

# Factors Influencing the Preference of Regional Anaesthesia in the Obstetric Population: A Survey Study

Obstetrik Hastalarda Bölgesel Anestezi Tercihini Etkileyen Faktörler: Anket Çalışması

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**Objective:** Most patients in Turkey still prefer general anaesthesia (GA) and are somehow afraid of regional blocks. Receiving adequate information is likely to increase patients' awareness about regional anaesthesia (RA). We aimed to determine the current preferences of parturients, the reasons for refusal of RA techniques, and how detailed information about the type of anaesthesia affect a patient's preference for anaesthesia among obstetric cases.

**Methods:** One hundred fifty patients, scheduled for elective caesarean section (C/S), were surveyed before and after the C/S. The survey included three parts: the first part involved demographic features, anaesthesia preferences, prior opinions and experiences related to RA, and assessment of preoperative fears and reasons, and the second part involved persuasion of patients after reading the information sheet about RA. The final part was composed of postoperative satisfaction and complications related to the RA or GA depending on the patients' preferences. Complications were recorded on the anaesthesia chart.

**Results:** Of all patients, 42.7% (n=64) approved and 48% (n=72) refused RA at the first preoperative anaesthesia visit. The remaining patients (n=14) had no idea of which anaesthesia type to choose. After being informed about RA in detail, 48 (66.6%) of the patients who previously refused RA and all patients who had no idea approved the procedure, and all of them were satisfied with the anaesthesia following the procedure.

**Conclusion:** Our study revealed exactly that particularly obstetric anaesthetists should inform their patients about the advantages and disadvantages of all alternative types of anaesthesia. Effective and correct information is the major point.

**Key Words:** Obstetric anaesthesia, regional anaesthesia, survey

**Amaç:** Obstetrik hastalarda herhangi bir kontrendikasyonu yoksa, bölgesel anestezi ilk tercih edilmesi gereken ve en güvenilir yöntemdir. Bu anket çalışmamızda obstetrik hastalarda bölgesel anesteziyi reddetme nedenlerini, iyi bir bilgilendirme sonrasındaki görüş değişikliklerini ve ameliyat sonrasındaki memnuniyet düzeylerini ölçmeyi amaçladık.

**Yöntemler:** Etik kurul onayıyla preoperatif değerlendirme sırasında anestezi polikliniğine gelen gebelerden iki aşamalı bir anket formu doldurmaları istendi. Anketin ilk bölümünde anestezi tercihleri ve bölgesel anesteziyi reddetme nedenleri sorgulandıktan sonra hastalara standart bir bilgilendirme broşürü okutuldu. Bilgilendirme sonrası anketin ikinci aşamasına geçilerek seçim değişiklikleri ve nedenleri sorgulandı. Girişim sonrasında tüm hastaların anestezi seçimleriyle ilgili memnuniyetleri ve komplikasyonlar kaydedildi.

**Bulgular:** Doğum öncesi anestezi polikliniğinde değerlendirilen 150 ASA I veya II gebe verilen anket formunu doldurdu. Altmış dört gebe (%42,7) herhangi bir ön bilgilendirme yapmadan bölgesel anesteziyi tercih etti. Yetmiş iki gebe (%48) bölgesel anesteziyi reddetti. Bu gebelerin 16'sı (%11,1) daha önceki bölgesel anestezi deneyimlerinde yaşadıkları komplikasyonları neden olarak gösterdiler. Tüm gebeler standart bilgilendirilmeye tabi tutulduktan sonra 48 (%66,6) gebe bölgesel anesteziyi kabul etti ve bu hastaların tamamının ameliyat sonrası memnuniyet değerlendirmesi 'çok iyi' şeklindeydi.

**Sonuç:** Bu anket çalışması; etkin ve doğru bir bilgilendirmeyle hastaların yöntem seçimlerini değiştirebileceklerini göstermiştir. Sonuçta hastaların ameliyat öncesi anesteziistler tarafından bilgilendirmesinin önemi bir kez daha ortaya çıkmıştır.

