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Research Article

**LEVEL OF ANXIETY AMONG PRE-OPERATIVE PATIENTS
UNDERGOING CARDIAC SURGERY****Dr. Shalni Ahuja (PT), Dr. Tayyaba Memon (PT), Mr. Ashok Kumar (PT)**
Liaquat University of Medical and Health Sciences (LUMHS),
Jamshoro, Pakistan**Abstract:**

Objectives: The goal of this study was to assess the level of anxiety among pre-operative cardiac patients and to find out its association with selected demographic variables i.e. age and gender.

Study Design: A Descriptive Cross-sectional study was performed with 49 inpatients scheduled for elective surgery; out of them 35 were male and 14 were female patients.

Study settings: CCU (Coronary Care Unit) at Civil Hospital, Hyderabad.

Intervention: All the participants were interviewed and were asked to fill out a Questionnaire. The demographic information was collected using a structured Questionnaire. The measuring instrument to assess the patients' anxiety was Hospital Anxiety and Depression Scale (HADS).

Outcome: Among the 49 participants, half of the patients (53.06%) presented with abnormal anxiety level. Regarding gender, most of female patients had abnormal anxiety (about 92.85%).

Results: Among the pre-operative patients, majority had abnormal anxiety. Females had more anxiety scores than males. Selected demographic variables were associated with anxiety levels and found that gender had significant association with various levels of anxiety (p -value < 0.005) and age had insignificant association with anxiety level (p -value > 0.005).

Conclusion: The HADS is a useful instrument to assess the level of patients' pre-operative anxiety as it has been widely used as a validated psychological instrument. Measuring anxiety before any surgery helps the patient to alleviate their worries to some extent with the support of health care professionals.

Keywords: Anxiety, Depression, surgery, pre-operative, fear, post-operative.

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INTRODUCTION:

Anxiety is an ambiguous or unpleasant feeling characterized by an overwhelming perception of fear, worry and restlessness that is triggered without any adequate reason or often caused by negative thoughts resulting from an anticipated threatening situation [1]. Anxiety might demonstrate a manifestation of a psychiatric or physical disorder, or it might be a psychiatric turmoil all alone. Here, we allude to as General Anxiety Disorder (GAD) which might be persistent like an Anxiety Personality Trait Disorder (APTD) or on the other hand it might be constrained to certain circumstances or upsetting life occasions (such as an illness, loss of a loved one, fear of surgical procedure and financial loss) [2]. However, this study emphasized on the pre-operational anxiety experienced by patients awaiting cardiac surgery. Pre-operational anxiety or pre-operative anxiety could be defined as a distressing response to hypersensitivity and emotional arousal due to patients' concerns regarding hospitalization, anesthesia and the Surgical procedure [3].

According to World Health Organization (WHO), cardiovascular diseases are the leading cause of death worldwide [4]. Moreover, it has been reported that heart surgery is the least mentally endured of all types of surgeries, causing high anxiety during preoperative phase 2,3-5]. Different patients present with different anxiety levels. Heldegard Peplau described four levels of anxiety as: mild (restlessness, irritability, frustration), moderate (agitation, fatigue, sleep disturbance, sweating, dry mouth), severe (inability to function, unresponsiveness, inability to relax) and panic level (increased heart rate, dyspnea, sweating, nausea, vomiting, tremors, dizziness, chest discomfort, depersonalization- feeling detached from oneself, loss of ability to relax, numbness and tingling sensation) [6].

