International Journal for Multidisciplinary Research (IJFMR)
E-ISSN: 2582-2160 ● Website: www.ijfmr.com ● Email: editor@ijfmr.com

A Study to Assess the Level of Anxiety Among Patients Undergoing Cardiac Procedures in Selected Tertiary Care Hospital

Archana Kushwaha

Associate Professor, Dept of mental Health Nursing,College of Nursing

ABSTRACT

Introduction:

Pre-operative anxiety in people undergoing cardiac procedures is a common phenomenon, since the fact of being the part of some cardiac procedure i.e. Angiography, generates insecurity in the patient with studies showing a prevalence of up to 80% of high anxiety pre- operatively.

Aim: To assess the level of anxiety among patients undergoing cardiac procedures inselected tertiary care hospital.

Objectives:

1. To assess the level of anxiety among pre-operative patients undergoing cardiac procedures.
2. To find association of the level of anxiety with selected sociodemographic data among patients undergoing cardiac procedure in selected tertiary care hospital.

Methodology:

A descriptive design was selected with a quantitative non-experimental approach. Data was collected from 60 patients in the month of May 2023 using a modified structured tool (STAI) in the setting of ICCU, Acute medical ward and Family Medical ward of Command Hospital Air Force Bangalore.

Result:

Majority of the patient reflected with High level of anxiety 38(61)%, moderate anxiety 15(31%) and low anxiety 7(8%). There was no significant association of level of pre-operative anxiety with any of the socio-demographic variables.

KEYWORDS: Level of Anxiety; Cardiac procedures; patients; Mental Health.

INTRODUCTION

CHAPTER 1

INTRODUCTION

According to WHO: “Health is a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity” [1].

In general, a person's environment has a significant impact on both his or her health state and quality of life. It is becoming more widely accepted that efforts and wise lifestyle decisions made by individuals and society as a whole are just as important in maintaining and enhancing health as the development and use of health science. The term "health" itself encompasses a vast range of ideas, all of which contribute significantly to an individual's overall well-being.

Health is influenced by a combined composite of individual choices and the surrounding environment. Efforts to maintain and enhance health should take into account the broader context in which people live and the various factors that impact their well-being. A comprehensive approach to health promotion involves addressing social determinants of health, creating supportive environments, and empowering individuals and communities to make informed and healthy choices.

Mental health is a condition of mental wellness that enables people to manage life's stressors, develop their potential, study and work effectively, and contribute to their communities. It is a crucial element of health and well-being that supports our individual and group capacities for socioeconomic, community, and personal growth. It has varying degrees of effort and suffering, which is experienced differently by each individual, and may have very different social and therapeutic implications. It exists on a complex continuum and is affected by a variety of aspects as well. The concept of the mind-body connection has long intrigued medical professionals because it is the mind, not the body, that will ultimately recognise when a patient has received quality care.

Mental health encompasses emotional, psychological, and social well-being,. It is not solely the absence of mental illness but rather the presence of positive mental attributes and coping mechanisms. It is a complex and individualized aspect of well-being that plays a significant role in our lives. It is affected by a multitude of factors, and its recognition and care are essential for promoting overall health and quality of life. The understanding of the mind-body connection underscores the importance of addressing mental health as an integral part of healthcare.

However, mental health care has always been looked down upon as being meant for those who are inferior or mentally weak. But the support which is required by the patients admitted in hospitals and their caregivers has never been recognized. The practice often leads to denial of essential medical care with adverse outcomes. The issue has been discussed in detail wherein authors describe benefits of holistic medical care with active collaboration of psychiatrist and the primary care physician.

There has been a historical stigma surrounding mental health care, with many people wrongly associating it with weakness or inferiority. This stigma has had detrimental effects on individuals seeking help for mental health issues and has also resulted in inadequate support for patients and caregivers. However, It's crucial to acknowledge the significant progress made in recent years in raising awareness about mental health and reducing the stigma associated with it.

One of the main issues noticed in people brought to hospitals is Anxiety. It is associated with excessive tension and concern, as well as accompanying behavioural disturbances. The severity of the symptoms causes significant discomfort or functional impairment. Psychologically, a patient's uncertainty over a medical diagnosis, procedures or prognosis may be the cause of an anxious reaction to a medical ailment. As a result, hospital patients frequently experience anxiety, which can ultimately result in unfavourable and preventable circumstances.

Anxiety is indeed a common issue among hospital patients, and it can have a significant impact on both their psychological well-being and their overall health outcomes. Hospitalization often involves a level of uncertainty for patients. They may be uncertain about their diagnosis and the procedures they will undergo This uncertainty can lead to heightened anxiety as patients grapple with fear of the unknown.

A study conducted by Iasiello M. et all in 2019 suggested that Individuals who maintained or gained the highest levels of positive mental health were more than 27.6 and 7.4 times, respectively, more likely to recover when compared to those who maintained the lowest level of positive mental health. This signifies the importance of maintaining good mental health in patients for their fast recovery[4].

Any surgery generates a level of anxiety, because the patient perceives the act as dangerous or life-threatening. However, the fact of being a candidate for cardiac surgery would raise the level of anxiety even more, since this type of interventions, such as coronary artery bypass graft (CABG) and valve replacement surgery, are related to a high vital risk. Pre-surgical anxiety in people undergoing cardiac surgery is a common phenomenon, since the fact of being operated on for such a complex surgery generates insecurity in the patient, and this is demonstrated by the results, which indicate that more than 80% of the sample studied presented an important level of anxiety[5].

It is undisputed that patients who undergo surgery suffer anxiety as a result of the procedure's potential hazards and perceived threats. However, due to the inherent issues involved with these intricate procedures, anxiety levels can actually be even higher when it comes to cardiac surgery, such as coronary artery bypass graft (CABG) or valve replacement surgery. For patients undergoing cardiac surgery, the dread of potential complications or adverse consequences can be very overwhelming. Anxiety can be brought on by concerns about the procedure itself, as well as about the recovery period thereafter and any prospective lifestyle adjustments that might be necessary.

It is crucial for medical personnel to recognise and treat the psychological stress and anxiety in patients having cardiac procedures since changes in psychological health will affect the patient's overall prognosis. Despite this, it is rarely evaluated in a systematic way. Since the symptoms and signs of many medical disorders coincide with those of anxiety, it is crucial to analyse anxiety carefully because it can limit one's ability to perform activities, reduce one's independence, invade one's privacy, and even pose a threat to one's very existence. Analysis of the anxiety symptoms in these people can shed further light on the severity of their anxiety and how it interacts with other factors.

The relationship between psychological well-being and physical health is well-documented, and addressing psychological stress and anxiety in patients can indeed have a significant impact on their overall prognosis. Recognizing and addressing psychological stress and anxiety in patients undergoing cardiac procedures is integral to their overall well-being and prognosis. Implementing systematic evaluation methods, considering the impact of anxiety on daily life, and adopting a multidisciplinary approach are all vital components of providing comprehensive care to such patients.

A study conducted by Hakak B et all in 2021 showed that in more than two-thirds of patients who had cardiorespiratory system-related diagnoses had a mild-to-moderate levels of anxiety with no significant other psychiatric problems and females were found to have more anxiety than male participants. In this study, 56.1% males and 15.8% females showed mild anxiety, moderate anxiety was noticed in 17.1% of males and 52.6% of females whereas 26.8% of males and 31.6% of females did not report any anxiety.[6]

It's important to note that anxiety management should be tailored to each individual's needs and may include various approaches, such as Psychotherapy (e.g., cognitive-behavioral therapy), medications, lifestyle changes, or a combination of all. Furthermore, it's crucial to have a proper diagnosis from a healthcare professional before initiating any treatment for anxiety, as anxiety symptoms can sometimes overlap with those of other medical conditions.

It is not always practicable for worried patients, especially those in general hospital settings, to include a mental health practitioner. Many times, the range of treatments offered is constrained, and not all patients are willing to accept referral. Anxiety management should be seen as a key competency for all clinicians because many patients must be managed without the need of psychiatric services.

Addressing the mental health needs of patients in general hospital settings is a complex issue. all patients may not have access to mental health specialists, improving the competency of all clinicians in recognizing

and managing common mental health issues can play a significant role in providing holistic healthcare

BACKGROUND OF THE STUDY

Various research studies have been done in the field of psychiatry, medicine and nursing to assess level of anxiety among preoperative patients for cardiac interventions

Behrooz Goli et. All conducted a cross- sectional study in 2019 in 210 subjects in Iran on the topic Prevalence of Anxiety, Depression and Stress in CABG candidate patients and factors affecting it which revealed that 38.6% of the subjects presented with anxiety, 38.6% had depression, and 41% presented with stress on DASS-21 Questionnaire. Relationship between sex, history of hypertension and high cholesterol with anxiety was significant.[2]

A study conducted in Nepal by S Sidgal et. All on anxiety evaluation in Nepalese adult patients awaiting cardiac surgery through a prospective observational study at a core medical institution in Kathmandu, Nepal. 140 patients participated and data of 123 were used. The results revealed that more than half of participants experienced preoperative anxiety, with prevalence more in females and participants with a past history of anaesthesia exposure and mental/ nervous disease[8].

A study conducted in India by N Mughalkar et. All with randomized parallel group study in75 patients on the topic of assessing pre-operative anxiety among elective CABG patients and its impact on major adverse cardiac events (MACE) and mortality and effect of Gabapentin and Clonidine in reducing the anxiety levels.

It was found that the preoperative anxiety levels were high among cardiac surgery patients. Both Clonidine and Gabapentin were equally effective in reducing the levels of preoperative anxiety. Preoperative STAI scores in the range of 32-53 is not associated with MACE and 30- day mortality among cardiac surgery patients.[3]

NEED FOR THE STUDY

Anxiety related to hospitalisation is very common known phenomenon. It is a challenging concept in the care of preoperative So, anxiety related to any possible interventions, more commonly cardiac interventions are much higher. This preoperative anxiety may even influence the possible postoperative outcomes or recovery, even influencing the nursing care that can be given to the patient. Hence it is proposed to conduct a study to assess the level of anxiety among patients undergoing cardiac interventions.

PROBLEM STATEMENT

“ A study to assess the level of anxiety among patients undergoing cardiac procedures in selected tertiary care hospital”

AIM

To assess the level of anxiety among patients undergoing cardiac procedures in selected tertiary care hospital

OBJECTIVES

The following are the objectives of the study:

1. To assess the level of anxiety among pre-operative patients undergoing cardiac procedures.

2. To find association of the level of anxiety with selected sociodemographic data among patients undergoing cardiac procedure in selected tertiary care hospital.

OPERATIONAL DEFINITIONS

Anxiety: It is a feeling of fear, dread and uneasiness. It may cause a person to have physical symptoms, feel restless and increased heartbeat. It is a normal reaction to a stress or stressful event.

Patients: A person who is receiving medical care, or who is cared for in a particular institution under physicians and other health care professionals for diagnosis, treatment and care for cardiac conditions.

Cardiac procedures: A clinical term used for a variety of procedures to prevent and treat cardiovascular health issues. Some of the cardiac procedures under this study are Angioplasty, stent placement, Heart valve surgeries, Bypass surgery.

Selected tertiary care hospital: Highly specialised medical care , that involves advanced and complex cardiac procedures and treatments performed by cardiac surgeon in state-of-the-art facilities.

ASSUMPTIONS

- There is significant presence of anxiety during pre-operative period before any cardiac procedures.
- The anxiety is due to the present stressful situation and not a part of the personality of patients awaiting cardiac procedures
- The assessment of level of anxiety among patients undergoing cardiac procedures will help multidisciplinary health care professionals to plan preoperative education and postoperative care to reduce anxiety related complications.

LIMITATIONS

- This study is conducted only in selected Tertiary care hospital of Bangalore.
- The level of anxiety may vary for different patients based on the type of cardiac procedures.

