

Effect of Structured Counselling on Women's Choice of Anaesthesia for Elective Repeat Caesarean Section (ERCS) At Abbasi Shaheed Hospital: A Cross Sectional Comparative Survey

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Abstract

Objective: To evaluate the effect of structured counselling on women's choice of obstetrical anaesthesia for elective caesarean section.

Methods: This was a cross-sectional comparative survey conducted at department of gynaecology (unit II), Abbasi Shaheed Hospital, Karachi, from 1st January, 2017 to 30th June, 2017. The study included 250 pregnant women at term (≥ 37 weeks) with a prior caesarean section, planned for elective caesarean having no contraindications to spinal or general anaesthesia. Excluded from the study were women with obstetric emergencies like antepartum haemorrhage, cord prolapse, eclampsia, disseminated intravascular coagulation, vertebral column deformities, foetal distress and obstructed labour. They were asked about the technique of anaesthesia they would prefer for their caesarean section. The women then received structured counselling and the choice was assessed again. Chi-square statistic was applied to assess the association between both choices taking p-value of ≤ 0.05 as statistically significant. Data were analysed using the SPSS software program, version 15.0 (IBM, Armonk, USA).

Results: Out of 250 women recruited, before counselling 116 (46.4%) chose general anaesthesia, 94 (37.6%) women chose spinal anaesthesia whereas 40 (16%) had no particular preference. After receiving structured counselling 68 (27.2%) women chose general, 170 (68%) women opted for spinal and 12 (4.8%) women still remained undecided. The effect of structured counselling was assessed by cross-tabulating pre-counselling choice and post-counselling choice. The Chi-square test statistic was significant at $p < 0.001$ showing a significant association of structured counselling on the choice of anaesthesia.

Conclusion: Women's choice is significantly altered by the counselling. Majority of women's beliefs are shaped by past experience and the information they receive. Significant improvement can be expected in near future if more consistent information is provided. Consistency can be ensured by use of patient information leaflets.

Keywords: Counselling, regional anaesthesia, caesarean section, general anaesthesia, spinal anaesthesia

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Introduction

Patients have limited knowledge about the role of anaesthetists and types of anaesthesia which leads them to opt for inappropriate anaesthetic

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techniques¹. Many patients refuse for regional anaesthesia because of lack of knowledge and false beliefs². It is now necessary to ensure that patients are aware of any 'material risks' involved in a proposed treatment and other alternatives available³.

Doctors and patients need to make decisions together rather than the paternalism that was initially engrained into medical practice. Presenting accurate information each time is mandatory. Listening to the views of patients and providing them

all the information they need and want to reach an informed decision is now a legal obligation. The General Medical Council has excellent advice available on its website which is accessible worldwide⁴.

The British Association of Anaesthetists UK has a dedicated website that ensures free download of patient information leaflets and consent advice in much languages⁵. Their use can have a considerable effect on attainment of valid and informed consent. They may help the patient to choose better and be well aware of the anaesthesia technique employed in their procedure. Lack of communication between patients and anaesthetist before surgery is the most likely reason which results in an inability of patients to opt for better anaesthetic techniques⁶.

False beliefs and lack of evidence based information are frequently held responsible for slow uptake of regional techniques in developing world. In Nigeria 88% of cesarean sections were done under general anaesthesia during the past 20 years⁷. In Spain, 98% caesareans are carried out under regional anaesthesia, whereas the rate in United Kingdom is 90%. In Pakistan only 51% of caesareans are carried out under spinal anaesthesia⁸.

The rate of elective caesarean section for delivery has been increasing steadily over the past decade. The greater incidence of airway complications among this population has resulted in anaesthetists favouring regional anaesthesia over general anaesthesia⁹. Spinal anaesthesia is as effective as general anaesthesia with favourable maternal and foetal outcomes^{10,11}. Spinal anaesthesia is comparable to general anaesthesia in terms of post-operative pain control¹². In one study conducted in Turkey post-operative opioid analgesia requirement during first 24 hours were significantly higher in general anaesthesia group than spinal anaesthesia group¹³. Spinal and epidural anaesthesia are associated with moderate degree of maternal satisfaction.

In a study conducted by Afolabi BB et al. there were evidences of significant differences in terms of satisfaction with general anaesthetic technique compared with epidural or spinal group¹⁴.

