries in 1999,[8] with general anaesthesia and infiltration with local anaesthetic agent being the only anaesthetic methods utilized. In contrast, spinal anaesthesia has become the commonest anaesthetic technique for caesarean section in our institution in the last ten years but there has been no study to assess the knowledge and attitudes of pregnant women to all the available anaesthetic methods for caesarean deliveries. The high knowledge of the various anaesthetic techniques in this study is comparable to 82.4% reported among Pakistani women; although, earlier reports from third world countries showed much lower figures.[9, 10] The high knowledge rate among the respondents in this study could be due to the high literacy level (96.1%) of the respondents.

In this study, level of education of parturient, pre-delivery anaesthesia counseling, trade-based occupation and educated husband were identified as the likely factors responsible for the observed high knowledge rate. These are consisted with the findings of previous studies[3,11] that education and previous anaesthetic experience have strong tendency to increase the knowledge of women on the various anaesthetic techniques for caesarean section. In contrast to one of the findings in this study, however, some studies did not find previous exposure to anaesthesia as promoting factor of awareness of anaesthetic methods.[12,13] Interestingly, previous experience in terms of the technique and pre-delivery anaesthesia counseling was emphasized as the important factor that enhances knowledge.[11]

We also found that majority of the surveyed women preferred regional to general anaesthesia for their caesarean deliveries unlike the high preference of pregnant women for GA from the outcome of similar study from another developing country.[11] The reasons given for refusing regional anaesthesia by the subjects included fear of needle pain, inadequate anaesthesia, back pain and leg numbness. Fear of failure to recover from general anaesthesia was the major reason for refusing GA; other reasons for refusing GA were fear of side effects on the babies, post-operative throat pain and counsel of relatives. The high requests for spinal than epidural anaesthesia by the parturient was probably acceded to by the anaesthetists due to its shorter-time-to-establish and high success rate in comparison with epidural anaesthesia.

In the same study, anaesthetists were the major source of information about the anaesthetic techniques[5] whereas our study revealed that obstetricians and friends of the parturient (34.1% and 31.8% respectively) were the major sources of information about the various anaesthetic techniques.

In the United States, 1.6% of maternal deaths were anaesthesia-related; although the case fatality of general GA was reported to be falling with a slight increase in that of spinal anaesthesia; despite a risk ratio of 1.7 between general and spinal anaesthesia, the rate of spinal anaesthesia continues to rise.[4] The high preference for regional anaesthesia by respondents (73.3%) in this study lends credence to the general notion that regional anaesthesia is associated with low

mortality[4] and helps pregnant women achieve their desires of early interactions with their babies in the immediate post-delivery period.

Arguably, the previous experiences of parturient about anaesthetic techniques for caesarean sections can be indirectly evaluated by assessing the level of satisfaction of women with the procedure. Maternal satisfaction with previous anaesthesia in this study was 89.4% similar to a report of 81.4% maternal satisfaction following spinal anaesthesia for caesarean deliveries in Pakistan.[14] In Pakistan, satisfaction with spinal anaesthesia was 74.09% for intra-operative pain/discomfort and 76.83% for postoperative back pain with a 53.6% expressed desire to use spinal anaesthesia again.[2] Despite the expressed high maternal satisfaction following regional anaesthetic technique, a systematic review showed no evidence that supports superiority of RA over GA in terms of major maternal and newborn outcomes.[3]

Generally, anaesthetic technique for caesarean section can be expected to vary from one facility to another due to availability of resources and expertise but there is paucity of studies for reasons for refusal or acceptance of a particular type of technique of anaesthesia. The reasons for this seem to be multi-factorial including cultural differences, lack of knowledge of the various techniques and false beliefs.[15] Culture features prominently as the reason for low demand for RA in developing countries.[9,10]

This survey showed that fewer respondents (37.2%) had adequate information about the anaesthetic techniques for caesarean section despite high awareness. This may represent the knowledge of the general population on anaesthetic techniques. This may be due to very little or no involvement of anaesthetists in the pre-delivery anaesthesia counseling and education during ante-natal care. Counselling and education offered by trained anaesthetists have a greater likelihood to be more detailed and possibly easier to understand by the parturient. Therefore, it will be necessary to involve them in such prenatal education and counseling.

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