

Patient awareness about spinal anaesthesia in our rural obstetric population

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Abstract

Introduction: The choice of anaesthesia for Caesarean section depends on the urgency of the procedure, the condition of the mother and fetus, and the mother's wishes. Although epidural, spinal, continuous spinal, and CSE techniques have all been advocated, most straightforward Caesarean sections are now performed with single-shot spinal anaesthesia, which has been found to be faster, provides a superior block, and is more cost effective. In the Indian sub-continent, we come across obstetric population who frequently refuse regional anaesthesia. In our institution, spinal anaesthesia is not generally accepted by the obstetric population. This survey was designed to assess knowledge and attitudes of women coming to our hospital towards spinal anaesthesia technique for caesarean section.

Materials and Methods: A total of 400 pregnant patients posted for Caesarean section were interviewed using a semi-structured questionnaire. Apart from the questions addressing the demographics, the questions were directed to know about patients knowledge of various anesthetic techniques available for this particular surgery as well as her choice of anaesthesia modality.

Results: A total of 358 out of 400 women interviewed (89.5%) were aware about the existence of different modalities of anaesthesia for Caesarean section. The remaining 42 women (11.5%) were found to be totally unaware of the various options of anaesthesia technique. A great majority of the patients (70%) chose general anaesthesia over spinal anaesthesia. They had various fears and misconceptions, the fear of having a chronic backache being the most (72.94%). Only 71 patients (17.75%) opted for spinal anaesthesia as they had prior knowledge about its benefits.

Conclusion: Our study showed that the majority of our obstetric population though aware of the anaesthetic techniques available for Caesarean section, but most of them lack knowledge about spinal anaesthesia and its benefits. A collaborative approach between the anaesthesiologists and obstetricians to disseminate the proper knowledge regarding spinal anaesthesia is needed.

Keywords: Awareness, Obstetrics, Spinal anaesthesia.

Introduction

The choice of anaesthesia for Caesarean section depends on the urgency of the procedure, the condition of the mother and fetus, and the mother's wishes. A 2001 survey of obstetric anaesthesia practices in the United States revealed that most patients undergoing Caesarean delivery do so under spinal or epidural anaesthesia.² Neuraxial anaesthesia techniques have several advantages, including a decreased risk of failed intubation and aspiration of gastric contents, avoidance of depressant agents, and the ability of the mother to remain awake and enjoy the birthing experience. In addition, it has been suggested that blood loss is reduced under regional anaesthesia for Caesarean delivery.³

Although epidural, spinal, continuous spinal, and CSE techniques have all been advocated, most straightforward Caesarean sections are now performed with single-shot spinal anaesthesia, which has been found to be faster, provides a superior block, and is more cost effective, especially as compared with epidural anaesthesia.⁴

It has been reported that anaesthesia-related maternal mortality associated with regional anaesthesia has declined but that the number of deaths involving general anaesthesia has remained relatively constant. Thus, the relative risk of fatality during general anaesthesia has increased to more than 16 times that for regional anaesthesia.⁵

The choice of anaesthesia techniques can be expected to differ between countries and culture and probably this could be the reason of low demand of regional anaesthesia in developing countries.^{6,7} In the Indian sub-continent, we come across obstetric population who frequently refuse regional anaesthesia.⁸ The reasons seem multifactorial including cultural differences, lack of knowledge and false beliefs.⁹

In our institution, spinal anaesthesia is not generally accepted by the obstetric population. This issue is important in order to help the anaesthetists and obstetricians of our region to communicate with the patients more effectively about the options of anaesthesia and also to increase public awareness about availability of these anaesthesia techniques. This survey was designed to assess knowledge and attitudes of women coming to our hospital towards spinal anaesthesia technique for caesarean section.

Materials and Methods

After approval by the hospital review committee, this study was conducted in a rural sub district hospital over a period of approximately 2 years. A total of 400 pregnant patients posted for Caesarean section were interviewed after obtaining informed consent. All pregnant females registered for operative delivery were interviewed using a semi-structured questionnaire. Patients with severe medical

illness, psychiatric illness, inability to speak or refusal to participate were excluded from the study.