More women in the general anaesthesia group stated that they would use the same technique again if they needed caesarean section for subsequent pregnancy.

The rate of caesarean sections in Pakistan continues to rise. Few studies have been conducted in the past on patient satisfaction and patient preference of anaesthesia. Structured counselling using patient information leaflets may help women choose better. The present study evaluates the effect of structured counselling, using the patient information leaflets and consent advice documents, in pregnant women regarding choice of anaesthesia.

Patients and Methods

The present study was a cross-sectional comparative survey. Women, aged 19 to 40 years, with prior caesarean delivery under spinal or general anaesthesia were recruited for this study from obstetrics outpatient clinic. Pregnant ladies at term (≥ 37 weeks) planned for elective caesarean section having no contraindications for spinal or general anaesthesia, with prior one caesarean section were included in the study. Excluded from the study were women with obstetric emergencies like antepartum haemorrhage, cord prolapse, eclampsia, disseminated intravascular coagulation, vertebral column deformities, foetal distress and obstructed labour.

After obtaining informed consent 250 women fulfilling the inclusion criteria were enrolled using the non-probability consecutive sampling. Brief history was taken to ensure the participant fulfilled the inclusion criteria. All women underwent the standard counselling session in the clinic and another structured counselling session with the research team on the same day. Ethical approval for the study was taken from the Ethical and Scientific Review Committee of Karachi Medical and Dental College, institutional review board (IRB) 021/16.

Women who met the inclusion criteria were initially offered the standard counselling that is re-

ceived in the setup. That counselling is conducted by the doctor in charge in the anaesthesia department of the clinic for that day and involves discussion of choice between regional and general technique. The doctor describes the process of each technique of anaesthesia. The merits of each method, their common side effects and possible complications are explained in the national language i.e. Urdu, by the doctor, who then records the patients' choice after the session is concluded. The session does not involve use of any questionnaire and thus uniformity is not guaranteed. Patients' choice was recorded in the proforma.

The structured counselling session was conducted by the research team after the initial session. Each session involved a single patient and one member from the research team. The session incorporated the use of consent forms and patient information leaflets available from The Obstetrics Anaesthesia Association UK, for free download and use. Patients were counselled in Urdu (local language) as the leaflets are also available in Urdu⁵. The patients were given accurate information about how the anaesthesia works, what the procedure would involve and how long the effects would last. Using these, women were also counselled about perceived risks and the actual values of these risks were quoted in frequencies presented in the leaflet and form. They were encouraged to ask questions and provided with a take home copy of patient information leaflet. They were asked about their final choice. Both choices pre-counselling and post-counselling were entered in pro forma attached as annexure.

The primary outcome measure in this study was choice of anaesthesia for caesarean section before and after structured counselling. The secondary outcome was effect of structured counselling on the choice. Using the study by Ahmad et al.¹⁵ done on awareness of the existence of anaesthesia techniques, the required sample size came out to be 235 patients. By taking the value of least percentage from above data of 18%, which was the percentage of women having no particular preference in

the selected population, margin of error = 5% and confidence level (C.I) =95%. This sample size was calculated using the WHO software. We used the estimating population proportion with specified absolute precision test to calculate the sample size¹⁶.

Data were analysed using the SPSS software program, version 15.0 (IBM, Armonk, USA). Frequencies and percentages were calculated for the qualitative variables like age range, socioeconomic status, educational status and reasons for choosing spinal and general anaesthesia. Effect modifiers were controlled through stratification of maternal age, socioeconomic status and educational status to see the effect of these on the outcome variable. The dependent variables were choice of anaesthesia pre-counselling and choice of anaesthesia post-counselling. The independent variables were sociodemographic characteristics i.e. age range, socioeconomic status and educational status. A bivariate analysis was conducted to test for a possible association between each dependent variable and the independent variables listed above. The Pearson Chi-square test was used to assess associations between variables for an alpha error of 5%.

To assess the effect of structured counselling, the choice of women for anaesthesia technique pre-counselling (general, spinal or no choice) was cross tabulated with the choice post-counselling (general, spinal or no choice). Chi-square statistic was applied to assess the association between both choices taking p-value of ≤ 0.05 as statistically significant.