**Anahtar Kelimeler:** Obstetrik anestezi, bölgesel anestezi, anket

## Introduction

Although regional anaesthesia (RA) is considered to be the most suitable anaesthesia type in obstetrics and has been increasingly preferred by both surgeons and anaesthesiologists (1, 2), most patients in Turkey still prefer general anaesthesia (GA) and are somehow afraid of regional blocks. In order to increase the parturient preference for RA, all patients, especially the misinformed and anxious ones, should be informed objectively (3). Receiving adequate information is likely to increase patients' awareness about RA.

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Anaesthesiologists should discuss the anaesthesia strategy with the patient; types of anaesthesia appropriate for the surgery; how these procedures would be performed; and the advantages, disadvantages, and estimated risks of each alternative anaesthetic type, so that patients could choose the most suitable one (4, 5). The most common side effects of each alternative should be discussed reliably. Also, it should be emphasized that RA is safe in the hands of an expert and has many advantages, especially for the baby.

In this study, we aimed to determine the current preferences of parturients, the reasons for refusal of RA techniques, sources of risk information for women about RA, and how detailed information about the type of anaesthesia affects obstetric patients' preferences.

## Methods

This survey study was approved by the ethics committee of our institution (Health Research System Hospital-01.12.2007-EK001). One hundred fifty patients, scheduled for elective caesarean section (C/S), were surveyed before and after elective C/S. Because of the non-invasive study protocol and no need to change any type of treatment, only informed consents for anaesthesia were taken from the patients. Inclusion criteria were pregnant patients aged between 18 to 42 years, ASA I or II, and undergoing elective C/S. Exclusion criteria were emergency cases, patient refusal to answer questions, cognitive dysfunction, or failure to understand Turkish or English. The survey was conducted between June 2008 and June 2009.

The survey included three parts: the first part involved the age, parity, education level, status of the patients, anaesthesia preferences, early opinions and experiences related to RA, and assessment of preoperative fears and reasons (Appendix 1), and the second part involved persuasion of patients after reading the information sheet about RA (Appendix 2). The final part was composed of postoperative satisfaction and complications related to the RA or GA, depending on the patients' preferences (Appendix 3). Before considering the second part of the questionnaire (Appendix 2), all patients were asked to read an information sheet explaining the potential advantages and disadvantages associated with RA and GA and were allowed to ask questions on anything they were curious about related to anaesthesia to their anaesthesiologist. In order to optimize the survey's quality and to exclude variability, a standardized definition and explanation for both general and regional anaesthesia were given, and the same anaesthesiologist performed all procedures. All parturients were interviewed 24 hours after the caesarean delivery for the third part of the questionnaire (Appendix 3) and asked about their global satisfaction with the anaesthesia care. Complications were recorded on the anaesthesia chart. Accidental dural puncture, total spinal block, neurological complications, and infections were deemed as major complications. Nausea, vomiting, headache, backache, and discomfort were minor complications.

Table 1. Education level

	RA			Total
	Yes	No	Not Sure	
Education				
*Primary School	2	8	2	12
*High School	6	20	6	32
College	52	42	4	98
Master's Degree	4	2	2	8
Total	64	72	14	150
RA: regional anaesthesia *p<0.05				

## Statistical analysis

Data are presented as mean±SD after performing descriptive statistics and expressed as relative percentages of all the selected choices of questions. Nonparametric data were analyzed using chi-square test. A p value <0.05 was considered statistically significant.

## Results

One hundred fifty ASA I or II parturients (RA, n=126/GA, n=24) answered the questionnaire. Of all patients, 42.7% (n=64) approved and 48% (n=72) refused RA at the first preoperative anaesthesia visit. The rest of the parturients (n=14) had no idea of which anaesthesia type to choose. The education level significantly affected the preferences of patients (Table 1).