ETHICAL CONSIDERATIONS

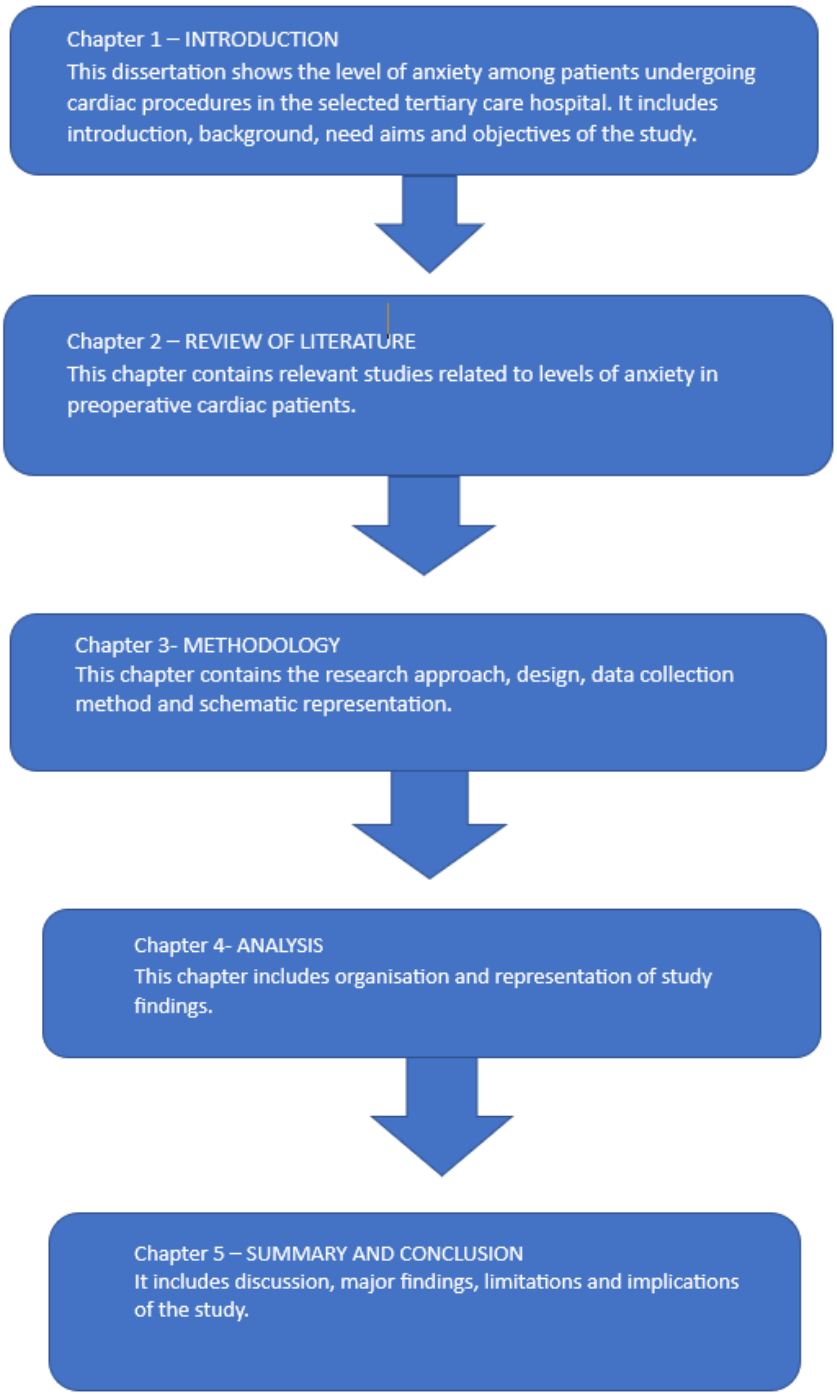
- INFORMED CONSENT- Ethical problems most often arise in research. One of the most important ethical rules governing research is that participants must give their informed consent before taking part in a study. Informed consent is therefore a vital part of the research process and as such entails more than obtaining a signature on a form therefore informed consent was taken from the patients participating in the study.
- APPROVAL- All research involving patients, service users, care professionals must be reviewed by an ethical committee before it can be commence to ensure that ethical standards have been met. This is to protect the rights, dignity and well being of the research participants therefore ethical approval from Institutional Ethical Committee (IEC) of Command Hospital Air Force Bangalore was taken.
- AUTONOMY- The need for privacy is a function of generally accepted social norms and individual's expectations about what information about oneself should and should not be known to others, therefore protecting the "Right to Privacy" of research participants requires respect for their autonomy, their Right to Self Determination, as well as their general welfare so privacy of the participants was maintained.

- CONFIDENTIALITY- In research context confidentiality means not discussing information provided by an individual to others and presenting the findings in such a manner that ensures that individuals cannot be identifies hence confidentiality and anonymity was maintained.

Identifying and correcting errors essential to science, giving rise to the maxim that science is self-correcting, the corollary is that if we do not identify and correct errors signs cannot claim to be self-correcting therefore errors and biases in data collection were avoided.

The above-mentioned criteria were followed while conducting the research in research setting.

FIGURE 01: ORGANISATION OF THESIS



REVIEW OF LITERATURE

CHAPTER 2

REVIEW OF LITERATURE

According to Polit and Beck (2006), Review of Literature is a broad, comprehensive, in depth systematic and critical review of scholarly publications, unpublished materials and personal communication "

Review of literature is a vital aspect in the development of research project. It involves systematic identification, location, scrutiny and survey of written material that contains information on research problem. Reviewing of literature is important to broaden the understanding an insight necessary to develop a clear concept of the problem. Review of literature provides a basis for future investigations, justifies the need for replication, throws light on the feasibility of study and indicates constraints of data collection. It thus helps to relate the findings of one study with that of another, with the view to establish a comprehensive body of scientific knowledge to develop a theory.

This chapter presents a brief report of the topics related to this study project. Review was focused on literature related to:

1. Prevalence of level of anxiety among patients undergoing cardiac procedures
2. Assessment of level of anxiety among patients undergoing cardiac procedures
3. Interventions to reduce the level of anxiety among patients undergoing cardiac procedures.

1. Prevalence of Level of Anxiety among patients undergoing Cardiac procedures

Felicity Astin et. all (2020) conducted a descriptive study on 140 patients in Victoria, Australia on Prevalence and patterns of anxiety and depression in patients undergoing elective percutaneous transluminal coronary angioplasty using Spielberger State Trait Anxiety Inventory and Cardiac Depression Scale (CDS). A small number of patients undergoing elective PTCA experience elevated levels of state anxiety comparable to that displayed by neuropsychiatric patients, which remains sustained 6 to 8 months post-PTCA. Around 16% of men and 24% of women had state anxiety scores comparable to those experienced by neuropsychiatric patients. [9]

Ronak Delewi et. all (2017) conducted in Amsterdam, Netherlands on anxiety levels of patients undergoing coronary procedures in the catheterization laboratory revealed that out of 2604 subjects, VAS anxiety scores were highest pre-procedure (44.2 ± 27.0 mm). Female patients reported a significantly higher pre procedure VAS anxiety score (50.4 ± 26.5) compared to males (41.5 ± 26.8, $p = 0.02$). Other factors associated with higher levels of anxiety at different time points were age<65 years, low level of education and an acute primary PCI. [10]

C Ramesh et. all (2017) conducted a cross- sectional study on 140 patients undergoing coronary artery bypass graft surgery using a convenience sampling technique in a tertiary care referral hospital. The data was collected using State Trait Anxiety Inventory. Most of the patients 118(84%) had preoperative anxiety before coronary artery bypass graft surgery. There was an association found between gender and anxiety with Pearson chi- square vale of 11.57($p<0.001$). [11]

Antonio Fernando Carneiro et. all (2019) conducted a Randomized controlled trail in Brazil,on evaluation of preoperative anxiety and depression in patients undergoing invasive cardiac procedures using a Hamilton Anxiety and Depression Scale. Patients with cardiac diseases undergoing electrophysiological studies, pacemaker implantation, and myocardial revascularization have different levels and prevalence of anxiety. All groups presented a relevant number of patients with anxiety, i.e., 62.5% in the EPS group and 34.4% in the PM and MR groups. [12]

Marlyn Thomas et. all (2019) conducted interrupted time design study on psychological distress as predictor of adherence and prognosis among patients undergoing coronary artery bypass grafting conducted in Hyderabad , India , using a self structured tool. The study revealed that Psychological distress prior to CABG was significantly higher than psychological distress following surgery. By means of post-hoc analyses (Bonferroni), the mean anxiety score in the pre-operative phase ($M = 4.90$, $SD = 3.95$) was observed to be significantly higher ($p < .001$) than that of the first review ($M = 1.63$, $SD = 2.23$), and the second review ($M = 1.86$, $SD = 2.03$). [13]

Nikhil Mudgalkar et. all (2021) conducted a randomized, parallel- group study on preoperative anxiety among cardiac surgery patients and its impact on major adverse cardiac events and mortality. The study was performed on 75 adult patients aged between 18 to 80 years age who were scheduled for CABG at Prathima Institute of Medical Sciences. The subjects who satisfied the inclusion criteria were given State Trait Anxiety Inventory (STAI) to assess anxiety as baseline, taking just before operating room. Nearly 75-80% of participants had severe anxiety in the preoperative period while 10-20% had moderate anxiety. The incidence of MACE was similar in both groups. [14]

Mridula C Jobson et. all (2020) conducted review in Chennai, India on Depression, Anxiety and Cardiac Surgery in the Indian scenario. It revealed that depression is prevalent in approximately one-third of patients undergoing cardiac surgery at the time of discharge. Preoperatively depressed patients tend to have an improvement in depression scores, whereas other patients have worsening of depressive symptoms. [15]

2. Assessment of Level of Anxiety among patients undergoing Cardiac procedures

Jose Prado et. all (2020) conducted a Descriptive, Analytical, Cross- sectional study on 60 subjects at a tertiary hospital in Spain on the topic Preoperative Anxiety in patients undergoing cardiac surgeries. STAI scale was used on the subjects and results revealed that 43.3% of subjects presented high anxiety, 40% had moderate anxiety and 60 .7% had low anxiety. [16]

Sujeeth K Sinha et. all (2017) Conducted a cross- sectional study on 110 subjects at a tertiary care hospital of New Delhi, India on the topic of assessment of level of anxiety and associated factors among cardiac patients waiting for cardiac procedures. The researcher used Hamilton Anxiety Scale and It was found that 70.8% of males and 42.9% female had mild anxiety, 19% male and 5.6% females had severe anxiety.[17]

K K N Goncalves et. all (2018) conducted a cross-sectional study in on 106 patients at a Tertiary Care Hospital in Brazil on the topic Assessment of level of anxiety in the preoperative period of heart surgery using Becks Anxiety Inventory revealed that 59.4% had minimal anxiety , 19.8% had severe anxiety. Women had scores significantly higher than men as well as patients who had undergone previous heart surgeries[18].

Joaquin Hernandez Palazon et. all (2017) conducted a prospective and consecutive study on 200 patients scheduled for cardiac surgery at single university hospital in Spain on the topic assessment of preoperative anxiety in cardiac surgery patients lacking a history of anxiety: Contributing factors and postoperative morbidity. Each patient was asked to grade his or her preoperative anxiety level using visual analogue scale for anxiety, Amsterdam preoperative anxiety and Information scale and set of specific anxiety-related questions. Demographic data and anesthetic and surgical data were registered. 28% of the patients developed high preoperative anxiety. Patients scheduled for CABG, who had no previous anesthetic experience, and who were hospitalized before surgery, had higher anxiety scores. [19]

Nazla Shaheen et. all (2018) conducted an Analytical cross-sectional study on the topic of association between knowledge and anxiety level among patients undergoing coronary angiography in tertiary care hospitals of Peshawar. A total of 264 patients participated and assessment was made through a modified questionnaire about coronary angioplasty and HADS scale. The total knowledge score of both hospitals was good knowledge(6%), fair knowledge(42%) and had poor knowledge(52%). Regarding anxiety level, the participants of both hospitals experienced a high level of anxiety that is mild (20%), moderate (34%) and severe (10%). A significant association was found between knowledge and anxiety levels among the participants of both hospitals with a p-value of<0.001.[20]

Renee Trotter et. all (2019) conducted a descriptive study on the topic of assessment of anxiety in patients undergoing percutaneous coronary interventions. A convenience sample of patients undergoing PCI(n=100) were recruited, and anxiety was measured using Spielberger State Anxiety Inventory immediately before the PCI, the first day post procedure and one week post discharge. Anxiety scores were highest pre-procedure, decreasing significantly by the post procedure time and further still by the post discharge time. The concerns patients identified most important were the outcomes of the PCI and the possibility of surgery pre-procedure (37%) and post discharge (31%), and the limitations and discomfort arising from the access site wound and immobility post procedure (25%). [21]

3. Interventions to reduce the Level of Anxiety among patients undergoing Cardiac procedures

Pasquale Caponnetto et. all (2022) conducted systematic review of studies in various scientific platforms such as PubMed, Medline, PsycINFO and CINAHL. Almost 34 articles were reviewed. It was found that use of music therapy is still little exploited in hospital conditions but despite its reduced use compared to other treatments, it has proved to be an effective technique for reducing anxiety and stress prior to surgery and for improving psychophysical conditions following surgery. [22]