Results

The study included 250 women. The mean age of the women was 25.99 ± 4.345 years. Of these women 108 (43.2%) were illiterate, 87 (34.8%) had primary education, 47 (18.8%) had secondary education and only 8 (3.2%) were graduates. Among them, 150 (60%) belonged to the low socioeconomic group having a monthly income of 10,000 PKR per month, 84 (33.6%) belonged to middle socioeconomic group, having a monthly income of 10,000 to 40,000 PKR per month and 16 (6.4%) be-

Table 1. Effect of age, educational status and socioeconomic status on choice: pre-counselling

	pre counselling choice			p-value
	general (n= 116) %	spinal (n= 94) %	no choice (n= 40) %	
Age range				
19-24	41 (35.3%)	38 (40.4%)	14 (35.0%)	0.5
25-30	58 (50.0%)	46 (48.9%)	17 (42.5%)	
Greater than 30	17 (14.7%)	10 (10.6%)	9 (22.5%)	
Subtotal	116 (100.0%)	94 (100.0%)	40 (100.0%)	
Education				
graduate	7 (6.0%)	0 (.0%)	1 (2.5%)	0.001
illiterate	52 (44.8%)	43 (45.7%)	13 (32.5%)	
primary	30 (25.9%)	34 (36.2%)	23 (57.5%)	
secondary	27 (23.3%)	17 (18.1%)	3 (7.5%)	
Subtotal	116 (100.0%)	94 (100.0%)	40 (100.0%)	
Socioeconomic				
Lower Class (Monthly income = 10000)	62 (53.4%)	63 (67.0%)	25 (62.5%)	0.179
Middle Class (Monthly income 10000-40000)	43 (37.1%)	27 (28.7%)	14 (35.0%)	
Upper Class (Monthly income > 40000)	11 (9.5%)	4 (4.3%)	1 (2.5%)	
Subtotal	116 (100.0%)	94 (100.0%)	40 (100.0%)	

Table 2. Effect of age, educational status and socioeconomic status on choice: post-counselling

		post counselling choice			p-value
		general n= 68 %	spinal n= 170 %	no choice n= 12 %	
Age range					
19-24	25 (36.8%)	65 (38.2%)	3 (25.0%)	0.015	
25-30	28 (41.2%)	89 (52.4%)	4 (33.3%)		
Greater than 30	15 (22.1%)	16 (9.4%)	5 (41.7%)		
Subtotal	68 (100.0%)	170 (100.0%)	12 (100.0%)		
Education					
Graduate	6 (8.8%)	2 (1.2%)	0 (.0%)	0.004	
Illiterate	29 (42.6%)	77 (45.3%)	2 (16.7%)		
Primary	17 (25.0%)	61 (35.9%)	9 (75.0%)		
Secondary	16 (23.5%)	30 (17.6%)	1 (8.3%)		
Subtotal	68 (100.0%)	170 (100.0%)	12 (100.0%)		
Socioeconomic					
Lower Class (Monthly income = 10000)	34 (50.0%)	109 (64.1%)	7 (58.3%)	0.077	
Middle Class (Monthly income 10000-40000)	25 (36.8%)	55 (32.4%)	4 (33.3%)		
Upper Class (Monthly income > 40000)	9 (13.2%)	6 (3.5%)	1 (8.3%)		
Subtotal	68 (100.0%)	170 (100.0%)	12 (100.0%)		

longed to high socioeconomic group having a monthly income of greater than 40,000 PKR per month.

Prior to receiving counselling 116 (46.4%) chose general anaesthesia, 94 (37.6%) chose spinal anaesthesia and 40 (16%) had no particular preference. Of those included, 73 (62.93%) chose general anaesthesia because they wanted to remain unconscious during surgery, 22 (19%) had past good experience, 16 (13.8%) had fear of backache after spinal and 5 (4.31%) had a previous spinal headache. The main reason for choosing spinal was past good experience 72 (76.59%).

The bivariate analysis for both dependent variables pre-counselling choice and post-counselling choice was carried out with each of the independent variables, age range, socioeconomic status and educational level to see which factors are associated with the women's choice both pre-counselling and post-counselling. The p-values for both pre-counselling and post-counselling choice are shown in Tables 1 and 2.

