Journal of Population Therapeutics & Clinical Pharmacology

RESEARCH ARTICLE

DOI: 10.53555/jptcp.v31i6.6662

# ASSESSMENT OF PREOPERATIVE ANXIETY AND THE RISK FACTORS IN PATIENTS BOOKED FOR MAJOR ELECTIVE GENERAL SURGICAL PROCEDURES WITH AMSTERDAM PREOPERATIVE ANXIETY SCALE

**Umar Zeb[1*], Shoaib Ahmed[2], Lal Shah[3], Muhammad Asif[4], Syed Baquer Ali Rizvi[5], Sumaira Otho[6]**

[1*]Postgraduate Trainee of General Surgery, Dr. Ziauddin Hospital Keamari Karachi Pakistan.
email: uzaib0306@gmail.com

[2]Consultant Surgeon General Surgery, Sheikh Khalifa Bin Zayyad Al Nayan Hospital Quetta Pakistan.
email: shoaibahmed819@yahoo.com

[3]Chief Resident Medical officer Surgey department, People's University of Medical and Health Sciences for Women (PUMHSW) Nawabshah Pakistan. email: drlalshah@gmail.com

[4]Postgraduate Trainee of General Surgery, Shaheed Mohtarma Benazir Bhutto Medical College, Larkana Pakistan. email: asif921996@gmail.com

[5]Consultant General Surgeon, Public Welfare Hospital, Sui Balochistan Pakistan.
email: Surgeon.syedbaqir@gmail.com

[6]Assistant Professor of Surgery, Fazaia Ruth Pfau Medical College Karachi Pakistan.
email: sumaira.otho@gmail.com

***Corresponding Author:** Umar Zeb

[*]Postgraduate Trainee of General Surgery, Dr. Ziauddin Hospital Keamari Karachi Pakistan.
email: uzaib0306@gmail.com

## ABSTRACT

**Background:** Anxiety is defined as emotions of unease, can have an impact on a patient's hemodynamic stability. It is commonly seen in individuals scheduled for surgery, resulting in an increased need for anesthetic drugs. According to research, approximately half of elective surgery patients report preoperative anxiety, with rates ranging from 62% to 97% across various studies. Preoperative anxiety is caused by a variety of causes, including smoking, preexisting mental health disorders, fear of postoperative pain, and expectations about surgical outcomes. Assessing anxiety is critical because it influences how patients react to anesthetic and analgesic drugs, as well as their recovery from anesthesia and postoperative results.

**Objective:** To assess the prevalence and contributing factors of preoperative anxiety levels among patients scheduled for elective general surgery

**Study design:** A cross-sectional study

**Place and Duration:** This study was conducted in Dr. Ziauddin Hospital Keamari Karachi from January 2023 to January 2024

**Methodology:** A non-probability consecutive sampling method was used, and informed consent was obtained following a thorough description of the study's aims. Patients of both genders aged 18 to 70 years who were scheduled for elective surgery and were classed as ASA class 1-3 were eligible. The data were divided into three categories: anesthesia-related anxiety, surgery-related anxiety, and the demand for additional information.

**Results:** There were a total of 150 patients included in this research. Overall 60% of the total participants were males while 40% were females. The average age calculated was 46.1 years. The patients' age ranged from 18 years to 70 years. The females with no prior surgical history were the most likely to experience anxiety. The prevalence of anxiety was 67.5%. Our study also indicated a favorable association between preoperative anxiety and a desire for information regarding anesthesia

**Conclusion:** Females and first-time surgical patients were more likely to have preoperative anxiety.

**Keywords:** Females, preoperative anxiety, elective surgery

## INTRODUCTION

Anxiety is defined as emotions of unease, can have an impact on a patient's hemodynamic stability [1]. It is commonly seen in individuals scheduled for surgery, resulting in an increased need for anesthetic drugs [2]. This heightened anxiety frequently presents as perioperative tachycardia and hypotension, which can have an impact on postoperative recovery, including length of hospital stay [3]. According to research, approximately half of elective surgery patients report preoperative anxiety, with rates ranging from 62% to 97% across various studies [4].

Preoperative anxiety is caused by a variety of causes, including smoking, preexisting mental health disorders, fear of postoperative pain, and expectations about surgical outcomes [5]. Patients with a better understanding of the operation and higher levels of education report less worry [6]. Furthermore, the hospital atmosphere and healthcare professionals' attitudes play important roles [7]. To assess anxiety levels, a variety of procedures are used, including measuring urinary catecholamine and plasma cortisol levels, as well as monitoring heart rate and blood pressure [8]. The Amsterdam Preoperative Anxiety and Information Scale (APAIS) is a widely used and validated preoperative anxiety assessment measure available in several languages [9].

Assessing anxiety is critical because it influences how patients react to anesthetic and analgesic drugs, as well as their recovery from anesthesia and postoperative results [10]. The purpose of this study was to assess the prevalence and identify the factors of preoperative anxiety levels among patients scheduled for elective general surgery. Identifying such patients allows for more personalized anesthesia techniques, which improves postoperative recovery and surgical results.