Interviews were carried out by a senior doctor of Anaesthesia department having an experience of more than 5 years. The questionnaire had a total of 13 questions. Apart from the questions addressing the demographics, the questions were directed to know about patients knowledge of various anaesthetic techniques available for this particular surgery as well as her choice of anaesthesia modality. More emphasis was put to enquire about the patients know-how regarding spinal anaesthesia, their previous experiences with the technique and its advantages. The meanings of various medical terms were explained to the patients.

The copy of the questionnaire has been attached at the end for reference.

Data was entered and analyzed on Statistical Package for Social Sciences (SPSS) latest version. Descriptive analysis was done in terms of frequencies with percentages. Mean with standard deviation of women's age was also computed. A p-value less than 0.05 was taken as significant.

Results

A total of 358 out of 400 women interviewed (89.5%) were aware about the existence of different modalities of anaesthesia for caesarean section. The remaining 42 women (11.5%) were found to be totally unaware of the various options of anaesthesia technique. Table 1 shows the socio-demographic characteristics, knowledge, sources of knowledge and practices of respondents. The majority of females were young (mean age 26.8 years) and educated and 85% were housewives.

Table 1: Socio-demographic characteristics, knowledge, sources of knowledge and practices of respondents

Variables	N= 400	%
Mean age of parturient (years)	26.8 ± 4.5	
Level of education:		
12 th Standard and below	102	25.5
Graduation and above	298	74.5
Occupational status:		
Housewife	340	85
Employed	60	15
Knowledge about different anaesthesia modalities	358	89.5
Previous exposure to spinal anaesthesia	314	78.5
Sources of knowledge regarding spinal anaesthesia:	N= 358	
Obstetrician	56	15.64
Anaesthetist	239	66.75
Friends / Relatives	37	10.33
Literature / Internet	17	4.74
Other patients / Others	9	2.51

A great majority of the patients (70%) chose general anaesthesia over spinal anaesthesia (Table 2). They had various fears and misconceptions, the fear of having a chronic backache being the most (72.94%). Only 71 patients

(17.75%) opted for spinal anaesthesia as they had prior knowledge about its benefits.

Table 2: Fears and misconceptions of the parturient related to spinal anaesthesia.

Variable	N= 400	%
Choice of Anaesthesia		
General anaesthesia	280	70
Spinal anaesthesia	71	17.75
Unable to decide	7	1.75
Leave it to my anaesthetist	42	10.5
Fears related to Spinal Anaesthesia	N= 329	
Chronic backache	240	72.94
Headache	53	16.1
Inadequate anaesthesia with spinal anaesthesia	11	3.34
Not wanting to see operating room environment	18	5.41
Needle prick	7	2.12

The knowledge of parturients regarding the benefits of spinal anaesthesia was significantly associated with their education levels (p-value < 0.001). Graduates and above were found to have more knowledge about the benefits of spinal anaesthesia as compared to those who had education of lower levels and illiterates (Table 3).

Table 3: Analysis showing the factors associated with the knowledge regarding the benefits of spinal anaesthesia for caesarean section

Variable	N= 71	%	ODDS Ratio (Confidence Interval 95%)	P-Value
Education level				
12 th Standard and below	6	8.45	1.0	
Graduation and above	65	91.54	4.6	<0.001
Current delivery				
Primi	17	23.94	1.3 (0.5, 2.7)	
Second	23	32.39	1.4 (0.6, 3.2)	
Third and above	31	43.66	1.0 (0.4, 2.5)	1.19
Attended regular Ante-natal clinics				
Yes	60	84.5	1.0	
No	11	15.49	3.9 (1.5, 10.1)	0.002

Also, a highly significant association (p-value 0.002) was observed between the parturients knowledge regarding spinal anaesthesia benefits and regular visits to their obstetricians for pregnancy (Table 3).

