

The influence of operation theatre environment on patients' perceptions during awake procedures: a cross-sectional study

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Abstract

Objective: To determine the perceptions of patients regarding operation theatre conversation and environment during an awake procedure.

Methods: The descriptive, cross-sectional study was conducted from February to August 2017 in post-operative wards of Military Hospital, Rawalpindi, Pakistan, and comprised women undergoing gynaecological or obstetric procedures under regional anaesthesia. Closed-ended questionnaires were distributed via non-probability convenient sampling. Operation theatre data was collected from the anaesthesia notes, and data was analysed using SPSS 22.

Results: There were 93 female subjects with a mean age of 28.23 ± 5.42 years (range: 19-48 years). Overall, 90(96.8%) subjects regarded the conduct of operation theatre staff as cooperative and friendly with 64(68.8%) viewing the conversation among the staff as helpful in relieving anxiety. The thought of anaesthesia waning caused anxiety in 40(43%) subjects, but there was no difference in perceived anxiety between those counselled 61(65%) and not counselled by the anaesthetist. With regards to the environment, 41(44%) subjects said more measures were required to prevent patients from seeing the operating field. Besides, 30(32.2%) and 20(21%) subjects had reservations regarding the presence of male staff and medical students respectively. The opinion regarding medical professionals did not change for 60(64%) subjects after the procedure, and 37(39.8%) recommended that communication skills of medical professional needed improvement.

Conclusion: The environment in the theatre can have an influence on the patient's anxiety levels. Counselling by surgeons, casual conversations in the theatre can help alleviate apprehensions of the patients.

Keywords: Anxiety, Patients' experience, Surgery, Theatre, Nursing, Anaesthesia.
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Introduction

From the use of ether for relieving pain during tooth extraction to the use of cocaine during an operation on a glaucoma patient, anaesthesia indeed has come a long way.¹

Globally, advancement in technology and pharmacology has resulted in more widespread use of regional anaesthesia, causing an increasing number of patients to be awake during their operation.²⁻⁴ The advantages of regional anaesthesia (RA) over general anaesthesia (GA) are multiple and established; including shorter hospital stays, decreased requirement of opiate analgesia postoperatively, lower complication rates, decreased hospital costs, and greater patient satisfaction.²⁻⁴ Analogous advantages of neuraxial anaesthesia have also been recognised in gynaecology and obstetrics.⁵ A study⁶ in the United States found that case fatality rate for caesarean section (CS) delivery was 32 per million for GA, but only 2 per million for neuraxial anaesthesia. Likewise, another study⁷ cited low failure rates, good operative conditions and high maternal satisfaction as positive outcomes of CS under RA. Furthermore, women's awareness of their surroundings and of the whole process of birth had a positive influence on their psychological and emotional well-being.⁴

An awake surgical procedure presents significant psychological and psychosocial needs, which, if not met, can cause significant anxiety among patients. A research carried out in the United Kingdom on patients undergoing day-case plastic surgery revealed injections and tourniquets to be most distressful in these patients, followed by the use of surgical terms, such as 'knife' and 'scalpel'.² A study in Sweden comprised patients undergoing hip surgery under local anaesthesia, and identified factors like long wait to increase the apprehension level of the patients, while gaining their trust proved to be the best way of alleviating their worries.⁸ Moreover, a qualitative study of women undergoing RA for CS found multiple sources of anxiety for patients during an awake procedure, including concerns regarding waning of anaesthesia during the procedure, clanging of metal instruments and narrowness of operation theatre (OT) table, among

others.⁴ All these factors contributing to patient's anxiety and discomfort increase intra-operative risk⁹ and have a detrimental effect on postoperative recovery.¹⁰ Nevertheless, there is still a significant paucity of research in Pakistan assessing the influence of OT environment on the patient during an awake procedure.

Moreover, in this age of litigation, the attitude and tone of surgeons, and, specifically, the conversations of surgeons during the procedures in operating rooms, carry paramount importance. Maintaining professional behaviour during different procedures is not only an ethical requirement, but it is an integral component of doctor-patient relationship and trust, as there have been instances where patients have sued their anaesthetist and the surgeons for using disparaging comments while they were under GA^{11,12} This highlights the fact that it is not only the awake procedures but during all kinds of OT procedures where the operating staff needs to be careful in their communication. While one study explored how the patient being awake affects the surgeons, studies examining this from the point of view of the patients are few.³ Whether the patients view these conversations in a negative manner can help us in changing and improving the OT environment, making it more patient-friendly.

