

PREOPERATIVE ANXIETY IN FEMALE PATIENTS: THE ISSUE NEEDS TO BE ADDRESSED

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ABSTRACT

Objective: To find out levels of preoperative anxiety and its nature in female patients awaiting elective surgery.

Material and Methods: This comparative cross-sectional study was done in surgical units of Civil Hospital, Karachi from January 2008 to March 2008. Anxiety level was measured in admitted female (as case) and males (as control) patients awaiting elective surgery. Patients were asked to complete two visual analog scales (VAS) regarding anxiety about the proposed surgery and anesthesia (range 0-100). They were then asked to select different factors responsible for their anxiety from a list. Student-t test and Chi² tests were applied where appropriate to find out significant difference between two groups.

Results: Mean \pm SD anxiety score for surgery was 68.94 ± 21.56 for females and 47.55 ± 25.94 for males. Mean \pm SD anxiety score for anesthesia was 49.98 ± 23.68 for females and 28.79 ± 25.95 for males. There was statistically significant high level of pre-operative anxiety in females as compared to males ($p < 0.00001$). Change of environment, waiting time of surgery, postoperative pain, fear of one's life, nil per mouth, blood transfusion, fear of unknown, getting stuck with needles and awareness during surgery were the significant factors ($p < 0.01$) responsible for increase pre-operative anxiety in women as compared to males.

Conclusion: Women experience high levels of preoperative anxiety. Establishment of preoperative counseling clinics will help in reducing the preoperative anxiety and improving the quality of care in this respect.

Key words: Preoperative Anxiety, Gender Difference, Anesthesia.

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INTRODUCTION

Anxiety is widely accepted as an expected response of preoperative patients.¹ Anxiety is a vague, uneasy feeling, the source of which is often unspecific and unknown to the individual, which may be associated with abnormal haemodynamics as a consequence

of sympathetic, parasympathetic, and endocrine stimulation.² It begins as soon as the surgical procedure is planned and increases to maximal intensity at the moment of entering the hospital.³

Although anesthesia and surgery have become safer and more successful than before, preoperative anxiety is still a common problem.⁴ Preoperative patients have various types of anxieties.⁵ The degree to which each patient manifests anxiety about the future events depends on many factors. These include age, gender, type and extent of the proposed surgery, previous surgical experience, and personal susceptibility to stressful situations.⁶ Many studies had shown that female patients experience more anxiety as compared to males,^{5,7} but some other studies do not support these findings.⁸⁻¹⁰ Reviewing the published national literature the authors were unable to find any data about this important issue however other aspects of preoperative anxiety were addressed.¹¹

Objectives of this study were to find out the preoperative anxiety level and to determine its possible source in females as compared to males. The problem of preoperative anxiety needs to be addressed properly. Acknowledging existence of the problem is the first step which this study has tried to highlight. The results of this study may be utilized for formulating guidelines to minimize preoperative anxiety.

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MATERIAL AND METHODS

This comparative cross-sectional study was done in surgical units of Civil Hospital, Karachi from January 2008 to March 2008. Inclusion criteria were patients scheduled for elective general surgery (cholecystectomy, hernia repair, haemorrhoidectomy, interval appendectomy, thyroidectomy) with age ≥ 18 years, American Society of Anesthesiology (ASA) Physical Status I, II and able to understand Visual Analogue Scale (VAS) and ability to give informed consent. All the patients selected for the study had a pre-anesthetic consultation by an anesthetist not involved in the study. On the afternoon prior to surgery patients (female as case; male as control) were asked to complete two VAS regarding anxiety about the proposed surgery and the anesthesia (range, 0 = 'not anxious at all' to 100 = 'extremely anxious'). They were then asked to select different factors responsible for their anxiety from a list.

Data were analyzed by using SPSS version-10. Student's t test and χ^2 tests were applied where appropriate to find out significant difference between two groups. Level of significance was taken as $p < 0.05$.

RESULTS

A total of 160 patients (80 females, 80 males) were included in the study. Mean age of the patients was 39.24 ± 14.17 years. There was no significant difference between ages of males and females ($p = 0.71$). Mean \pm SD Anxiety score for surgery was 68.94 ± 21.56 for females and 47.55 ± 25.94 for males (Table I). Mean \pm SD Anxiety score for anesthesia was 49.98 ± 23.68 for females and 28.79 ± 25.95 for males. There was statistically significant high level of pre-operative anxiety in females as compared to males both for surgery and anesthesia ($p < 0.00001$).