Sidik Awaludin et. all (2022) conducted true experimental study on 86 participants in National Cardiovascular Centre Harapan Kita, Jakarta on the effect of a smartphone- based perioperative nursing intervention: Prayer, education, exercise therapy, hypnosis and music towards pain, anxiety and early mobilisation on cardiac surgery. The majority of respondents were adult, male, high school graduate in the treatment group and bachelor graduate in the control group, CABG type of surgery and having pain history. The intervention had a significant effect on reducing pain scale and anxiety level as well as increasing early mobilisation($p<0.05$). The intervention had a direct effect on pain and anxiety, but it had no direct effect on early mobilisation. However, it gave direct effect on early mobilisation that was mediated by anxiety. [23]

Si Xiang Ng et. all (2022) conducted a systematic review and meta- analysis of comprehensive search of nine electronic databases (PubMed, EMBASE, Scopus, MEDLINE, CINAHL, Cochrane CENTAL, Web of Science, PsycINFO, and ERIC) and grey literature for randomized controlled trials examining the preoperative educational interventional effects on patients undergoing cardiac surgery from inception to 31 December 2020. The studies' quality was evaluated using Cochrane Risk- of Bias Toll1 (RoB1). Meta-analyses via RevMan 5.4 software synthesized interventional effects. Twenty-two trials involving 3167 participants were included. Preoperative education had large significant effects on reducing post-intervention preoperative anxiety (P= 0.02), length of ICUstay (P=0.002), and improving knowledge (P<0.00001), but small significant effect sizes on lowering postoperative anxiety(P<0.0001), depression (P=0.03), and enhancing satisfaction (P=0.04). [24]

Ramesh Chandrababu et. all (2019) conducted a non-randomized controlled trial on the topic assessment of effect of alternate nostril breathing exercises(pranayama) on anxiety and pain among patients undergoing cardiac surgery, on 48 patients undergoing cardiac surgery in a tertiary care hospital in Karnataka, India. In the study, there were experimental group (n=24) received pranayama study intervention while the control group (n=24) received routine care of the hospital. Outcomes were state anxiety and pain, measured with the state anxiety inventory and a visual analogue scale respectively. Data were analyzed by SPSS version 20.0. Repeated measures ANOVA was used to test the effect of the intervention. Study results showed that patients in the experimental group experienced a significant decrease in anxiety ($p<0.05$) than the control group. There was a decrease in pain scores but was not statistically significant across different time point measurements at $p<0.05$ between the groups. [25]

Ahmed Mohamed Abdelhakim et. all (2019) conducted a meta- analysis on the topic The effect of inhalation aromatherapy in patients undergoing cardiac surgery: A systematic review and meta-analysis of randomized controlled trials of 9 randomized control trials with a total of 656 patients in Cairo, Egypt. Their analysis showed inhalation aromatherapy was significantly effective in reducing anxiety (MD= −3.11, 95 % CI [−5.26, −0.96], p = 0.005), and pain (MD= −0.83, 95 % CI [−1.59, −0.07], p = 0.03) in patients undergoing cardiac surgery. Additionally, inhalation aromatherapy significantly reduced heart rate compared to control group (MD= −5.49, 95 % CI [−9.07, −1.81], p = 0.003). They concluded that Inhalation aromatherapy administration especially with lavender can significantly reduce anxiety, pain, and heart rate in patients performed cardiac surgery. [26]

C Ramesh et all. (2017) conducted a meta analysis on the topic effect of preoperative education on postoperative outcomes among patients undergoing cardiac surgery. This systematic review was conducted based on the guidelines of the Cochrane Handbook for Systematic Reviews of Interventions,[16] and reported using the PRISMA Statement (Preferred Reporting Items for Systematic Reviews and Meta-Analyses). Meta analysis done on 14 randomized control trials showed that preoperative education reduced anxiety scores (standardized mean difference = −0.96, 95% confidence interval: −1.37, −0.54; $P < .0001$). [27]

Doha A Z Amer et. all (2022) conducted Quasi-experimental research on the topic the effectiveness of foot reflexology therapy on anxiety level among patients undergoing coronary angiography. The study was conducted on two selected critical care units affiliated to Cairo University Hospitals on 40 adult patients recruited throughout 08 months. Two tools were utilized to collect data: first, demographic and medical data, and second, state trait anxiety inventory. There were significant statistical differences in mean anxiety scores in the reflexology study group before intervention, immediately, and 30 min after intervention (f+13.32/P+0.00). So, there was a significant decrease in anxiety scores immediately after intervention. Moreover, significant differences were detected among the studied patients' anxiety mean scores according to their age 30 min after intervention (0.00); the age categories between 40 and 49 years showed less anxiety at this point of time. Finally, no significant statistical correlations whatsoever were found between selected demographic variables and mean anxiety scores at all time series of intervention. It was concluded that, foot reflexology was effective method to decrease anxiety among patients undergoing coronary angiography. [28]

Mina Bordbar et. all (2020) conducted a rapid systematic review on the topic of Efficacy of complementary interventions for management of anxiety in patients undergoing coronary angiograph in Iran. In this study, all published, peer- reviewed, English- language interventional studies from 2009 to 2018 were identified in a search of Scopus, PubMed, and Google Scholar databases. The relevant studies were assessed using

a quality assessment checklist. All included studies were assessed by 2 researches. Finally, 15 studies with 1,312 participants that evaluated the effects of complementary methods on management of anxiety in patients undergoing CAG were included. The findings of this rapid systematic review suggested that complementary and non pharmacological methods, such as music therapy, reflexology, Benson's relaxation technique, aromatherapy, guided imagery, and yoga, could be used effectively for management of anxiety in patients undergoing CAG. [29]

RESEARCH METHODOLOGY

CHAPTER 3

METHODOLOGY

Introduction

According to Clifford Woody "Research comprises of redefining problems, formulating hypothesis, collecting, organizing analysing data, making deductions and reaching conclusions"

Research methodology is a significant part of any study, which enables the researcher to project the research undertaken. The methodology enables the researcher to project a blue print of the detail, data, approach, analysis and findings of research undertaken.

The present study was conducted to assess the level of anxiety among patients undergoing cardiac procedures in selected tertiary care hospital.

This chapter includes research approach, research design, variables, setting of the study, population, sample, sample size, sampling technique, description of tool, validity and reliability of tool, data collection procedure plan for data analysis and interpretation of data.

Research Approach

Research approaches are plans and procedures for research that includes detailed methods of data collection, analysis and interpretation. In view of the nature of the problem selected and objectives to be accomplished a quantitative approach was considered appropriate for the present study.

This study was intended to assess the level of anxiety among the patients undergoing cardiac procedures in selected tertiary care hospital. Quantitative non experimental research approach was used in this study.

Research Design

The research design refers to the plan for a scientific investigation. The selection of research design is an important and essential step in research as it is concerned with overall framework for conducting the study by giving a plan, structure, strategy for investigation. The purpose of research design is to set a situation that maximises the possibilities of obtaining accurate response to objectives, questions and hypothesis.

Research design adopted for the present study is Descriptive cross sectional survey design.

Research setting

Research setting is the physical, social and cultural site in which researcher conducts the study. It is the place where data is collected. In this study, data was collected in male acute medical wards, family acute medical ward and intensive cardiac care unit of Command Hospital Airforce Bangalore.

Population

Patients admitted in male acute medical wards, family acute medical ward and intensive cardiac care unit of tertiary care hospital.

Accessible Population

Patients admitted in male acute medical wards, family acute medical ward and intensive cardiac care unit of Hospital with Cardiac Problems.

Target population

Patients admitted in male acute medical wards, family acute medical ward and intensive cardiac care unit Tertiary Care Hospital awaiting cardiac procedures.

Sample

Patients awaiting cardiac procedures during the study period.

Sample size – 60

Sampling technique

Non-probability-purposive sampling technique

Inclusion Criteria

The study includes,

- Patients of age group 20 to 60 years
- Patients admitted in Patients admitted in male acute medical wards, family acute medical ward and intensive cardiac care unit for cardiac procedures
- Patients who can understand Hindi and English

Exclusion Criteria

The study excludes,

- Patients who are unwilling to cooperate
- Patient who are illiterate
- Hemodynamic instability

Variables

- Demographic variables :

Age
gender
Support system
Educational qualification
Type of family
History of cardiac procedures
Co- morbidities
History of psychiatric illness in family
History of psychiatric illness in patient
History of alcohol consumption

- Research variables : level of anxiety

Preoperative patients

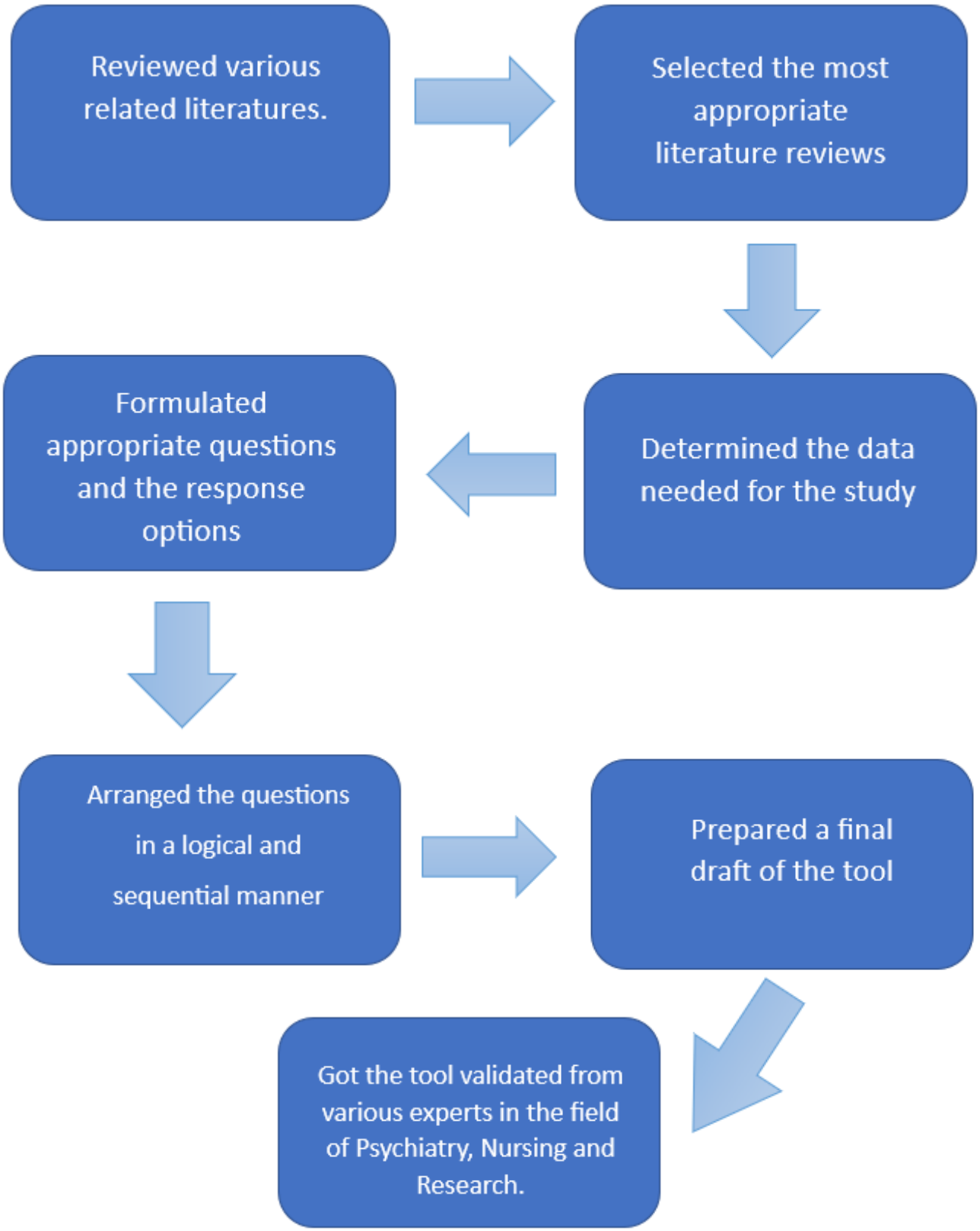
Development of Tool

Data collection tools are the procedures or instruments used by the researcher to observe or measure key variables in the research problem. A Socio Demographic tool was constructed to collect data regarding factors affecting level of anxiety among patients undergoing cardiac procedures in selected tertiary care hospital.