Considering a lack of data on these aspects in Pakistan, the current study was planned to explore how OT conversation and its environment affect the perceptions of the patient, and the image the patient has of the entire experience.

Subjects and Methods

The descriptive cross-sectional study was conducted in the postoperative wards of Gynaecology and Obstetrics Department of the Military Hospital, Rawalpindi, Pakistan, from February to August 2017. Approval was obtained from the institutional ethics committee and the Head of the Department, but surgeons operating on the patient were not aware of the study being carried out. This was ensured to prevent bias.

The sample comprised women undergoing gynaecological or obstetric procedures under RA. In order to prevent confounding of results, women with pre-existing anxiety disorder and those who gave birth to babies needing intensive care were excluded. Also excluded were those with any relation with the OT staff.

A pre-tested questionnaire was distributed in the native language, Urdu. Upon request, some patients were explained the questionnaire in detail and the researchers filled it themselves after interviewing the patients. It had a total of 22 questions regarding patients' anxiety,

relationship to the environment and interaction with the OT staff. The patients' demographic details in the form of age and level of education were also noted. The questionnaire was filled up 4 to 72 hrs after the surgery. OT data was collected from the anaesthesia notes, and data analysis was performed using SPSS 22. Frequencies and percentages were calculated as required.

Results

Of the 120 questionnaires distributed, 93(77%) were completely filled. All the 93(100%) subjects were female and the mean age was 28.23±5.42 years (range: 19-48 years). Most of the participants were graduates 30(32.2%) and 11(11.8%) were illiterate. Spinal anaesthesia was used and no procedure was converted to GA. Sedation was used in 5(5.4%) cases (Table).

A total of 26(28%) subjects said they were not aware of the procedure being undertaken and of their surroundings. Also, 61(65.6%) subjects said the anaesthetist adequately explained to them the RA procedure and 40(43%) participants mentioned that the thought of anaesthesia waning during the procedure resulted in significant anxiety for them. There was no significant difference in anxiety levels between the participants who had been counselled by the anaesthetist and those who were not (Figure-1).

In contrast to the anaesthetists, 51(54.8%) subjects said the surgeons did not explain the procedure as the surgeon operated, 36(38.7%) said the surgeon explaining the procedure helped relieve their anxiety, and 5(5.4%) said that although the surgeon explained the procedure, it resulted in a further increase in their anxiety.

Table: Demographic and procedure data (N=93).

	Frequency	Percent
Education		
Illiterate	11	11.8
Primary	12	12.9
Middle	15	16.1
College/high school	25	26.9
Graduate	30	32.3
Sedation used		
Yes	5	5.4
No	88	94.6
Procedure type		
Elective Caesarean section	80	86
Hysterectomy	5	5.4
AP repair for prolapsed	1	1.1
Myomectomy	2	2.2
Emergency c-sec	3	3.2
Ovarian cyst	2	2.2

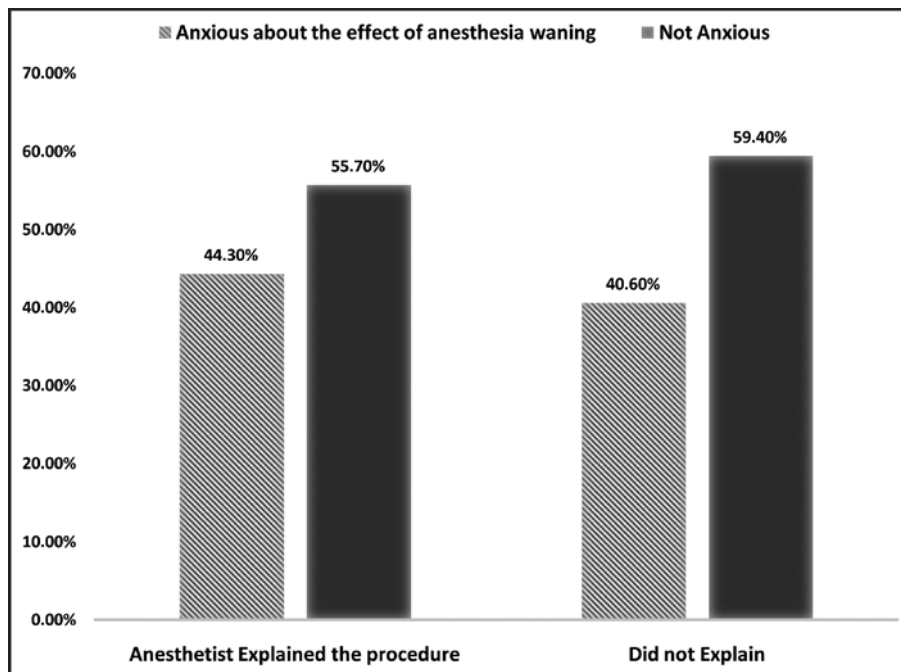


Figure-1: Comparison of anxiety regarding the anaesthesia among counselled and non-counselled participants.