Certain demographic variables directly influence the level of anxiety including age, gender and educational status [7]. However, the social status (low, middle or upper class), occupation and number of dependent family members may indirectly impact the patient's mental state. Other than that the extent of anxiety may also vary among patients with history of any drug addiction or prior surgical experience. Furthermore, a number of factors have been found responsible for inciting anxiety in cardiac surgical patients such as uncertainty related to surgery, type of surgery (major or minor), fear of postoperative pain, fear of family separation, loss of freedom, fear of the failure of surgical procedure, fear of becoming handicapped/disabled, fear of death and concerns regarding the post-operative follow-up [8]. Various studies have been conducted to identify pre-operative anxiety as a major risk

factor for cardiovascular related deaths [9]. Pre-operative anxiety in cardiac patients' is related to physical, physiological and psychological disturbance which may cause problems like coughing during anesthesia induction, autonomic fluctuations, and high analgesic requirement, excessive bleeding during surgery and postoperative complications that lead to slow recovery and prolonged hospital stays [10-12]. Hence to prevent this, anxiety should be managed initially as part of preoperative care. A variety of strategies could be employed for management of pre-surgical anxiety in cardiac patients including self-management of anxiety and psychiatric interventions (administration of anti-anxiety drugs and counseling to help them overcome their doubts and fears). Patients can be taught to self-manage their anxiety and try to relax by taking deep breaths to activate parasympathetic system which is seized by sympathetic system during anxiety, by distracting the brain into some logical work to stimulate the neo-cortex (logic center) and shut down the amygdale (emotional center) [13,14]. Anxiety is an emotional response to stress and its measurement is troublesome yet estimation can be made by using anxiety assessment tools. State Trait Anxiety Inventory-STAI Spielberg, 1983), Hospital Anxiety and Depression Scale-HADS (Zigmond, Snaith, 1983), Surgical Fear Questionnaire-SFQ (Theunissen, 2014), Visual Analogue Scale-VAS-A (Kindler et al., 2000), Hamilton Anxiety Rating Scale-HAM-A (Hamilton, M, 1959), Bypass Grafting Fear Scale-BGFS (Koivula et al., 2001; Koivula et al., 2002), Amsterdam Preoperative Anxiety and Information Scale- APAIS (Moerman et al., 1996) and Beck Depression Inventory-BDI (Beck, A.T., Steer, R.A., & Brown, G.K., 1996) are some of the commonly used subjective tools for assessment of anxiety [15]. In this study, Hospital Anxiety and Depression Scale-HADS had been used as the assessment tool for anxiety level of a hospitalized surgical patient.

METHODS:

This study is a cross-sectional survey based descriptive study conducted among the cardiac patients in their pre-operative phase for the purpose to assess their pre-operative anxiety level. The targeted population from Civil Hospital, Hyderabad was included in this study and the sample size was derived by simple random sampling technique. The length of study over which it was conducted was six months. From a population of Civil Hospital, Hyderabad we gathered responses of 49 participants by a designed questionnaire including demographic data and HADS (Hospital Anxiety and Depression scale). The sample size was calculated by using Raosoft Software. The inclusion criteria of this study were both male and female candidates, patients between ages 30-60 years and patients

planned for elective cardiac surgery were included in this study. Patients with any mental disorder or psychiatric illness were excluded. Those participants who fulfilled the inclusion criteria were asked to sign the informed consent after being explained the objectives, procedure and duration of the study. All the participants were inter-viewed and were asked to fill out the Questionnaire. The Questionnaire consisted of two parts, section A recorded the demographic data of the participants and section B consisted of the questions regarding

patients' anxiety with the responses being scored on a scale of 0-21 categorized as: 0-7 (normal), 8-10 (borderline) and 11-21 (abnormal) anxiety levels. This research was conducted on 49 participants and this study focused on the level of anxiety in patients undergoing cardiac surgery. So the data was entered and analyzed on SPSS version 16. Frequencies, cross tabulation and Chi-square tests were applied to the variables to know the level of anxiety and its association with variables including age and gender.

RESULTS:

TABLE-I: presents the level of pre-operative anxiety among cardiac surgery patients.

Anxiety Level	Frequency	TOTAL
Normal	11	49
Borderline	12	
Abnormal	26	

Table-I shows that out of 49 patients 11 had normal anxiety, 12 had borderline anxiety and 26 had abnormal anxiety score.

TABLE-II: presents the association between anxiety level and gender.