Forty-six percent (n=30) of the patients approving RA had experienced RA at least once before, and they suggested that their previous satisfaction with this type of anaesthesia was their reason for approval. The regional anaesthesia techniques used were epidural anaesthesia (18.6%) and combined spinal epidural anaesthesia (65.3%).

Seventy-two (48%) patients refused RA at the first preoperative anaesthesia visit. Eight of them indicated that the reasons for their refusal were their previous RA experiences, which resulted in minor/major complications. Other reasons for patients' refusals were fear of nerve damage (9.3%), being aware of what happens during surgery (8%), fear of needle/injection (8%), fear of head/backache (4%), and likelihood of discomfort during the procedure (3%) and others (Table 2). The main information sources of patients about the risks of RA, like awareness, headache, and backache, were friends and family members.

After being informed about RA in detail, 48 (66.6%) of the patients who initially refused RA and all patients who had no idea approved the procedure, and all of them were satisfied with the anaesthesia following the procedure. All patients pointed out that they were clearly informed about both GA and RA.

Table 2. Reasons for refusal of RA

Reasons	n	%
Fear of permanent nerve damage	14	19.4
Fear of awareness	12	16.6
Fear of needle/procedure pain	12	16.6
Opposite opinion of relatives	10	13.8
Bad news related to RA on web or press	8	11.1
Bad previous experiences	6	8.3
Being disturbed with the noises in the operating theater	4	5.5
Fear of headache	4	5.5
Fear of backache	2	2.7
RA: regional anaesthesia		

Table 3. Complications related to RA

Complications	n	%
Nausea and vomiting	7	4.6
Headache	6	4
Needle pain	2	1.3
Low back pain	2	1.3
Paraesthesia disturbance	1	0.6
Local bleeding at the needle insertion point	1	0.6
Catheter malfunction	1	0.6
Other	2	1.3
RA: regional anaesthesia		

Complications during epidural catheter placement included dural puncture (2%), epidural vascular damage (1.3%), and paresthesia (0.6%). Postoperative complications and side effects were composed of nausea/vomiting (4.6%), headache (4%), local bleeding at the catheter insertion point (0.6%), and catheter malfunction (0.6%) (Table 3). No permanent neurological sequela, cardiac arrest, or maternal mortality was detected during the study period. Only 6.3% of the RA group patients stated that they were not satisfied with regional blocks due to headache (n=6), nausea/vomiting (n=7), and being aware of what was happening (n=2).

## Discussion

The present information approved by most of anaesthesiologists is that RA should be the method of choice in obstetric patients unless a contraindication is present. Katircioglu et al. (1) concluded in their study that epidural block success rates, low complication rates, extremely low morbidity rates, and absence of mortality are crucial points about RA. Low complication rates of our study and high satisfaction rates of our patients correlated with the safety results about RA.

Pelinka et al. (3) made a similar survey study among orthopaedic patients. In this study, they showed that orthopaedic patients preferred regional anaesthesia for arthroscopic op-

erations, since they were curious about the surgery. Other reasons for preferring RA were fear of GA and postoperative pain control. In our study, only obstetric patients were asked about their preferences and reasons for their choices. The most common reasons for the approval of RA were being affected by the suggestion of their obstetricians and their previous experiences.

Some patients were indecisive about what type of anaesthesia is proper for the surgery. Effective preoperative information and correct selection of the type of anaesthesia may increase such patients' preferences on behalf of RA. This was entirely observed in our study. After reading our information sheet and discussing all the questions they were curious about, all indecisive patients approved RA, and all of them were satisfied with their preferences.

The results of the second part of our questionnaire (Appendix 2) pointed out that choices were likely to be changed by adequate information about regional anaesthesia. Our study revealed exactly that particularly obstetric anaesthetists should inform their patients about the advantages and disadvantages of all alternative types of anaesthesia. Fortescue (6) and colleagues indicated that women actually benefit from receiving adequate information and being involved in the decision-making process. Especially, obstetric anaesthesiologists should be more insistent about informing pregnant patients. A better antenatal education is likely to eliminate unintended and incorrect information gained from social circles (7). Patients should be given a chance to ask questions related to their fears and anxieties.