Discussion

Most of the studies conducted in recent time for the quality improvement in the techniques of anaesthesia in caesarean section have focussed on drugs to prove their safety and efficacy or on the equipments like spinal and epidural needles to facilitate regional anaesthesia. Regional techniques for pregnant women are now considered the technique of choice due to decreased risk of gastric aspiration, avoidance of exposure to anaesthetic drugs

which have a depressant effect on neonates and lesser incidence of blood loss during surgery.^{8,9} The obstetric population often refuses regional anaesthesia for caesarean section. Our study has focussed towards the common factors responsible for the refusal of spinal anaesthesia. This study has shown that 89.5% of the study group was aware about the existence of various anaesthetic techniques for caesarean section. This is very high as compared to the previous studies conducted in developing countries.^{5,6} Although the majority of our patients new about various available anaesthetic modalities, but much less number opted for spinal anaesthesia. This study found a significant association between the knowledge on the benefits of spinal anaesthesia and education level. Also, patients which attended regular ante-natal clinics had much better knowledge about the advantages of spinal anaesthesia. This survey also showed that women with previous experience of spinal anaesthesia had good knowledge as compared to primi patients, but it was not statistically significant.

Regarding the sources of knowledge about the options of anaesthesia, anaesthetists were the major source as has also been mentioned in previous studies.¹⁰ Although previous surgery enhanced womens knowledge about the spinal anaesthesia benefits, yet not all of them selected spinal anaesthesia which signifies the importance of previous experience of the patient. 70% of the patients chose general anaesthesia over spinal anaesthesia in stark contrast to developed regions like Europe and U.S.A, where the rate of general anaesthesia is as low as 3%.¹¹ The most common reason given for refusal to spinal anaesthesia were fears of chronic backache, headache and not wanting to see operating room environment (not wanting to be awake during surgery). This showed poor knowledge about anaesthesia.^{10,12}

A study about the patient awareness about spinal anaesthesia in our rural obstetric population

A). Demographics:

1. Name:
2. Age:
3. Parity:
4. Occupation:
5. Educational status:
 - a. Matriculation and below.
 - b. Graduation and above.

B). Have you been attending regular antenatal clinics?

Yes/ No

C). Knowledge regarding anaesthetic technique:

1. Do you have knowledge about spinal/general anaesthesia? Yes/No
2. If yes, source of knowledge
 - a. Anaesthetist
 - b. Obstetrician
 - c. Friends / Relatives
 - d. Internet / Literature
 - e. Other patients / Others

D). Knowledge regarding spinal anaesthesia:

1. Have you been previously exposed to spinal anaesthesia? Yes/ No
2. If previously exposed, how was the experience? Good/ Bad
3. Do you have any knowledge regarding the advantages of spinal anaesthesia over general anaesthesia in obstetrics? Yes/ No

E). Choice of anaesthetic technique:

1. What type of anaesthesia will you prefer for L.S.C.S?
 - a. General
 - b. Spinal
 - c. Unable to decide
 - d. Leave it to my anesthesiologist

F). Do you want to avoid spinal anaesthesia?

Yes /No

1. If yes, why?
 - a. Fear of needle prick
 - b. Fear of backache
 - c. Not wanting to see o.t environment
 - d. Any other reason

Conclusion

Our study showed that the majority of our obstetric population though aware of the anaesthetic techniques available for Caesarean section, but most of them lack knowledge about spinal anaesthesia and its benefits. A great majority of them chose general anaesthesia over spinal anaesthesia due to false beliefs.

It is strongly felt that a lot of work needs to be done by the anaesthesiologists to educate the patients since anaesthesiologists are the primary source of information for them. It is recommended that an information leaflet on the benefits of spinal anaesthesia for Caesarean section can be formulated and distributed among the females coming for ante-natal checkups. A collaborative approach between the anaesthesiologists and obstetricians to disseminate the proper knowledge regarding spinal anaesthesia is needed. Information can also be disseminated through Accredited Social Health Activists (ASHA Workers) who work as an interface between the community and the public health system.

Conflict of Interest: None.

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