Gender	0-7 (Normal)	8-10 (Borderline)	11- 21 (Abnormal)	p-Value
Male	10	12	13	0.001
Female	1	0	13	

Chi square test was applied to the variables to know the significant value so the chi square represents the 0.001 p-value which is less than the normal p-value (i.e. <0.005). Hence, there is significant association between anxiety level and gender. (Also see figure 1)

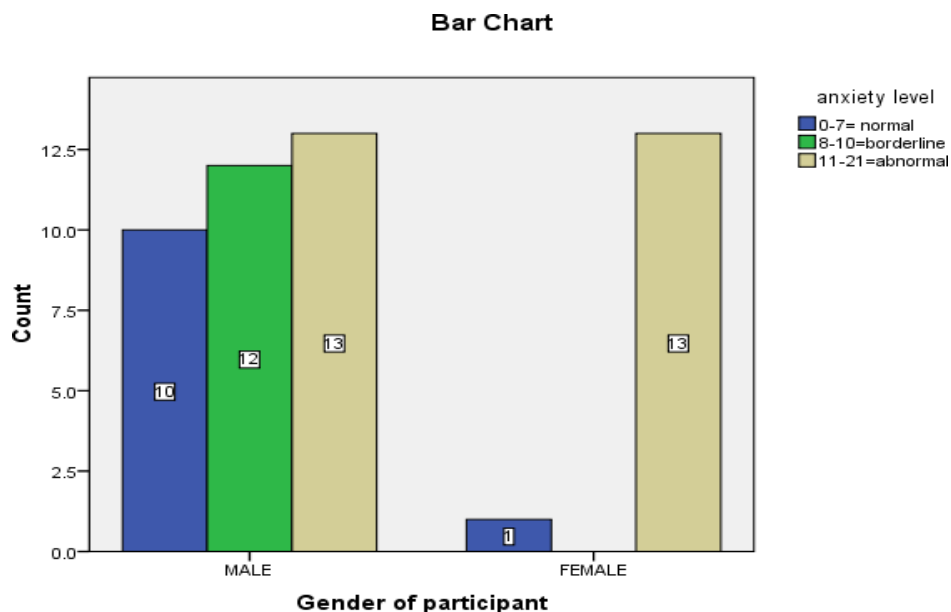


Figure 1 Bar chart of association between anxiety level and gender

This study included 49 pre-operative patients consisting 35 males (71.4%) and 14 females (28.6%). Female candidates showed high anxiety as 92.85% females suffered from abnormal anxiety while 7.14% had normal range anxiety. However, different levels were observed among male candidates. Normal anxiety was seen in 11 (28.57%) male patients, 12 male patients (34.28%) were seen with borderline anxiety and 13 male patients (37.14%) suffered from abnormal anxiety.

Table-III: shows the association between anxiety level and age of participants.

Age group	Normal	Borderline	Abnormal	Total	p-value
30-39	1	1	6	8	0.399
40-49	5	5	13	23	
50-59	2	5	9	16	
60-69	0	2	0	2	
Total	8	13	28	49	

Chi square test was applied to the variable to know the significant value so the chi square represents the 0.399 p-value for association which is greater than normal p-value (i.e. 0.005). Hence, there is insignificant association between anxiety level and age. (Also see figure 2)