## METHODOLOGY

The institutional review board approved this study. The sample size of 150 participants was estimated using the WHO sample size calculator with a research power of 80% and a 5% level of significance. A non-probability consecutive sampling method was used, and informed consent was obtained following a thorough description of the study's aims. Patients of both genders aged 18 to 70 years who were scheduled for elective surgery and were classed as ASA class 1-3 were eligible.

**Exclusion criteria:** Pregnant women, those taking anxiolytic drugs, and those suffering from mental illnesses or substance abuse were barred from participating. Additionally, participants who were unable to comprehend the questionnaire were excluded from the study.

The APAIS questionnaire was translated into Urdu as required. The data were divided into three categories: anesthesia-related anxiety, surgery-related anxiety, and the demand for additional information. In SPSS version 22, qualitative characteristics were represented as frequencies and percentages, while APAIS scores and age were presented as mean ± standard deviation. Preoperative anxiety levels were compared using Pearson's correlation, Cronbach's alpha, and Kruskal-Wallis test, with a significance level of $P < 0.05$.

## RESULTS

There were a total of 150 patients included in this research. Overall 60% of the total participants were males while 40% were females. The average age calculated was 46.1 years. The patients' age ranged from 18 years to 70 years. Table number 1 shows the distribution of the participants according to gender.

**Table No. 1: distribution of the participants according to gender.**

| **Gender** | **n** | **%** |
|---|---|---|
| **Male** | 90 | 60 |
| **Female** | 60 | 40 |

Table number 2 shows the demographics of the participants of this study.

**Table No. 2: demographics of the participants**

| **Demographics** | **n** | **%** |
|---|---|---|
| **Age groups** | | |
| ● **18-40** | 46 | 30.7 |
| ● **41-60** | 89 | 59.3 |
| ● **61-70** | 15 | 10.0 |
| **Marital status** | | |
| ● **Single** | 19 | 12.7 |
| ● **Married** | 131 | 87.3 |
| **Socioeconomic classes** | | |
| ● **Upper** | 13 | 8.7 |
| ● **Middle** | 66 | 44.0 |
| ● **Poor** | 71 | 47.3 |
| **Previous history of surgery** | | |
| ● **Yes** | 46 | 30.7 |
| ● **No** | 104 | 69.3 |
| **Education status** | | |
| ● **Under 10th grade** | 98 | 65.3 |
| ● **Above 10th grade** | 52 | 34.7 |

Table number 3 shows the correlation of variables.

**Table No. 3: correlation of variables**

| Variables | P-value |
|---|---|
| **Gender** | 0.00* |
| **Marital status** | 0.7 |
| **Education status** | 0.9 |
| **Socioeconomic classes** | 0.7 |
| **Previous history of surgery** | 0.01* |

## DISCUSSION

This study addressed a critical subject in anesthesiology and surgery by identifying significant characteristics connected with the anxiety that patients experience before surgery. Preoperative anxiety, while considerable, is not regularly assessed or tracked in surgical patients. This anxiety influences the induction and maintenance of anesthesia, as well as postoperative results. Higher medication doses during anesthesia, caused by worry, might increase morbidity and death [11]. While anxiety, like pain perception, is difficult to define and quantify, its importance cannot be overstated.

Among the several questionnaires for assessing preoperative anxiety, the APAIS (Amsterdam Preoperative Anxiety and Information Scale) is highly dependable due to its strong psychometric qualities and validation, making it appropriate for this investigation. We separated the APAIS into three components for assessment. The study indicated a 67.5% anxiety rate with an APAIS score greater than 11, which is similar to another study's 76.7% rate [12]. According to a meta-analysis by Abate et al., the global prevalence of preoperative anxiety is 48%, with 56% in African and 54% in Asian patients [13]. A study from Pakistan found a 62% prevalence, which is consistent with previous data [14]. Our study also indicated a favorable association between preoperative anxiety and a desire for information regarding anesthesia and surgical techniques, which is consistent with previous findings.

In our study, females with no prior surgical history were the most likely to experience anxiety. Celik et al. discovered higher anxiety levels in females than in males, and Mavridou et al. observed comparable gender disparities [15, 16]. Weinstock et al. linked the increased incidence of preoperative anxiety in females to variations in estrogen and progesterone levels [17]. Kunthonluxamee et al. discovered that patients receiving their first surgery had higher levels of preoperative anxiety than those with previous surgical experience [18]. Our findings supported these observations, and this was a significant variable in our study.

Cronbach's alpha showed that our study had good internal consistency, with a value of 0.93 for all components. Jovanovic et al. found comparable results, with a Cronbach's alpha of 0.787 [19]. Vergara-Romero et al. found Cronbach's alpha value of 0.84, which is consistent with our findings [20].

## CONCLUSION

Females and first-time surgical patients were more likely to have preoperative anxiety.

**Funding source**

This study was conducted without receiving financial support from any external source.

**Conflict in the interest**

The authors had no conflict related to the interest in the execution of this study.

**Permission**

Prior to initiating the study, approval from the ethical committee was obtained to ensure adherence to ethical standards and guidelines.

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