The following steps were carried out in the preparation of the tool :

- Literature review
- Conceptual Framework
- Discussion with experts

FIGURES 02: STEPS FOLLOWED FOR TOOL DEVELOPMENT



Description of Tool

The tool was organized under sections.

Section A: Deals with the demographic data

Demographic variables to elicit the background information. This section is to find out the information related to age of patient, gender, support system, educational qualification, type of family, history of cardiac procedure, marital status, co-morbidities, history of psychiatric illness in patient, history of psychiatric illness in family, history of alcohol consumption.

Section B

This section deals with assessment of level of anxiety among patients undergoing cardiac procedures in selected tertiary care hospital using self-structured tool for assessing anxiety.

Scoring technique

Section A : It consists of demographic variables to assess the background of samples and thereby subject to statistical analysis

Section B : This section consists of self-structured tool for assessment of anxiety.

Scoring

Criteria	No or Low anxiety	Moderate anxiety	High anxiety
Score	20-37	38-44	45-80

Validity

Validity of an instrument evaluates how well an instrument covers all relevant parts of the construct it aims to measure. The validity of the tool, developed by the researcher is validated by the experts in the field of psychiatry, Nursing and Research

Reliability

Research reliability is the degree to which research method produces stable and consistent results. It was established by conducting a pilot study on 06 patients admitted in intensive cardiac care unit of command hospital Airforce Bangalore.

Tool Translation

The socio demographic tool, self-structured tool for assessing preoperative anxiety were translated to Hindi.(appendix)

Pilot Study

Pilot study is a small-scale preliminary study conducted to evaluate the feasibility, duration, cost, adverse effects and improve upon the study design prior to performance of a full-scale research projects.

Purposes of Pilot Study

1. Assessing study feasibility and practicability of research study.
2. Determine if the sampling technique is effective.
3. Establishing validity and reliability of the research tools.
4. Ensuring the appropriateness of methods and procedures of data collection.
5. Understanding the study variables and other confounding variables.
6. Refine the data collection tool.

A Pilot study was conducted on 06 patients admitted for cardiac procedures in intensive cardiac care unit of Command Hospital Airforce Bangalore. The sample included in pilot study were not included in the main study.

During the pilot study it was realized that the study was feasible.

FIGURES 03: METHOD OF CONDUCTING PILOT STUDY

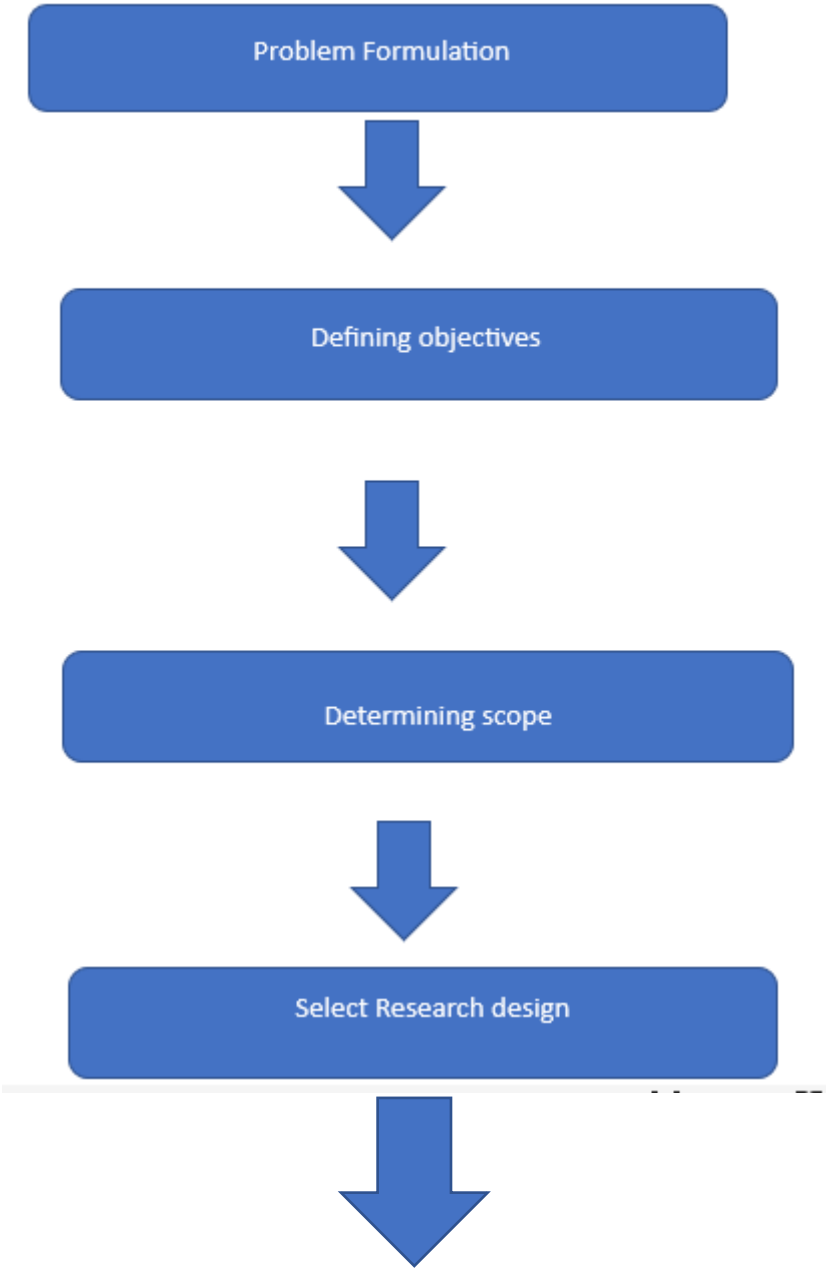
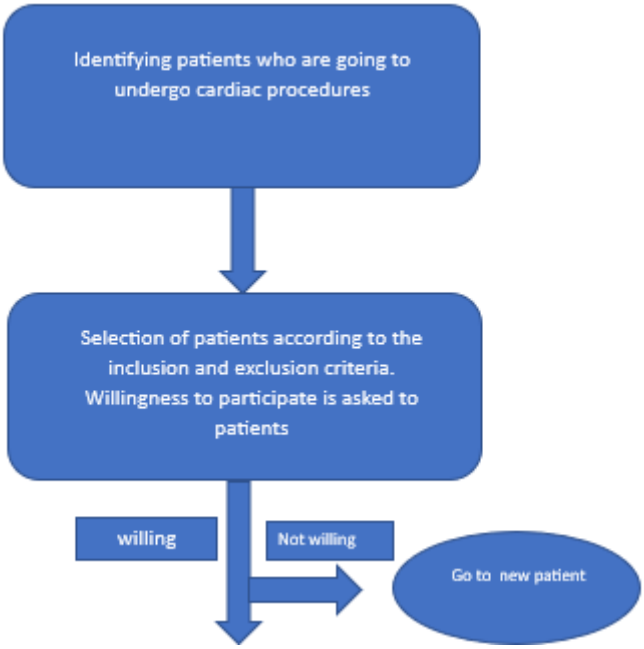


FIGURE 03 : DATA COLLECTION METHOD



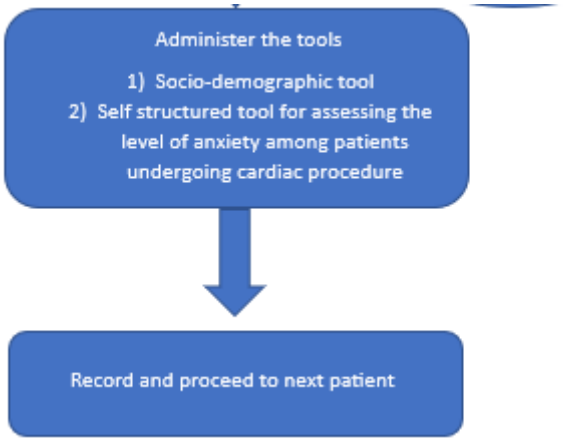
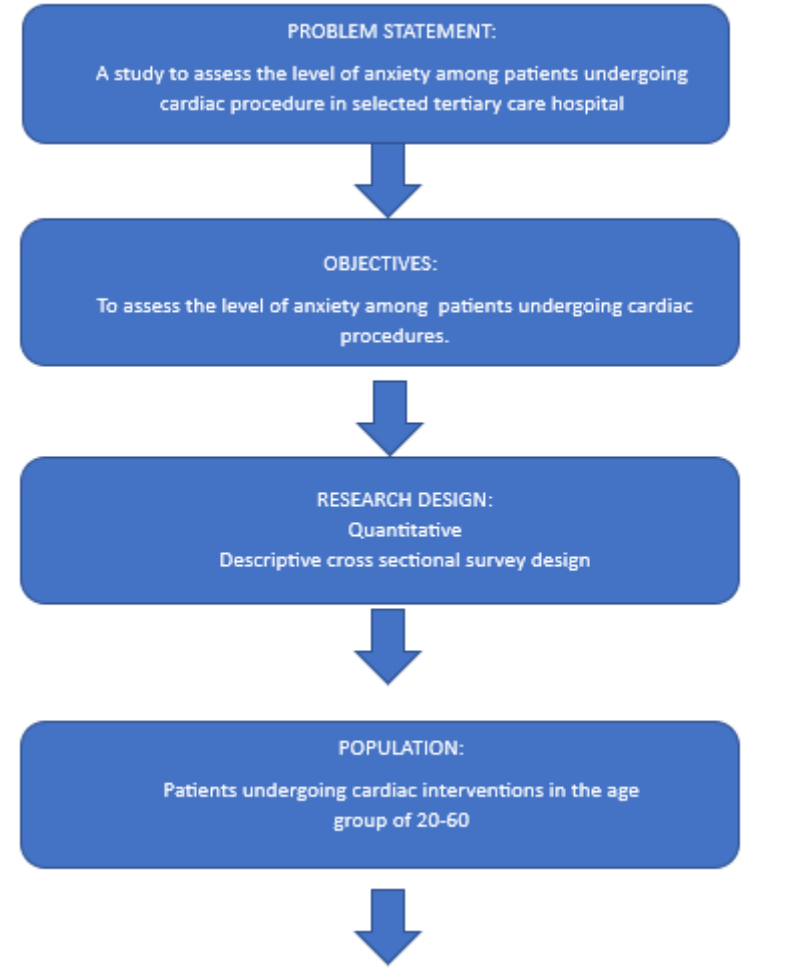
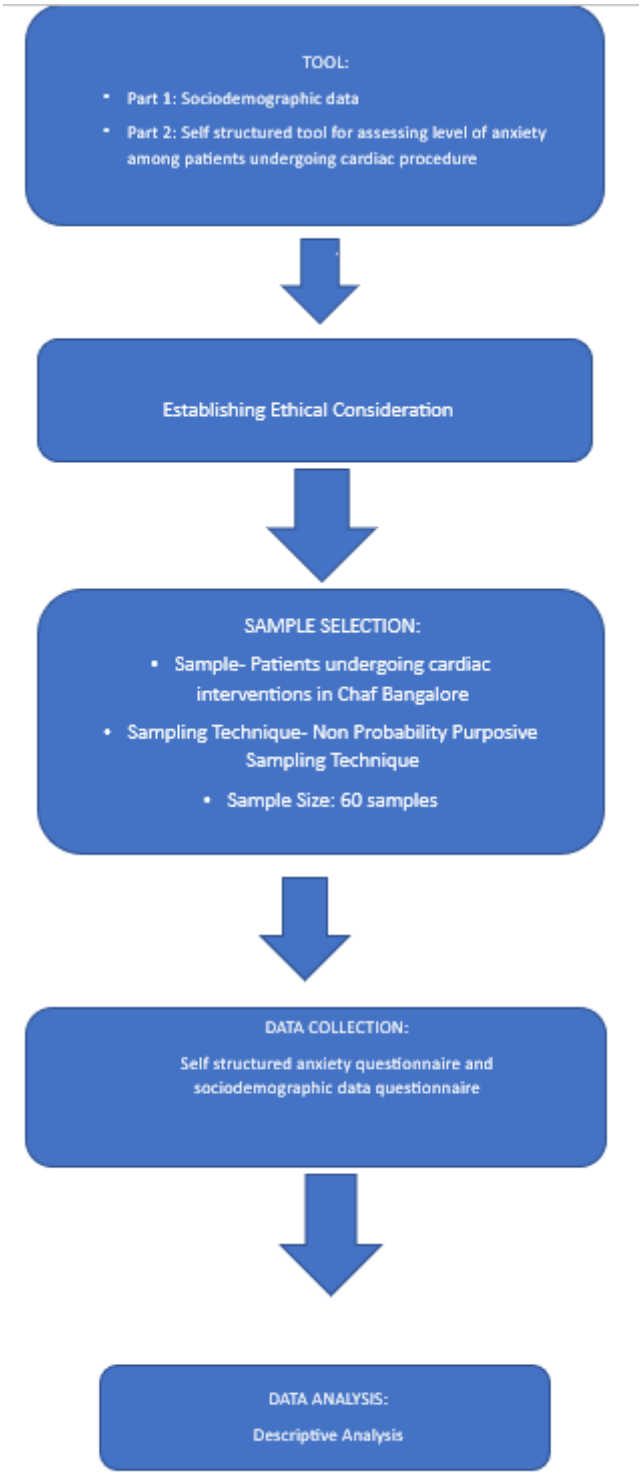


FIGURE 04 : SCHEMATIC REPRESENTATION OF RESEARCH





PLAN FOR DATA ANALYSIS

Data analysis is the schematic organisation and synthesis of the research data and the research hypothesis using the data. Data was planned to be analysed on the basis of objectives and hypotheses.