A significant association (p-value= 0.001) was found between choice of anaesthesia and educational status. The association remained significant (p value=0.004) post-counselling. Post-counselling

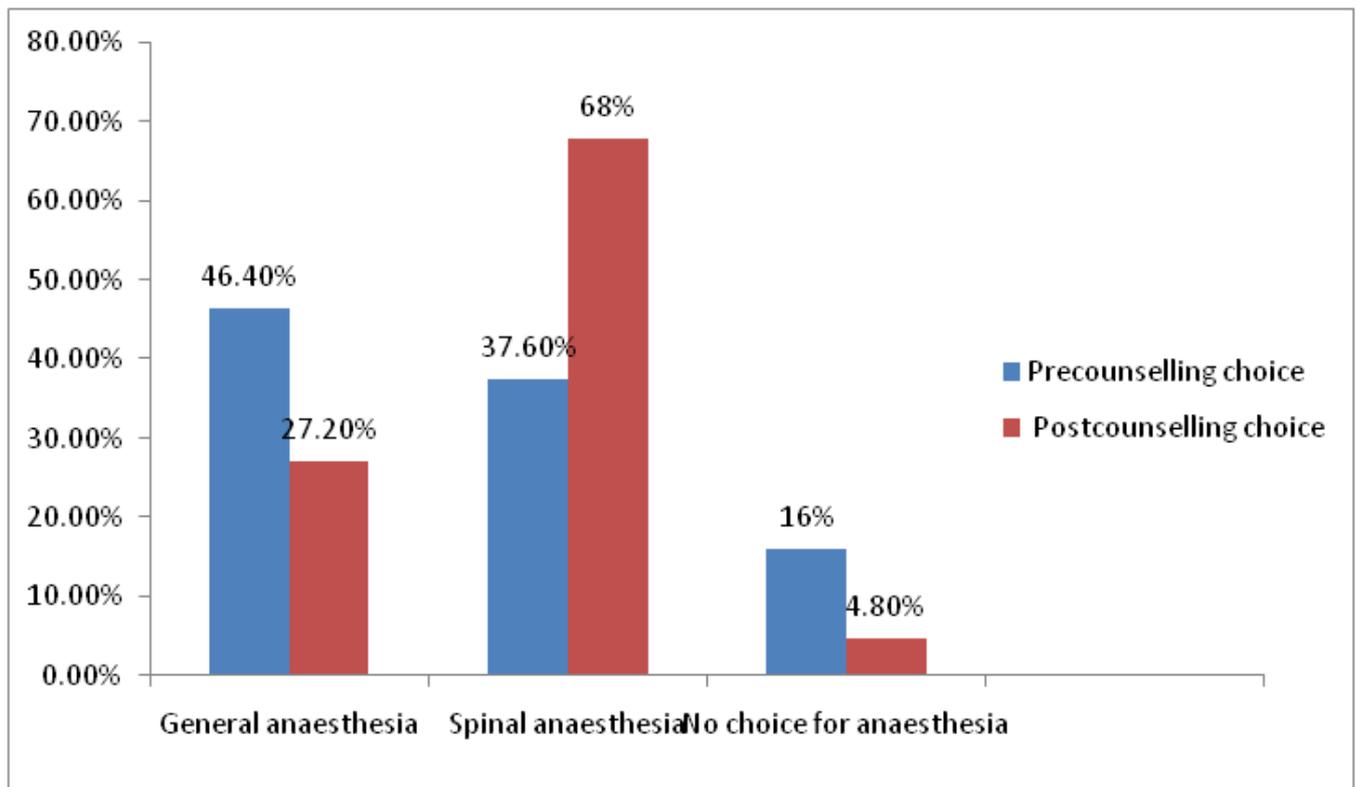


Fig 1. Choice of anaesthesia pre-counselling and post-counselling

the association between age range and choice of anaesthesia also reached statistical significance (p -value= 0.015). Socioeconomic status did not have a significant association with choice.

After receiving counselling 68 (27.2%) chose general, 170 (68%) opted for spinal and 12 (4.8%) still remained undecided. The choices pre-counselling and post-counselling are shown in Fig. 1.

The effect of structured counselling was assessed by cross-tabulating pre-counselling choice and post-counselling choice. The Chi-square test statistic was significant at $p=0.000$ showing a significant association of structured counselling on the choice of anaesthesia.