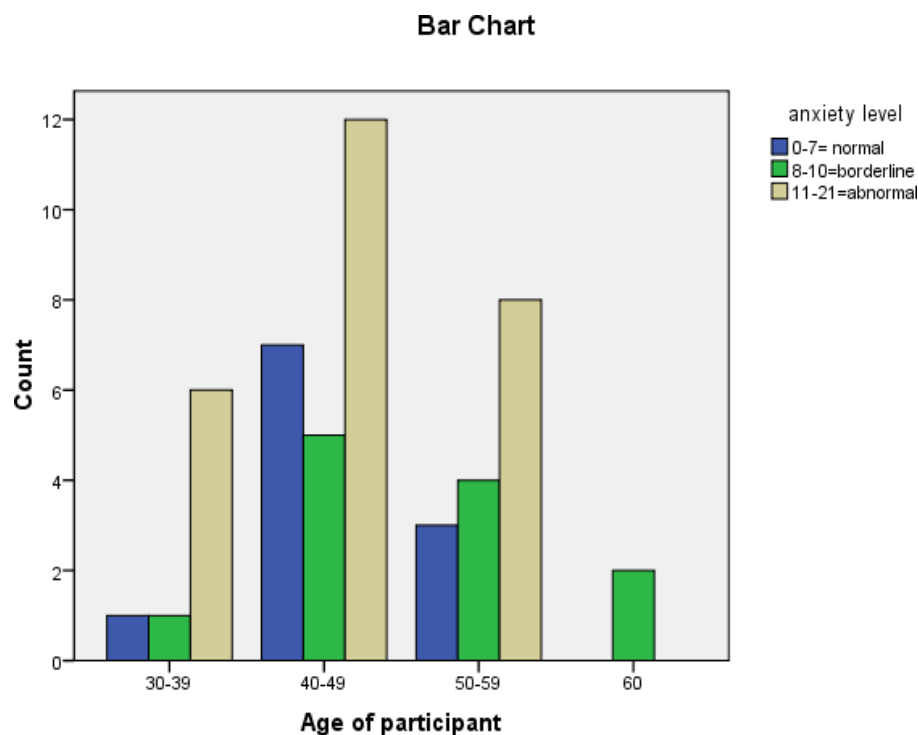


Figure: 2 Bar chart of association between anxiety level and different age groups.

Among the age group 30-39 years, the normal and moderate anxieties were equal (12%) while 76% had abnormal anxiety. The high prevalence of abnormal anxiety was seen in the age group 40-49 years (56.52%) while only 21% had normal and borderline anxiety score. The abnormal and borderline anxieties among the age group of 50-59 years were 56% and 31% respectively and only 13% had normal score. Moreover 2 patients of age 60 years had borderline anxiety score.

DISCUSSION:

Surgeries can restore health and even can save the life, but it is normal to feel a bit anxious about

“going under the knife”.⁸ Different methods have been introduced for assessing anxiety such as in the form of Questionnaire or objective tools. In this study, HADS is taken as a standard tool. The present study examined the various level of preoperative anxiety and its association with variables specifically gender and age. The findings of this study showed that most of the patients awaiting Cardiac surgery experienced abnormal level of pre-operative anxiety. These findings are in line with the findings reported in the study done in King Khalid University, Saudi Arabia which stated that among the pre-operative patients’ majority (60%) had high

anxiety [8]. Moreover, this study showed that the female patients were found to be more anxious than male patients' prior surgery. These results resemble with the study conducted in Brazil among pre-operative cardiac patients which indicated that women presented more anxiety symptoms in pre-operative period than men [12]. Regarding the presence of anxiety among different age groups, this study showed that patients between ages 30-39 years, 76% presented abnormal anxiety, patients between ages 40-49 years, 56.52% had abnormal anxiety while between age group 50-59 years, about 56% presented abnormal anxiety level. These results

agree with the study done in Spain which indicated that patients between 36-60 years presented higher level of anxiety in pre-operative period.¹⁵ In this research, the data was collected from 49 participants through HADS questionnaire. Out of them 35 were male participants and 14 were female participants. The gathered data was analyzed by SPSS software and results clearly indicated the level of anxiety among patients awaiting cardiac surgery. The results of our study showed that 26 of the participants (53.06%) presented with abnormal anxiety level, 12 (24.48%) were at borderline and 11 (22.44%) were at normal anxiety level as shown in figure 3