MEAN SCORES OF VISUAL ANALOGUE SCALE (VAS) IN MALES AND FEMALES ABOUT PREOPERATIVE ANXIETY

	Male n = 80	Female n = 80	P value
VAS Surgery	47.55 ± 25.9	68.94 ± 21.56	< 0.0001
VAS Anesthesia	28.79 ± 25.95	49.98 ± 23.68	< 0.0001

Unpaired t-test was applied between two groups

Table I

FACTORS RESPONSIBLE FOR PREOPERATIVE ANXIETY

	Male n = 80	Female n = 80	P value †
Change of environment*	29 (36.3)	64 (80.0)	< 0.0001
Waiting for operation*	36 (45.0)	62 (77.5)	< 0.0001
Results of operation	62 (77.5)	71 (88.8)	0.057
Postoperative pain*	50 (62.5)	75 (93.8)	< 0.0001
Concern about family*	64 (80.0)	74 (92.5)	0.022
Financial loss	55 (68.8)	48 (60.0)	0.248
Fear of physical disability	67 (83.8)	62 (77.5)	0.317
Fear of one's life*	37 (46.3)	57 (71.3)	0.001
Fear of unknown*	28 (35.0)	53 (66.3)	< 0.0001
Needing blood transfusion*	21 (26.3)	57 (71.3)	< 0.0001
Getting stuck with needle*	15 (18.8)	46 (57.5)	< 0.0001
Awareness during surgery*	21 (26.3)	47 (58.8)	< 0.0001
Harm from doctor/nurse mistake*	37 (46.3)	58 (72.5)	0.001
Nil per mouth*	30 (37.5)	60 (75.0)	< 0.0001

† Chi square test was applied between groups

* Significant

Table II

Change of environment, waiting time of surgery, postoperative pain, concern about family, fear of one's life, nil per mouth, blood transfusion, fear of unknown, harm from doctor/nurse mistake, getting stuck with needles and awareness during surgery were the significant factors ($p < 0.01$) responsible for increase pre-operative anxiety in women as compared to males (Table II).

DISCUSSION

Preoperative fear and anxiety have always been the concern of the patients as well as the anesthesiologists and the surgeons. The results of this study showed that female patients experiences more preoperative anxiety for surgery and anesthesia as compared to males. We have also highlighted some factors responsible for this anxiety.

Subjective assessment of preoperative anxiety is found to be inaccurate as both anesthetists and surgeons overestimate their patients' anxiety.¹² Objectively, preoperative anxiety may be evaluated by different methods. The State Trait Anxiety Inventory (STAI-State) is used by many researchers to measure preoperative anxiety, the gold standard. The STAI-State is a 20-item Likert-type scale with a possible score range from 20 to 80.¹³ We used the visual analogue scale (VAS) because it is a simple, short, quick and easy test to explain to the patients as well as reliable for the measurement of preoperative anxiety.¹⁴

Even the thought of surgery and anaesthesia increase the feeling of anxiety. The incidence of preoperative anxiety was reported as high as 60% of surgical patients.¹⁵ Preoperative anxiety and fear can have adverse effects on patient's peri-operative experiences. Determining the factors affecting anxiety and fear can be useful to correctly define and decrease them. In a study of 247 patients undergoing dental surgery, the highest item of fear identified by females was pain after the operation, being awake during the surgery, and waiting for the surgery.¹⁶ In a study evaluating pre-operative anxiety in women, seven categories were described about what women talked about preoperatively: direct verbalization, valuing connections, threats to the self, death experiences, diversion or social discourse, coping and unresolved relationship issues.⁷ All of the women talked either before surgery or in the home interview about some fear or anxiety they had and all identified some degree of nervousness before surgery.⁷ One female patient said when she shaved preoperatively, she was afraid she would cut herself because she was so "hyper" and "wired." Another female patient talked about her inability to concentrate on the day before surgery; she said she did "stupid things" such as walking into objects, dropping items, and trying to run the vacuum without plugging in the machine.⁷

Female patients experienced more pain as compared to males.¹⁷ Same trend was observed in this study

where one of the factors for more preoperative anxiety was postoperative pain. Being closer in relationships and bonding of females with their family is a factor is also highly rated in this study. An important finding of the study was some of the patients did not experience any anxiety for surgery 5 (3.1%) and anesthesia 21 (13.1%). This may partially be a reflection of the belief in God as the religious and culture influences people more in stressful conditions. Same observation was also reported by another study.¹⁸

Type of surgery is also important factor related to preoperative anxiety. Nomura et al¹⁹ reported that while the patients undergoing orthopaedic surgery were more anxious about postoperative pain as compared to patients undergoing gynaecological procedures were more anxious about accidents during anaesthesia. One important limitation of this study is that we did not analyze type of surgery and relationship of anxiety level in females.

Determining the reasons and factors influencing preoperative fear and anxiety in the local population may help clinicians in the management of patients. An important high risk group i.e. females suffering more preoperative anxiety has been highlighted in this study. Assessment and counseling before surgery, needs to be more comprehensive and individualized because of the complexity of preoperative fear.²⁰ Proper management of fear and anxiety by the anaesthesiologist may provide better preoperative assessment, less pharmacological premedication, smoother induction and maybe even better outcome.²¹ Further studies on preoperative anxiety are needed to evaluate the impact of anxiety and fear management on surgery and outcome.

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CONFLICT OF INTEREST
 Authors declare no conflict of interest

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