Socio- demographic variables would be analysed in terms of percentage.

The level of anxiety would be analysed in terms of mild, moderate and severe using self- structured tool for assessment of anxiety.

The association of level of anxiety with selected socio-demographic variables would be analysed using frequency and percentage.

SUMMARY

This chapter has dealt with the research methodology adopted for the study. It includes research approach, research design, research setting, population, sample and sample size, criteria for selection, study instruments and development of tool, description of tool, reliability of tool, description of the final tool, pilot study, method of data collection and plan for data analysis. The analysis and interpretation of the same are presented in the following chapter.

DATA ANALYSIS AND INTERPRETATION

CHAPTER 4

DATA ANALYSIS

The results, interpretations and generalisations that an investigator generates from a study become the most important aspect of the research. It is the process of categorising, ordering, analysing and summarisation of data to obtain answers to the research questions.

The aim of analysis is to deal with the data in an intelligible and interpretable form so as to attain the objectives of the study.

Data was analysed and presented under the following heading:

- Section I: Distribution of sample as per socio-demographic data.
- Section II: Assessment of anxiety among pre-operative cardiac patients.
- Section III: Association of level of anxiety with selected socio-demographic variables.

SECTION A: Socio- demographic data

Distribution of Patients According to Cardiac Procedure

Table 1: Distribution of patients according to cardiac procedure. N=60

S.no	Name of Cardiac Procedure	Number	Percentage
1	CART	6	10%
2	PCI	18	30%
3	CABG	3	5%
4	MVR	5	9%
5	Angioplasty	17	28%
6	TAVR	2	3%
7	PTCA	6	10%
8	VAD Implantation	3	5%
	TOTAL	60	100%

Figure 1: Distribution of patients according to cardiac procedure

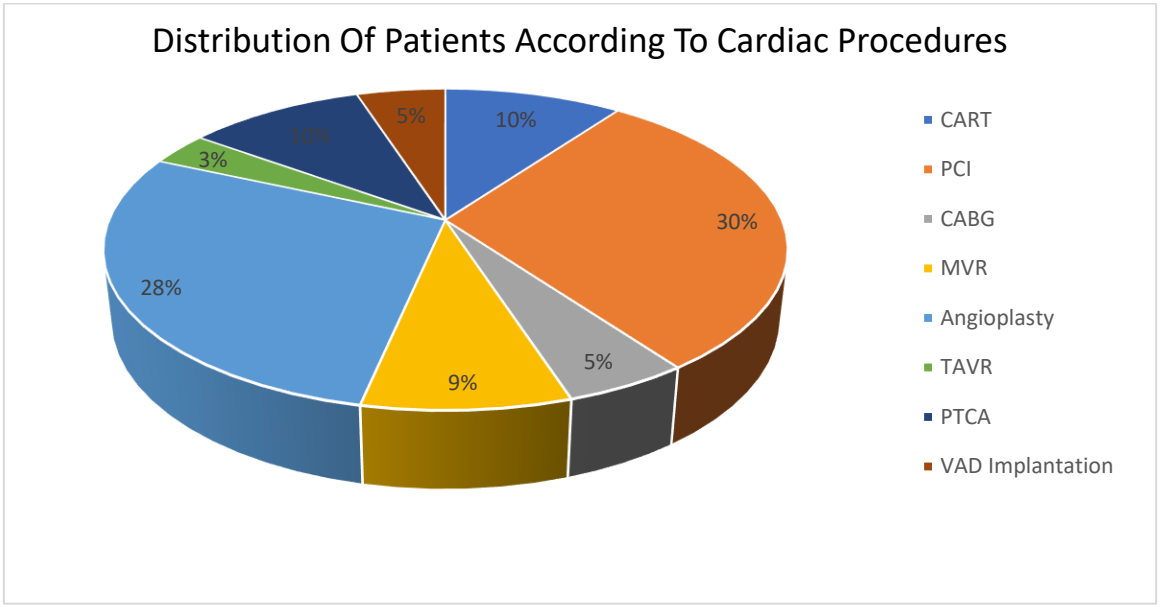


Figure 1 Explains that maximum number of patients were planned for PCI that is 30 % (n=18) and minimum number of patients were planned for TAVR that is 3%(n=2).

Age Wise Distribution of Patients

Table 2: Age wise distribution of patients undergoing cardiac procedures. N=60

SNO	Age	Number	Percentage
1	20-30 years	0	0
2	31-40 years	9	15 %
3	41-50 years	23	38 %
4	51-60 years	28	47 %
	Total	**60**	**100%**

Figure 2: Age wise distribution of patients undergoing cardiac procedures.

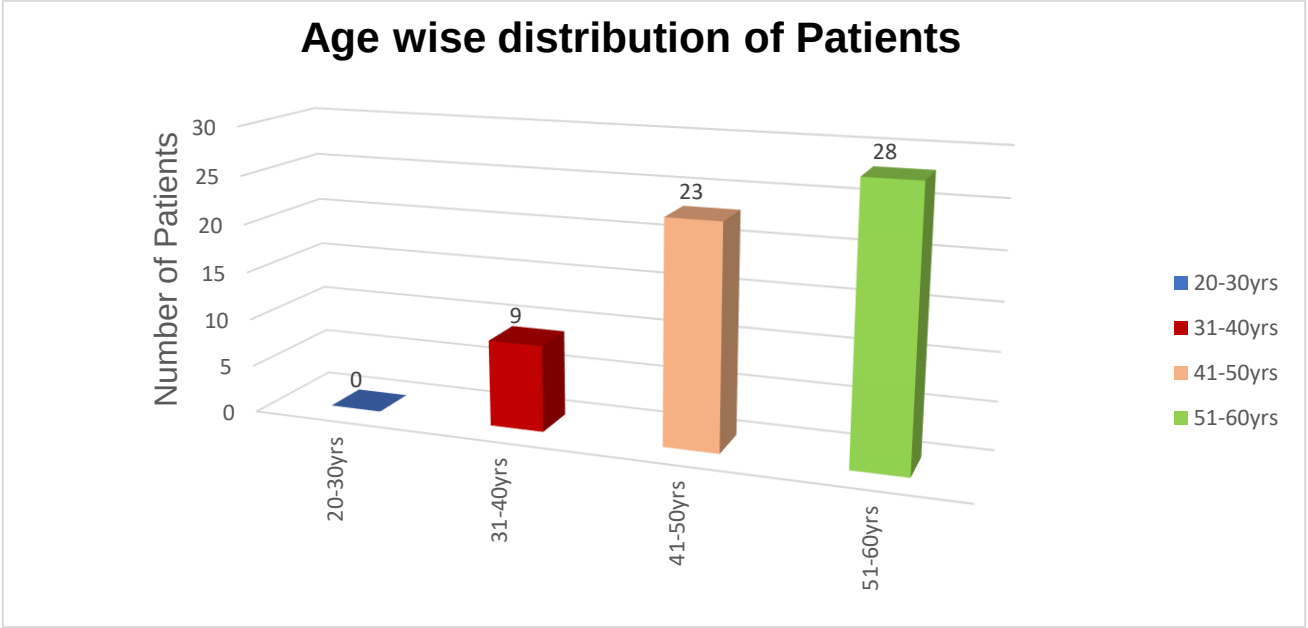


Figure 2 Explains the age wise distribution of patients planned for cardiac procedures in which maximum number of the patients were in the age group of 51-60 years that is 45% (n=27) ,38% of the patients (n=23) were in the age group of 41-50 years and 15% (n=9) of the patients belonged to the age group of 51-60 years.

Gender Wise Distribution of Patients

Table 3: Gender wise distribution of patients undergoing cardiac procedures.

N=60

SNO	Gender	Number	Percentage
1	Male	41	68.33%
2	Female	19	31.66%
	TOTAL	60	100%

Figure 3: Gender wise distribution of patients undergoing cardiac procedures.

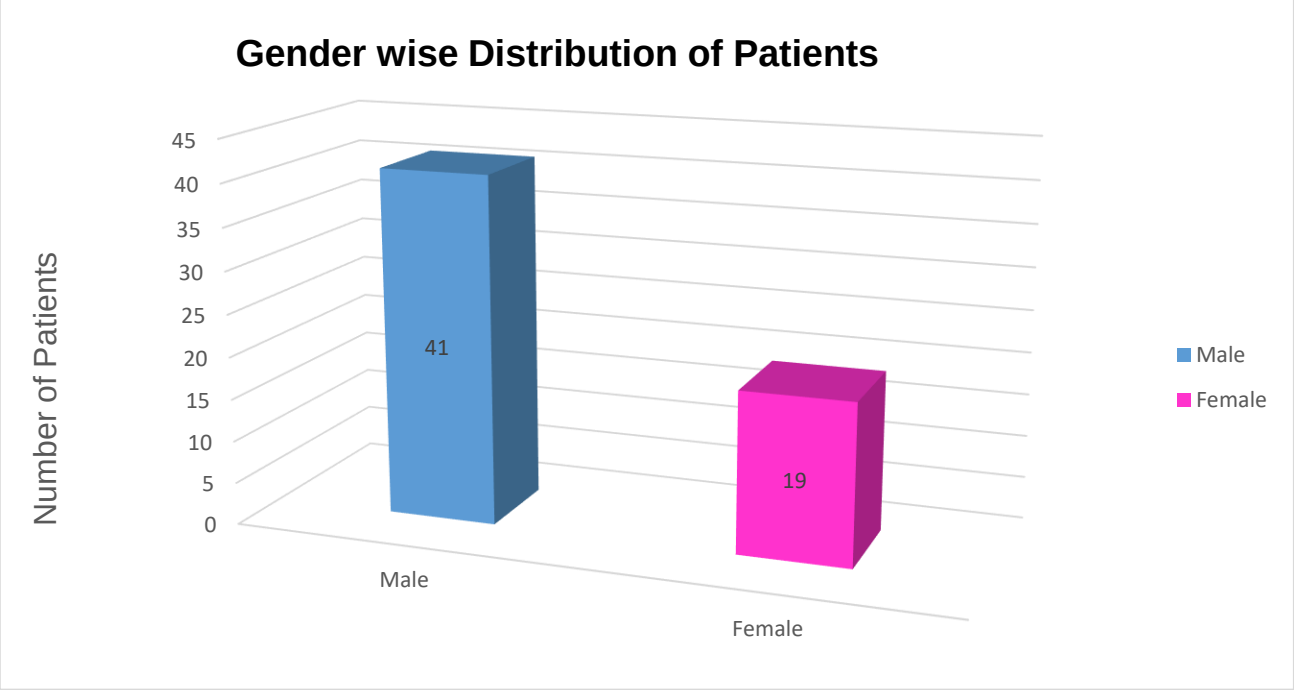


Figure 3 Explains the gender wise distribution of patients planned for cardiac procedures in which maximum number of the patients were male that is 68.33% (n=41) and 31.66% of the patients were female (n=19).