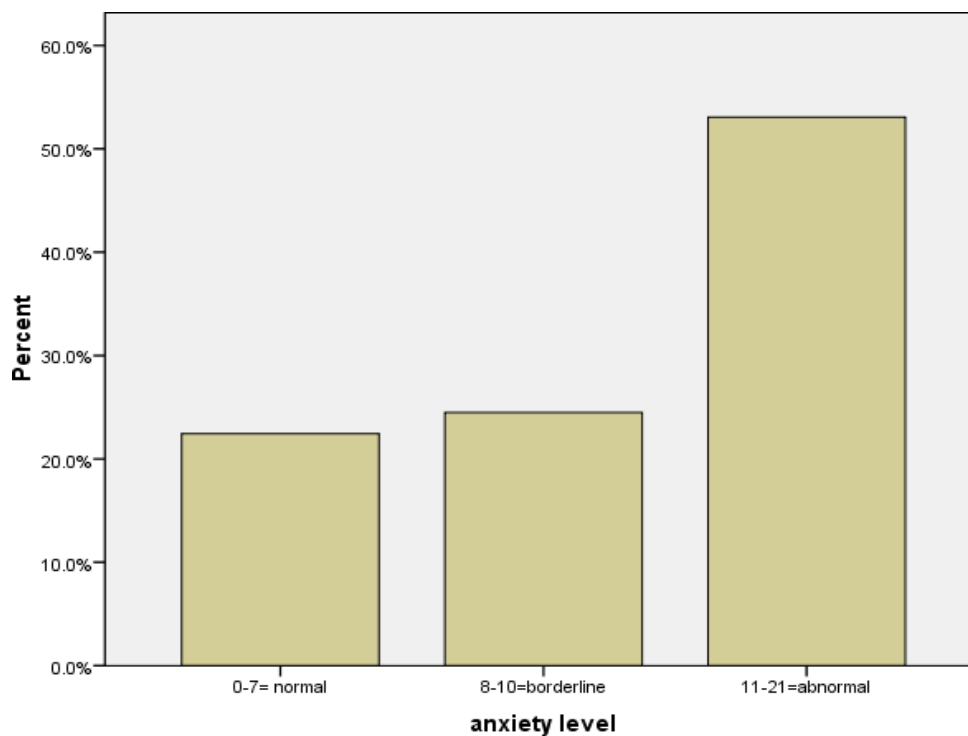


Figure: 3 Bar Graph of anxiety level

Chi-square test was also applied to the variables (gender and age). Regarding gender and anxiety the results showed the significant association of 0.001 and the p-value less than 0.005 which indicates the significance of the association. Regarding age the test disclosed non-significant association of 0.399 and the p-value greater than 0.005 which directed that the association is insignificant. A similar result was obtained by a study carried out in Brazil in which the relationship between anxiety level and age was not statistically significant.¹² By doing the review and analysis, it has been proved that most of the patients undergoing cardiac surgery presented abnormal level of pre-operative anxiety. Females presented more abnormal anxiety in pre-operative period than males and differences were statistically significant as shown in Table II (refer to results

section). Considering the age group, the differences found in terms of anxiety level were statistically insignificant as shown in Table III (refer to results section).

In summary, this study showed that most of the patients awaiting cardiac surgery in our setup suffered from abnormal pre-operative anxiety level. Hence, considerable measures can be taken to mitigate its aggressive effects. The data obtained in this study highlights the importance of the assessment of pre-operational emotional state of a patient. This study would help researchers to conduct further studies to learn about pre-operative anxiety and its symptoms, related factors and its effects on postoperative recovery.

Limitations of the study:

- Sample size was limited as it was not possible to collect the sample from

different hospitals.

- Patients were not literate to understand and fill the Questionnaire.
- In this research, we administered one measurement scale i.e. HADS, and it would be better if applied more instruments to determine the accurate results.

CONCLUSION:

According to findings of this research, it is concluded that most of the patients suffered from abnormal anxiety. Females presented higher anxiety level in pre-operative period of cardiac surgeries than males and the differences were statistically significant. In case of association of anxiety level with different age groups, no statistically significant association was found. Increased pre-operative anxiety has the potential to worsen a patient's condition. Hence, it is important to measure the anxiety level before operation and implement all available strategies to decrease anxiety.

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