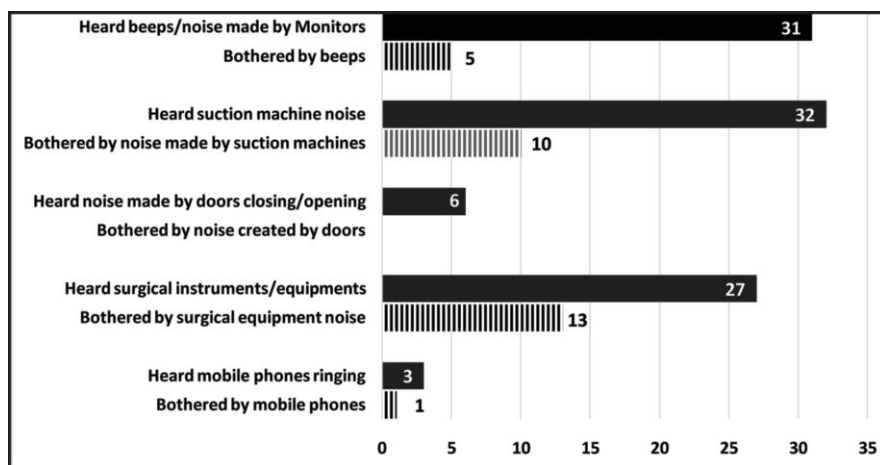


Figure-2: Sounds heard in the OT and their effect on anxiety.

Of the total, 90(96.8%) subjects found the OT staff to be cooperative and friendly, but 37(39.8%) participants believed that communication skills of the OT staff needed improvement.

No participant reported OT staff making any personal comments regarding the patients. Only 3(3.2%) women heard the staff making jokes and, of them, only 1(1%) found the non-serious attitude offensive. In contrast, 64(68.8%) participants viewed conversations occurring among OT staff helpful in relieving their anxiety. Only

2(2.2%) subjects said the conversations increased anxiety.

For 60(64.5%) subjects, the OT experience did not change their opinion regarding the surgeons/staff. And of those whose opinion did change, 46(49.5%) reported an improvement of opinion after the surgical experience. Given an option to choose between undergoing the same RA experience or GA, the number of women who chose to undergo an awake procedure 26(28%) was more than twice compared to those choosing to undergo a GA procedure 11(11.8%). The majority 56(60%) left the decision to their doctor.

Further, 70(75.3%) subjects saw no blood or blood-soaked products during the procedure, 15(16%) said that although they had seen them, the sight did not increase their anxiety; 8(8.6%) reported increased anxiety level. Also, 78(83.9%) subjects did not see the incision being made either. However, 41(44.1%) participants still thought that more measures needed to be taken to prevent the patient from seeing the operating field.

Regarding the presence of male staff during the operation, 63(68%) participants had no reservations, given their privacy was maintained and respected, 23(24.7%) thought only the male staff whose presence is absolutely necessary should be allowed, and 7(7.5%) were strictly against their presence. Likewise, the

presence of students did not appear to be much of an issue except for 20(21.5%) subjects, while 33(35.5%) were indifferent and 38(41%) found the presence rather helpful. Only 6(6.45%) participants said their consent was taken regarding the presence of students and trainees during their procedure. Overall, 46(49.5%) subjects thought their approval should have been taken regarding the presence of students.

The participants were also asked to recall any particular

noise or sounds that they had heard in the OT and whether that resulted in any anxiety for them. Most mentioned the beeps of monitors and the suction machine noise and the sound made by the surgical equipment (Figure-2).

Discussion

Female patients were targeted in the current study who have been shown to suffer from more anxiety intra-operatively.^{2,13,14} This can be partly explained by their increased need for knowledge. Studies conducted on surgical patients in England and the Netherlands have proven that women tend to visit the doctors more often, are in greater need for emotional support, and ask more questions compared to their male counterparts.^{2,15}

Our results were quite encouraging with a majority of the patients reporting the OT staff as cooperative and friendly, and their professionalism being commendable. The efforts of the anaesthetists, in particular, in explaining the procedure was quite encouraging. Majority of the women found the conversation among the OT staff comforting, and most of them did not see the incision being made or any blood-soaked products, and were open to the idea of the presence of male staff in OT.