Distribution Of Patients According to Support System

Table 4: Distribution of patients according to support system

N=60

SNO	Support system	Number	Percentage
1	Present	48	80%
2	Absent	12	20%
	TOTAL	60	100%

Figure 4: Distribution of patients according to support system

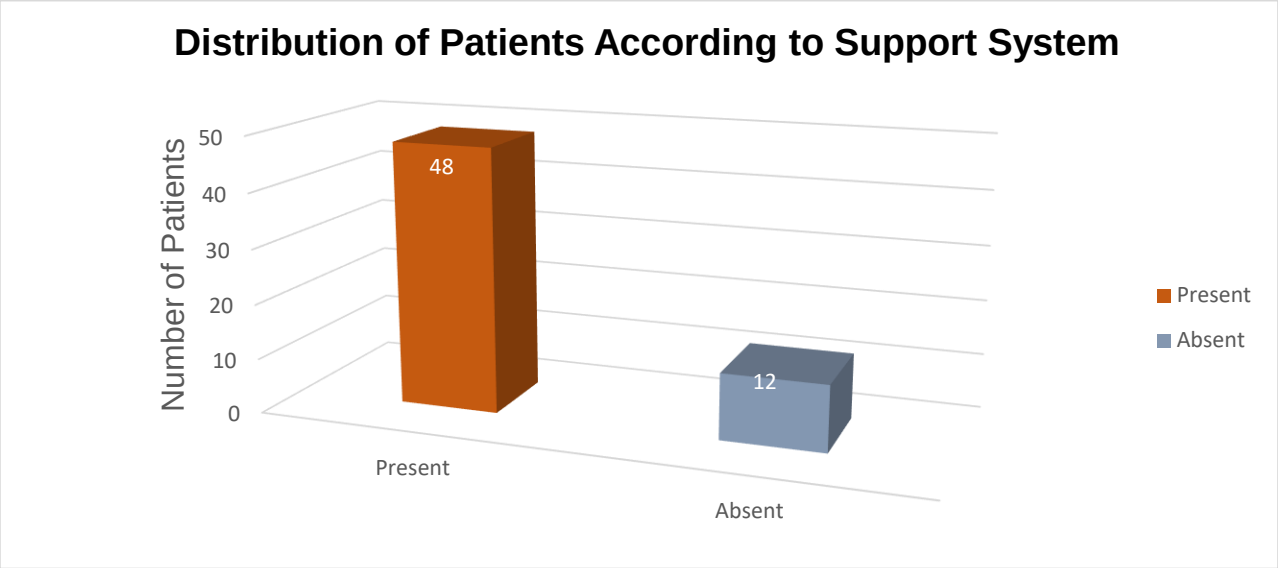


Figure 4 Explains the distribution of patients planned for cardiac procedures according to presence of support system in which maximum number of the patients had support system that is 80% (n=48) and 20%(n=12) of the patients did not have any support system.

Distribution of Patients According to Educational Qualification

Table 5: Distribution of Patients According to Educational Qualification N=60

SNO	Educational qualification	Number	Percentage
1	Primary	20	33%
2	Secondary	22	37%
3	Higher Secondary	10	17%
4	Above Higher Secondary	08	13%
	Total	**60**	**100%**

Figure 5: Distribution of Patients According to Educational Qualification

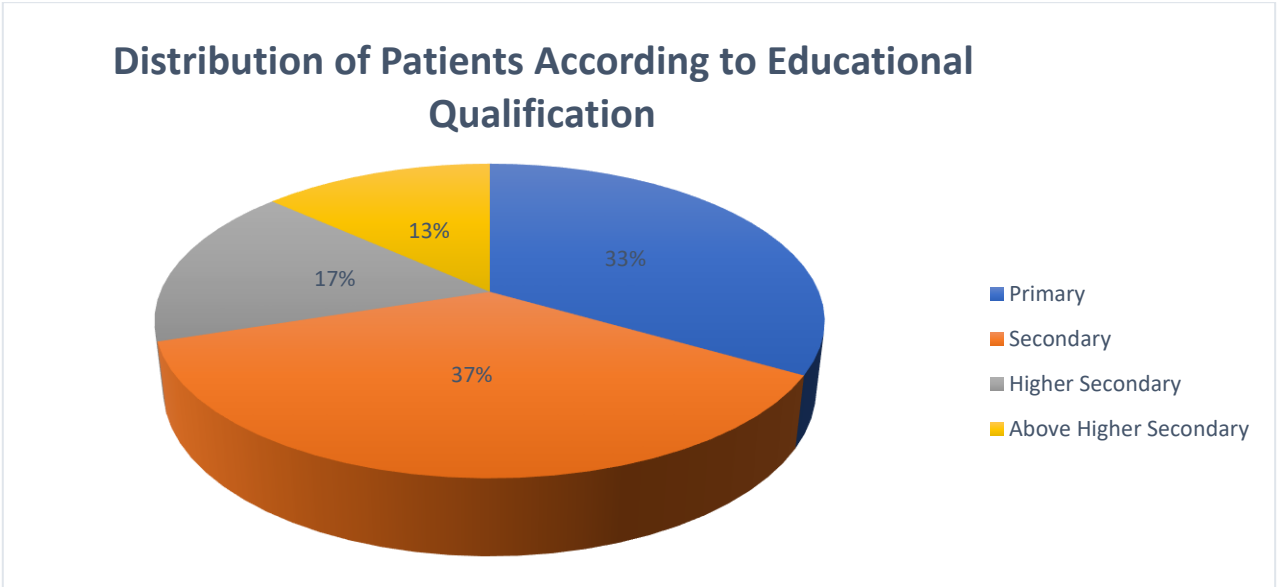


Figure 5 Explains the distribution of patients according to educational qualifications in which maximum number of the patients were having secondary education that is 37% (n=22) and minimum number of the patients were having above higher secondary education that is 13% (n=08).

Distribution of Patients According to Type of Family

Table 6: Distribution of Patients according to type of Family N=60

SNO	Type of Family	Number	Percentage
1	Nuclear	39	65%
2	Joint	21	35%
3	others	0	0%
	Total	**60**	**100%**

Figure 6: Distribution of Patients According to Type of Family

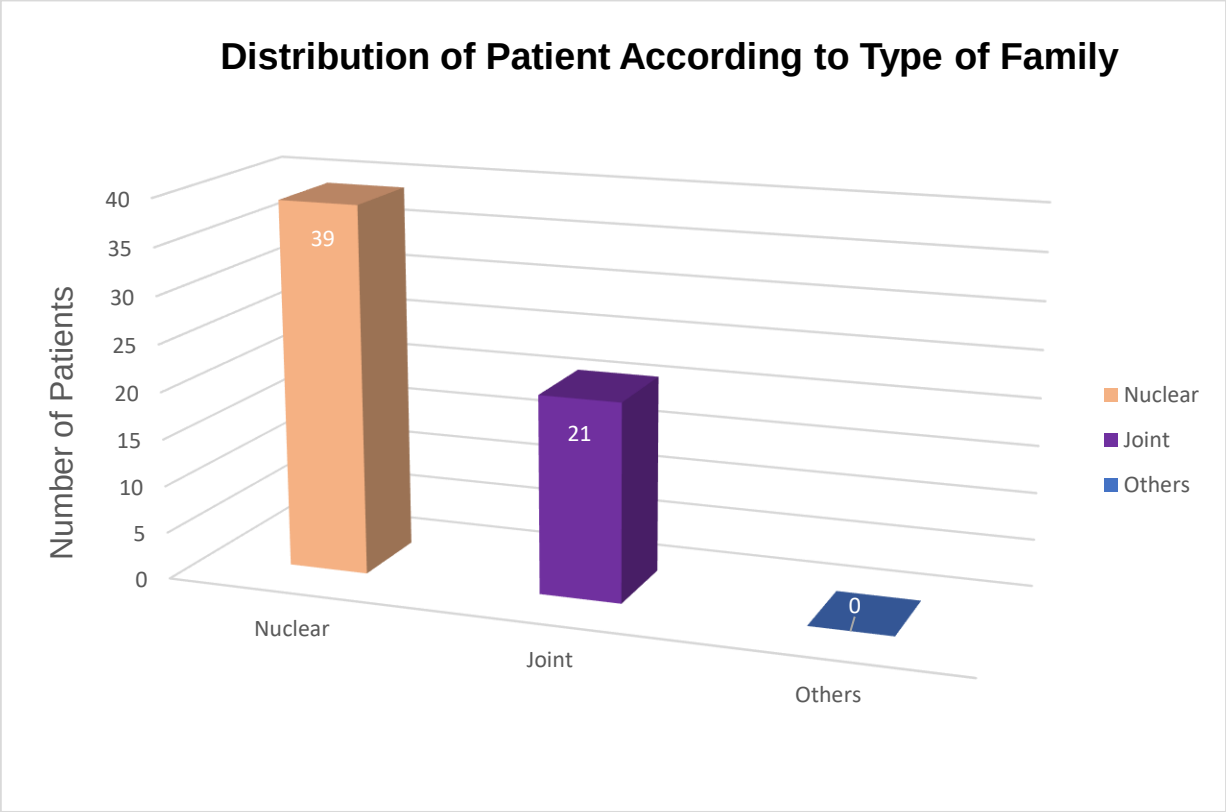


Figure 6 Explains the distribution of patients according to type of family in which maximum number of the patients belongs to nuclear family that is 65% (n=39) and 35% of the patients (n=21) belongs to joint family.

Distribution of Patients According to Past History of Cardiac Procedures

Table 7: Distribution of patients according to past history of cardiac procedures N=60

SNO	Past history of cardiac procedure	Number	Percentage
1	Present	26	43.33%
2	Absent	34	56.66%

	TOTAL	60	100%

Figure 7: Distribution of patients according to Past History of Cardiac Procedures

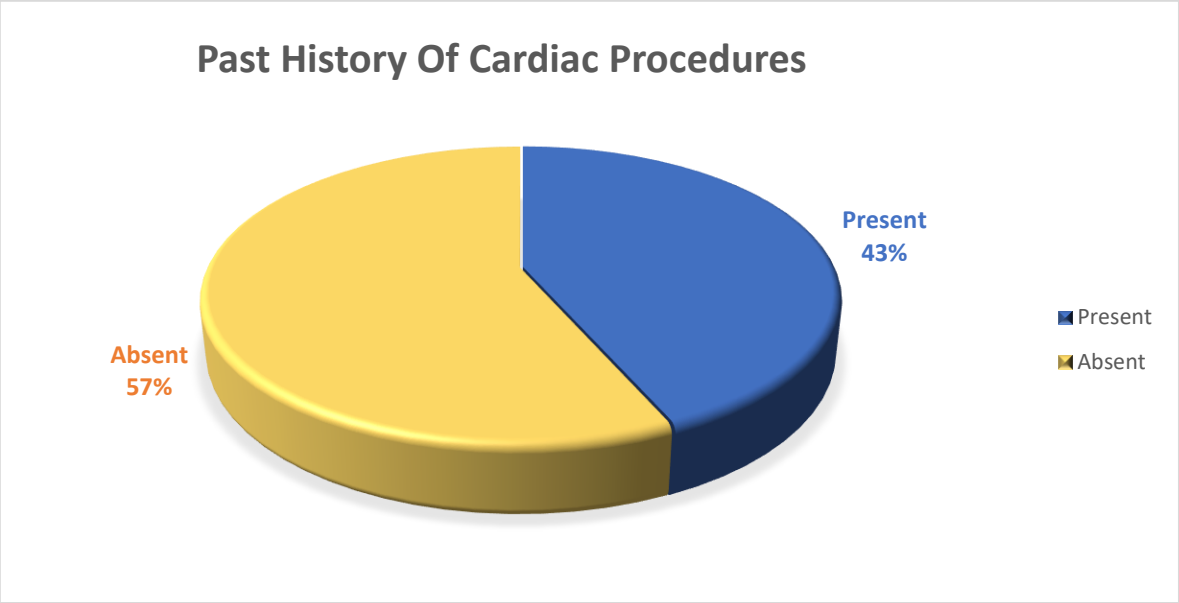


Figure 7 Explains the distribution of patients according to past history of cardiac procedures in which maximum number of the patients did not have past history of cardiac procedure that is 56.66% (n=34) and 43.33% of patients (n=26) had past history of cardiac procedure.