In a recent study, the most frequent risks of regional anaesthesia that anaesthetists talked to the obstetric patients about were postdural puncture headache, block failure, permanent neurological injury, temporary leg weakness, and hypotension (8). So, it is obvious that the anaesthetists consider headache, paralysis, nerve damage, and inadequate block to be the most important risks of regional anaesthesia in obstetrics (9). The most common side effects of any kind of anaesthesia that would be performed should be presented in detail. All of the risks about both RA and GA were included in our information sheet.

The surveys pointed out that families or friends were the main sources of the risk information, especially about nerve damage and paralysis (4, 10, 11). Our patients indicated that the main information sources of patients about the risks of RA, such as awareness, headache, and backache, were their friends and family members.

Matthey et al. (12) presented that the public does not really understand the advantages, disadvantages, and risks of RA. Another important point of view was the patients' previous experiences (13). If a patient experienced any kind of disturbing complication once, he/she would hesitate to approve RA again.

Resistance to RA may sometimes be observed among surgeons. If a patient's surgeon is against RA, the anaesthesiologist will not be able to persuade him/her about RA. The health care personnel should be the pioneer of informing patients about it and mainstreaming it in public.

## Conclusion

Effective and correct information is the major point of view. All patients have the right to be informed about what might happen. Especially, obstetric patients benefit from RA; however, patients themselves would have no idea about advantages and disadvantages of the anaesthesia types unless their doctors inform them correctly.

**Ethics Committee Approval:** Ethics committee approval was received for this study from the ethics committee of Health Research System Hospital.

**Informed Consent:** Written informed consent was obtained from patients who participated in this study.

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**Appendix 1**  
**Questionnaire**  
**Part 1**

1. Date: \_\_\_\_\_ 2. Age: \_\_\_\_\_
3. Occupation:      employee       worker   
                          teacher       engineer   
                          medical staff       housewife   
                          student       other
4. Parity:      None       1       2       >2
5. Education:      Primary school   
                          High school   
                          College   
                          Master's Degree
6. Would you prefer regional anaesthesia for your operation?  
                          Yes       No   
 (if yes, do not answer question # 13)
7. What is your reason for approval of regional anaesthesia?  
 Fear of general anaesthesia   
 Safer than general anaesthesia   
 My previous experiences   
 My surgeon recommended me to do so   
 Other .....
8. Have you ever been operated with regional anaesthesia?  
                          Yes       No
9. If yes, what type of anaesthesia?  
 Spinal       Epidural       Combined spinal+epidural       Peripheral block
10. Was it comfortable?  
                          Yes       No
11. Have any of your relatives or friends been operated with regional anaesthesia?  
                          Yes       No
12. Did they complain about anything related to regional anaesthesia?  
                          Yes       No
13. What is the reason for your refusal of regional anaesthesia?  
 Being disturbed by environmental factors in operating theater   
 Permanent neurological damage   
 Risk of headache   
 Risk of low back pain   
 Local pain   
 Fear of injection and needle   
 Internet cons   
 Bad experiences of relatives or friends   
 Previous experiences   
 Risk of infection   
 Fear of feeling pain   
 Fear of nausea and vomiting   
 Other.....

After a patient reads the information form, proceed to the second part of the questionnaire.

**Appendix 2**  
**Questionnaire**  
**Part 2**

3. Are you satisfied with the information about regional anaesthesia?  
Yes  No
4. Have you changed your mind about your preference?  
Yes  No

**Appendix 3**  
**Questionnaire**  
**Part 3**

3. Are you pleased and satisfied with regional anaesthesia?  
Yes  No
4. If not, the reason is  
Being disturbed by the environmental factors in operating theater   
Headache   
Low back pain   
Pain during operation   
Needle pain   
Nausea and vomiting   
Paresthesia disturbance   
Other.....