A study conducted on patients who underwent local, regional or plexus anaesthesia for their surgeries in Norway revealed that of the different intra-operative time points, the anxiety of the patients peaked during the induction of anaesthesia.¹³ In the current study, 65.6% patients agreed that anaesthetists adequately explained the procedure to them, which helped the women get prepared for and correctly anticipate what was going to come soon afterwards. Despite this, however, 43% were apprehensive about anaesthesia waning during the procedure. This suggests a need for improvement in the preoperative anaesthetic information provision. Moreover, reassurance on the part of the anaesthetists is particularly important, as, according to one study, the second most common cause of women rejecting RA was the fear of needles and fourth being the fear of paralysis.¹⁶ Another study in the United Kingdom revealed that 40% felt little calm and another 24% very calm when the anaesthetist gave information regarding anaesthesia to the patients.¹⁷

The importance of direct communication and information provision in the alleviation of perioperative anxiety is well documented.^{2,4} Literature contains extensive data on how important patient-surgeon communication and interaction are. Of the various themes that have been described in surgeon-patient communication, explaining and teaching, and managing expectations intra-operatively are important³ However, 54.8% of the

subjects in the current study reported that the surgeon did not explain to them the procedure adequately or at all. This is in contrast to another study in Norway where 96% received continuous information about what was happening and this information made 49% of them less anxious.¹³ Despite the lack of engagement in terms of explaining the procedure, an overwhelming majority described the overall attitude of the OT staff members as friendly, and a very few heard the members making inappropriate comments or exhibiting any unprofessional attitude. However, the failure on the part of the surgeons to elucidate the procedure to the patients probably explains why 39.8% commented that there is a need for an improvement in the communication skills of OT staff.

General view of the conversations occurring among people present in the OT was that they helped to relieve anxiety. This finding is consistent with another study in England where casual conversation among OT staff proved to be stress-relieving rather than stressful.²

In a study conducted in the United States, exploring the reasons why women refuse RA, 25% participants had previously received epidural or spinal anaesthesia, highlighting the importance of a good prior RA experience.¹⁶ In the current study, only 11.8% subjects said that given the option, they will opt for GA next time. A vast majority said that they will leave the decision on their doctor, highlighting the high level of trust the patients had on the anaesthetist.

Patients undergoing a procedure have to change to OT clothes and parts of their body are often exposed, making them feel insecure and vulnerable.^{8,18} Hence, it is of utmost importance to maintain the dignity of the patient. Moreover, keeping in mind our cultural norms, we decided to investigate if the presence of male staff bothered the patients. Surprisingly, more than 60% had no reservations, given their privacy was maintained and respected.

The level of involvement of trainees has long been a topic of considerable contention. Though patients generally seem to have a positive attitude towards trainees' involvement during surgical procedure, it remains only till they are not aware of the extent of their involvement. As soon as they are informed of the exact nature of the trainees' participation in their procedure, they start showing their concerns.^{19,20} That explains why, though a small proportion of our patients had reservation regarding students and trainees presence, a larger percentage wanted their consent to be taken regarding the presence of students and trainees. The fear of seeing parts of their procedure being one of the reasons why

women opt for GA rather than RA,² a positive finding obtained in this study was that a vast majority of our patients neither saw any cuts being made on their body nor saw any blood-stained product. Despite this, almost half of the women thought that more measures need to be taken to prevent patients from viewing the operating field. Likewise, the sound of surgical instruments and machines being the major factors leading to greater anxiety among awake patients,² an encouraging finding in the current study was that a majority heard no such background noise and, of the minority that did hear the noises, most were not troubled by them.

Overall, the participants in our study reported positively about their experience of RA, majority of whom had undergone CS. These findings were similar to a study conducted in Hong Kong in which the perception of women who underwent CS was investigated.⁴

There were a number of limitations to the current study. Being a retrospective study, it was prone to recall bias. However, the maximum period between surgery and the questionnaire was not more than two days. Time period between OT procedures and interviews was not standardised. Moreover, due to the birth of a child/children, which is considered an auspicious occasion, the women may not have considered their experience a bad one even if they may have faced problems during the procedure.

Conclusion

OT environment does influence an awake patient's anxiety levels. Factors like casual conversation among OT staff did affect the patients, while factors like background machinery voice did not. Patients generally reported high levels of intra-operative satisfaction in their dealings with the OT staff. However, counselling by surgeons was an area that needed improvement. Contrarily, anaesthetists did explain the procedure well to the patients, but that did not stop the patients from worrying that the effects of anaesthesia may wear off during the procedure.

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