Distribution Of Patients on the Basis of Co-Morbidities

Table 8: Distribution of Patients on the Basis of Co-Morbidities **N=60**

SNO	Co-morbidities	Number	Percentage
1	Present	27	45%
2	Absent	33	55%
	TOTAL	60	100%

Figure 8: Distribution of Patients on the Basis of Co-Morbidities

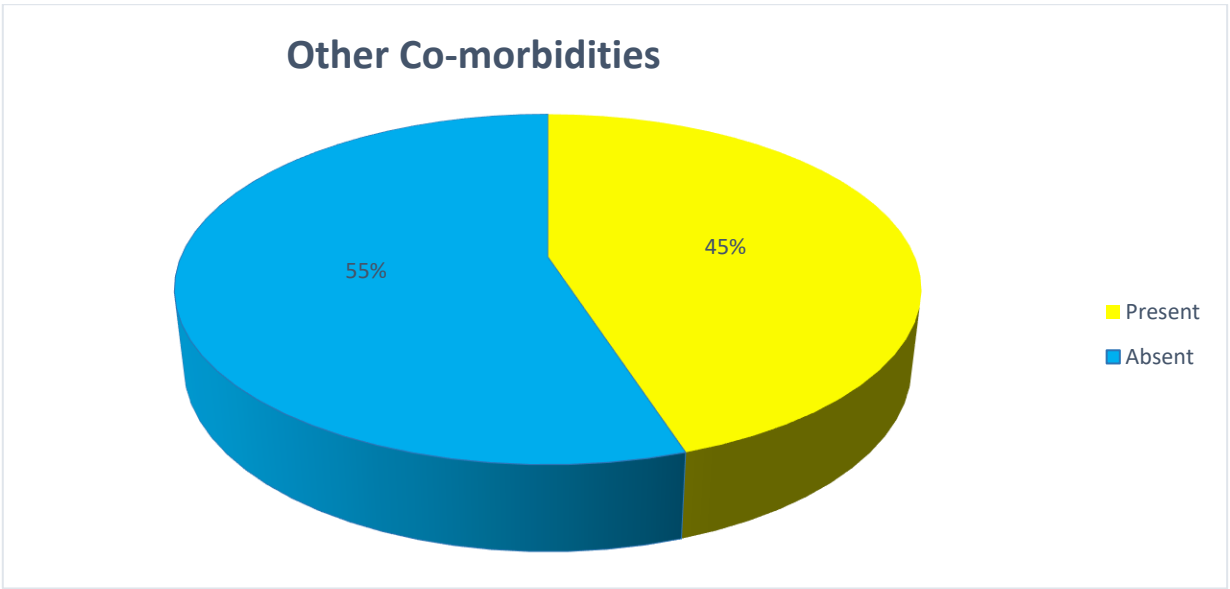


Figure 8 Explains the distribution of patients on the basis of other co-morbidities in which maximum number of the patients did not have any other co-morbidities that is 55%(n=33) and 45% of patients (n=27) had other co-morbidities.

Distribution of Patients According to Past History of psychiatric illness in patient

Table 9: Distribution of patients according to past history of psychiatric illness in patient

N=60

SNO	Past history of psychiatric illness in patient	Number	Percentage
1	Present	02	3.33%
2	Absent	58	96.66%
	TOTAL	60	100%

Figure 9: Distribution of patients according to Past History of psychiatric illness in patient

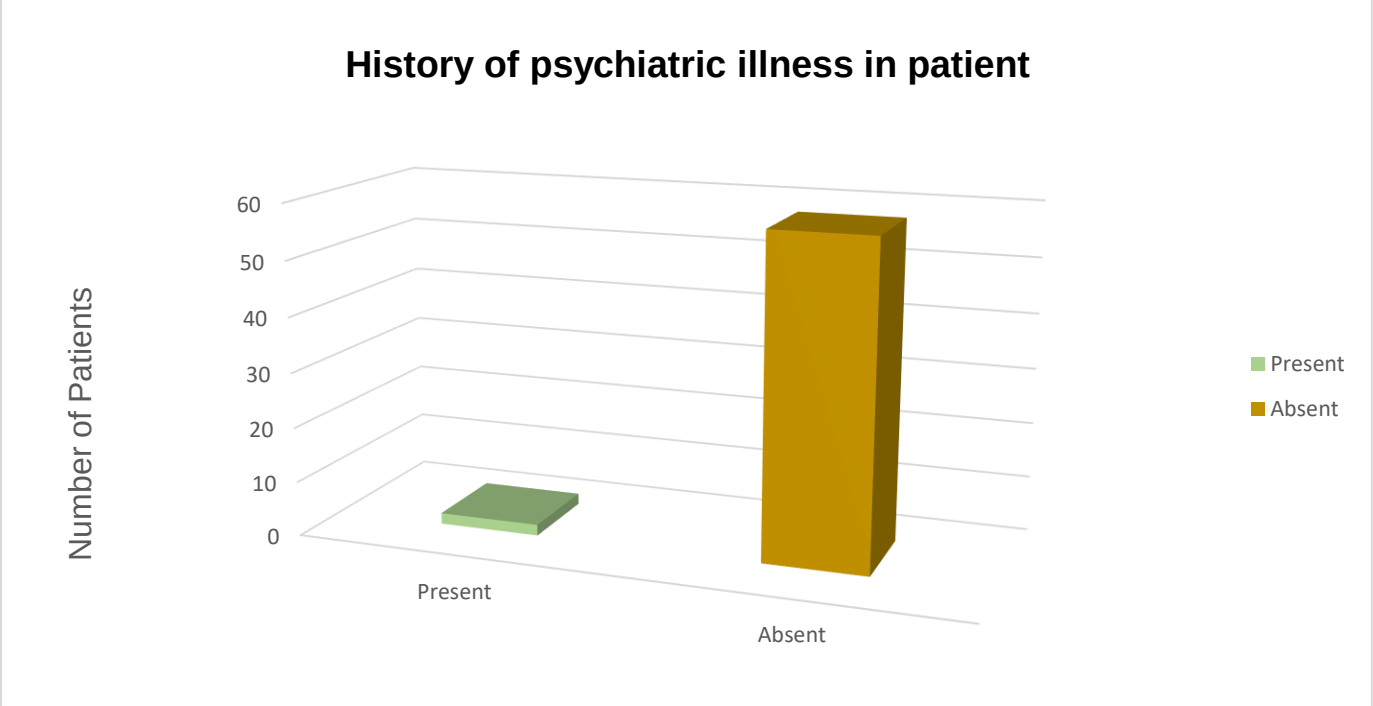


Figure 9 Explains the distribution of patients according to past history of psychiatric illness in patient which shows maximum number of the patients did not have past history of psychiatric illness that is 96.66% (n=58) and 3.33% of patients (n=2) had past history of psychiatric illness.

Distribution of Patients According to Past History of psychiatric illness in Family

Table 10: Distribution of patients according to past history of psychiatric illness in family

N=60

SNO	Past history of psychiatric illness in family	Number	Percentage
1	Present	02	3.33%
2	Absent	58	96.66%
	TOTAL	60	100%

Figure 10: Distribution of patients according to Past History of psychiatric illness in family

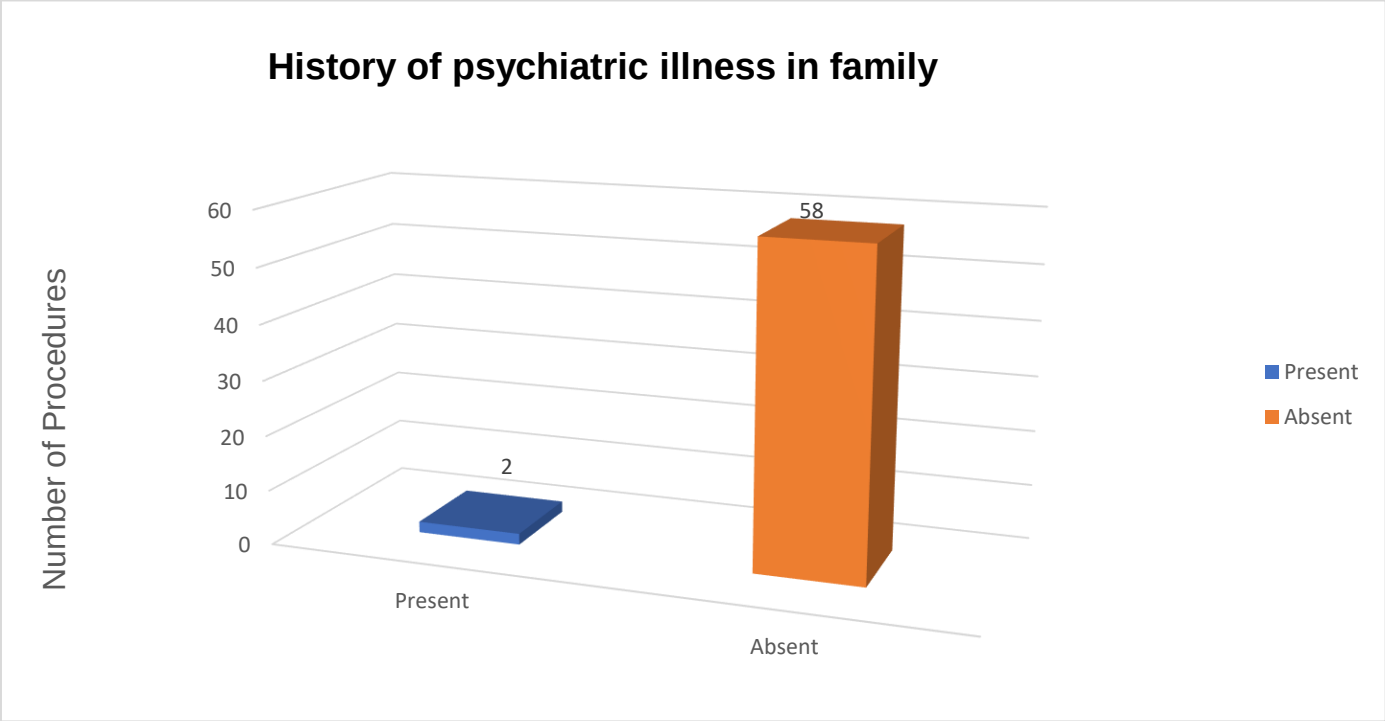


Figure 10 Explains the distribution of patients according to past history of psychiatric illness in family in which maximum number of the patients did not have past history of psychiatric illness in their family that is 96.66% (n=58) and 3.33% of patients (n=2) had past history of psychiatric illness in their family.

Distribution of Patients According to History of Alcohol Consumption

Table 11: Distribution of patients according to history of alcohol consumption

N=60

SNO	History of alcohol consumption	Number	Percentage
1	Present	28	47%
2	Absent	32	53%
	TOTAL	60	100%

Figure 11: Distribution of patients according to History of alcohol consumption

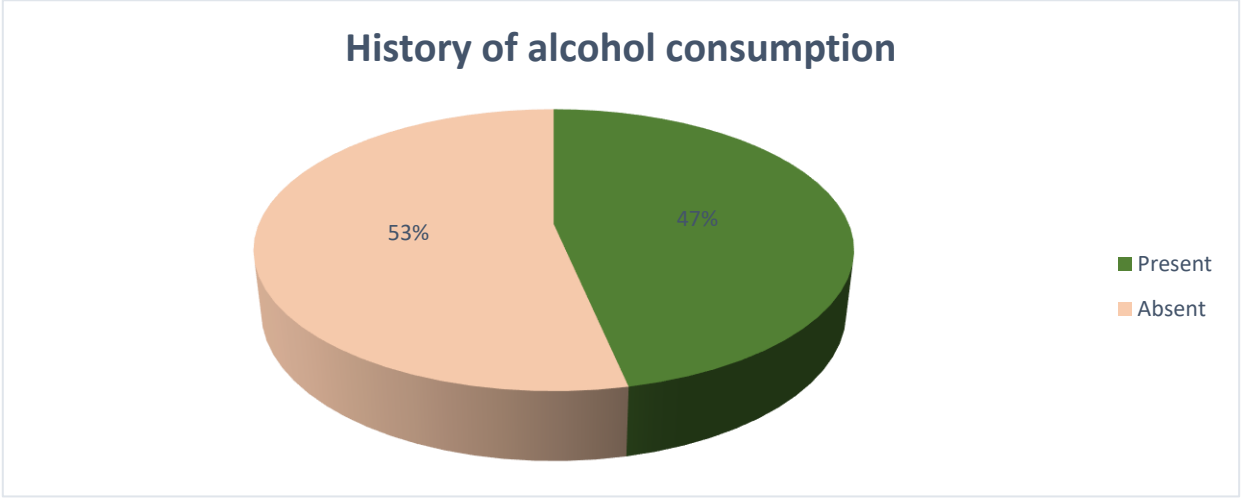


Figure 11 Explains the distribution of patients according to past history of alcohol consumption in which maximum number of the patients did not have past history of alcohol consumption that is 53%(n=32) and 47% of patients (n=28) had past history of alcohol consumption.