Discussion

The present study assessed pregnant woman's choice of anaesthesia for elective repeat cesarean section before receiving structured coun-

selling and after that. Our study shows that structured counselling has a significant effect on choice of anaesthesia for repeat cesarean section.

General anaesthesia was chosen by 116 women, 94 opted for spinal and 40 had no particular preference before structured counselling. After structured counselling 48 women who originally chose general anaesthesia chose spinal and 28 out of 40 with no preference also decided to use spinal anaesthesia.

Regional techniques for anaesthesia are adopted more frequently by the anesthetists worldwide. Few studies have been conducted in the past on patient satisfaction and patient preference of anaesthesia.

Spinal and epidural anaesthesia are associated with moderate degree of maternal satisfaction. In a study conducted by Ahmed et al. 48.3% women chose general anaesthesia, 33.4% preferred regional anaesthesia while 18.3% were not sure of the selec-

tion. The pre-counselling results are similar to the prior survey¹⁵.

With structured counselling more women (68%) pre-counselling, considered the use of spinal anaesthesia. This is a remarkable improvement from the pre-counselling proportion, but is still low. Imparting consistent information is ensured by the use of patient information leaflets (PIL) and consent aids. A review evaluating the use of patient information leaflets concluded that PILs improve patients' knowledge and satisfaction¹⁷. Our study shows an increase of 30% in uptake of spinal anaesthesia post-structured counselling, spinal anaesthesia being the less invasive technique.

A study from Taiwan puts spinal anaesthesia as the preferred mode by anaesthetists which is in agreement with the pattern worldwide¹⁸. By giving the patient adequate information we may be able to narrow the gap between provider and user of the service. In our analysis, 68% women opted for spinal anaesthesia post-counselling, making spinal anaesthesia the preferred choice after adequate information was provided.

Compared to the usual counselling, counselling incorporating presentation of probabilities, experiences of others and balance of options is considered more helpful in reaching a decision¹⁹. In our study 16% of women did not have a preference for any technique. After being counselled this figure fell to 4.8%. Counselling is an important component of the doctor patient relationship. Health care providers come across a multitude of different patient case scenarios that require skill and good technique. Each consultation requires transfer of adequate information to the patient so that they can come to an informed decision.

In a survey conducted in Czech Republic, the major reasons for caesarean delivery under general anaesthesia were emergency procedure (67%) and refusal of neuraxial blockade by parturient (30%). In our study 27% women refused spinal which is similar to the percentage of women refusing neuraxial blockade in Czech²⁰.

The patients refuse regional anaesthesia because of reasons such as fear of paralysis and experiencing pain during surgery. The commonest reason for choosing general anaesthesia prior to receiving counselling was to remain unconscious during surgery²¹. In our study 63% chose general anaesthesia because they wished to not hear or feel anything during the surgery. Ahmed et al. quote previous experience of general anaesthesia (24.4%) as the main reason for choosing general anaesthesia. Similarly 18% of women in our study wanted general anaesthesia because of prior good experience. These findings show lack of proper knowledge and poor past experience with the regional technique in women opting general anaesthesia. These results are well matched with the findings of studies conducted worldwide²².

Considering that the worldwide trend is towards regional techniques our user inclination is bothersome. Structured counselling should be introduced to help women reach an informed decision.

Pregnancy is one of the vulnerable periods where health needs of these women as well as the emotional needs should be taken care of. In the current climate of litigation, there is a need to involve women in decision-making, be it anaesthesia or any other aspect of the care they receive. Using preformatted consent forms enables clinicians to present information in a consistent way. This approach makes them confident and allows patients to receive adequate information each time.

The present study depicts the incorporation of a standardised consent aid into a counselling session for anaesthesia workup. The study also shows the impact of the use of the counselling tool and its advantage over traditional counselling, usually received by the target population.

The study is a single centered study and does not have a large enough sample size so conclusions drawn cannot be generalised to whole population. Secondly, the study setup is a public sector hospital which is mostly frequented by low and middle socioeconomic strata of the population.

Larger multicentered trials are urgently needed to assess the impact of this intervention.

Conclusion

Women's choice is significantly altered by the counselling. Majority of women's beliefs are shaped by past experience and the information they receive. Significant improvement can be expected in near future if more consistent information is provided. Consistency can be ensured by use of patient information leaflets.

Conflict of Interest

Authors have no conflict of interests and no grant/funding from any organisation.

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