SECTION B

Distribution of Patients According to Level of Anxiety

Table 12: Distribution of patients according to Level of Anxiety N=60

SNO	Level of Anxiety	Number	Percentage
1	Low or No Anxiety	07	12%
2	Moderate Anxiety	15	25%
3	High Anxiety	38	63%
	TOTAL	60	100%

Figure 12: Distribution of patients according to Level of Anxiety

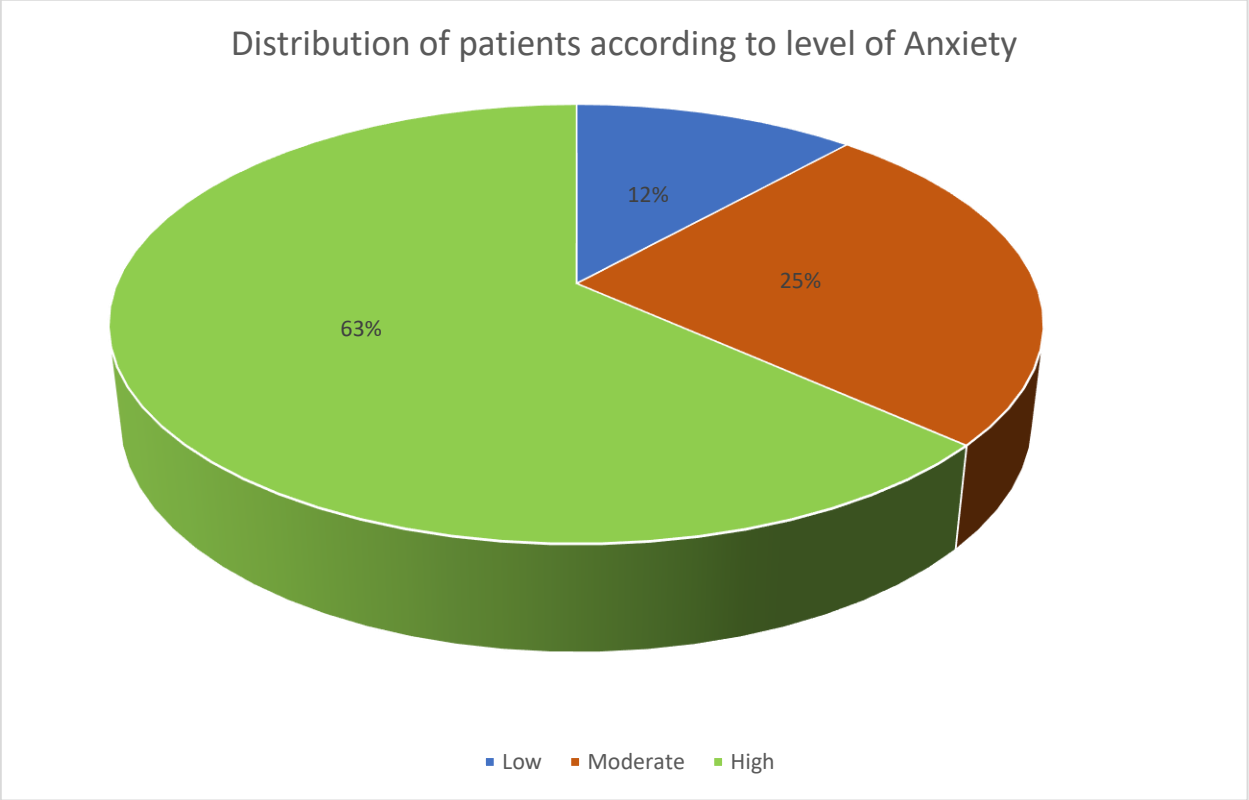


Figure 12 Explains the distribution of patients according to level of Anxiety in which maximum number of the patients had high Anxiety that is 63% (n=38), minimum of patients had low anxiety that is 12%(n=7) and 25% of patients (n=15) had moderate level of anxiety.

SECTION III:

Association with Socio-Demographic Data

Association of level of anxiety with age

Table 13: Association of level of anxiety with age

			Classification as per marks of test			
			Low anxiety	Moderate Anxiety	High Anxiety	Total
Age	31-40 years	Count	2	3	4	9
		Expected Count	1.1	2.3	5.7	9.0
	41-50 years	Count	3	4	16	23
		Expected Count	2.7	5.8	14.6	23.0
	51-60 years	Count	2	8	18	28
		Expected Count	3.3	7.0	17.7	28.0
Total		Count	7	15	38	60
		Expected Count	7.0	15.0	38.0	60.0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2.966[a]	4	.564
Likelihood Ratio	2.951	4	.566
Linear-by-Linear Association	1.150	1	.284
N of Valid Cases	60		

P= 0.5

Inference: There is no significant association of level of anxiety among pre-operative cardiac patients with age.

Association of level of anxiety with Gender

Table 14: Association of level of anxiety with Gender

			Classification as per marks of test			
			Low anxiety	Moderate Anxiety	High Anxiety	Total
Gender	Male	Count	6	10	25	41
		Expected Count	4.8	10.3	26.0	41.0
	Female	Count	1	5	13	19
		Expected Count	2.2	4.8	12.0	19.0
Total		Count	7	15	38	60

	Expected Count	7.0	15.0	38.0	60.0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	1.110[a]	2	.574
Likelihood Ratio	1.259	2	.533
Linear-by-Linear Association	.747	1	.387
N of Valid Cases	60		

P= 0.574

Inference: There is no significant association of level of anxiety among pre-operative cardiac patients with Gender.

Association of level of anxiety with presence of support system

Table 15: Association of level of anxiety with presence of support system

			Classification as per marks of test			
			Low anxiety	Moderate Anxiety	High Anxiety	Total
Support system	present	Count	6	11	31	48
		Expected Count	5.6	12.0	30.4	48.0
	absent	Count	1	4	7	12
		Expected Count	1.4	3.0	7.6	12.0
Total		Count	7	15	38	60
		Expected Count	7.0	15.0	38.0	60.0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	.619[a]	2	.734
Likelihood Ratio	.603	2	.740
Linear-by-Linear Association	.008	1	.927
N of Valid Cases	60		

P=0.734

Inference: There is no significant association of level of anxiety with presence of support system.

Association Of Level Of Anxiety With Educational Qualification

Table 16: Association of level of anxiety with educational qualification

			Classification as per marks of test			
			Low anxiety	Moderate Anxiety	High Anxiety	**TOTAL**
Educational Qualification	Primary	Count	1	3	16	20
		Expected Count	2.3	5.0	12.7	20.0
	Secondary	Count	4	5	13	22
		Expected Count	2.6	5.5	13.9	22.0
	Higher Secondary	Count	1	5	4	10
		Expected Count	1.2	2.5	6.3	10.0
	Above Higher Secondary	Count	1	2	5	8
		Expected Count	.9	2.0	5.1	8.0
Total		Count	7	15	38	60
		Expected Count	7.0	15.0	38.0	**60.0**

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	6.737[a]	6	.346
Likelihood Ratio	6.462	6	.373
Linear-by-Linear Association	1.671	1	.196
N of Valid Cases	60		

P=0.346

Inference: There is no significant association of level of anxiety among pre-operative cardiac patients with educational qualification.

Association Of Level Of Anxiety With Past History Of Cardiac Procedure

Table 17: Association of level of anxiety with past history of cardiac procedure

			Classification as per marks of test			TOTAL
			Low anxiety	Moderate Anxiety	High Anxiety	
Past history of cardiac procedure	Present	Count	2	8	16	26
		Expected Count	3.0	6.5	16.5	26.0
	Absent	Count	5	7	22	34
		Expected Count	4.0	8.5	21.5	34.0
Total		Count	7	15	38	60
		Expected Count	7.0	15.0	38.0	60.0

Chi- Square Tests

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	1.255[a]	2	.534
Likelihood Ratio	1.276	2	.528
Linear-by-Linear Association	.044	1	.833
N of Valid Cases	60		

P= 0.534

Inference: There is no significant association of level of anxiety among pre-operative cardiac patient with past history of cardiac procedure.

Association of Level of Anxiety With Past History of Psychiatric Illness in Patient

Table 18: Association of level of anxiety with psychiatric history of patient

			Classification as per marks of test			Total
			Low anxiety	Moderate Anxiety	High Anxiety	
Psychiatric history of patient	Present	Count	0	0	2	2
		Expected Count	.2	.5	1.3	2.0
	Absent	Count	7	15	36	58
		Expected Count	6.8	14.5	36.7	58.0
Total		Count	7	15	38	60

	Expected Count	7.0	15.0	38.0	60.0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	1.198[a]	2	.549
Likelihood Ratio	1.867	2	.393
Linear-by-Linear Association	.984	1	.321
N of Valid Cases	60		

P= 0.549

Inference: There is no significant association of level of anxiety among pre-operative cardiac patients with past history of psychiatric illness.

Association of level of anxiety with past history of alcohol consumption

Table 19: Association of level of anxiety with past history of alcohol consumption

			Classification as per marks of test			Total
			Low anxiety	Moderate Anxiety	High Anxiety	
History of alcohol consumption	Present	Count	5	3	20	28
		Expected Count	3.3	7.0	17.7	28.0
	Absent	Count	2	12	18	32
		Expected Count	3.7	8.0	20.3	32.0
Total		Count	7	15	38	60
		Expected Count	7.0	15.0	38.0	60.0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	6.553[a]	2	.038
Likelihood Ratio	6.949	2	.031
Linear-by-Linear Association	.039	1	.844
N of Valid Cases	60		

P= 0.038

Inference: There is a significant association of level of anxiety among pre-operative cardiac patients with past history of alcohol consumption.

SUMMARY

It can be summarised from the above data that there is no significant association of level of anxiety among pre-operative cardiac patients with selected socio-demographic variables except with history of alcohol consumption in patients i.e.p=0.038.

SUMMARY, CONCLUSION AND RECOMMENDATIONS

CHAPTER 5

DISCUSSION

Anxiety is a feeling of fear, dread and uneasiness. It may cause a person to have physical symptoms, feel restless and increased heartbeat. It is a normal reaction to a stress or stressful event. It revealed that anxiety is prevalent in approximately one-third of patients undergoing cardiac surgery at the time of discharge. This chapter presents a brief summary of the study and includes major findings, conclusion from the findings, limitations, implications and recommendations for the future research. Based on the findings of the available literature, the aim of the work was to assess the level of anxiety among patients undergoing cardiac procedures.

SUMMARY

The present study was descriptive in nature. It was conducted with the aim to assess the level of anxiety among patients undergoing cardiac procedures in selected tertiary care hospitals. The total number of samples selected of patients undergoing cardiac procedures was 60. The study was undertaken with the following objectives:

1. To assess the level of anxiety among patients undergoing cardiac procedures in selected tertiary care hospital.
2. To find association of the level of anxiety with selected sociodemographic data among patients undergoing cardiac procedure in selected tertiary care hospital.

An extensive review of literature enabled the investigator to develop a tool for data collection. It also helped the investigator to formulate a suitable methodology, plan the data analysis and interpretation of data analysis.

MAJOR FINDINGS OF THE STUDY

- In the present study majority of the patients had high Anxiety (63%),25% of the patients had moderate anxiety and minority of the patients had low anxiety i.e. 12%.
- Out of 60 patients planned for cardiac procedures,41 patients were males i.e. 68.33% and 19 are females i.e. 31.6%
- The age wise distribution of patients planned for cardiac procedures in which majority of the patients were in the age group of 51-60 years i.e. 28- 47%, 38% of patients, that is 23 patients were in the age group of 41-50 years and 15% of patients i.e. were in age group 31-40 years
- According to past history of cardiac procedures in which 34 patients did not have past history of cardiac procedure (56.66%) and 26 patients(43.33%) have past history of cardiac procedure.

- On the basis of other co-morbidities in which 33 of the patients did not have any other co-morbidities (55%) and 27 patients (45%) had other co-morbidities.
- According to past history of psychiatric illness in patient which shows 58 patients did not have past history of psychiatric illness (96.66%) and the 2 of the patients (3.33%) had past history of psychiatric illness.
- According to past history of psychiatric illness in family in 58 of the patients did not have past history of psychiatric illness in their family (96.66%) and 2 patients (3.33%) had past history of psychiatric illness in their family.
- Majority of the patients did not have past history of alcohol consumption (53%) and the 28 patients (47%) had past history of alcohol consumption.
- There is no significant association of level of anxiety with selected socio-demographic variables like Age, Gender, Presence of support system, Educational Qualification, Past history of cardiac procedures, History of psychiatric illness in patient. There is significant association of level of anxiety with history of alcohol consumption in patient (p=0.038).

LIMITATIONS

- This study was conducted only in selected Tertiary care hospital of Bangalore.
- The level of anxiety may vary for different patients based on the type of Personality traits.

NURSING IMPLICATIONS

The findings of the present study have implications not only in mental health nursing but also in medical surgical nursing and community health nursing. The findings also have valuable implications towards nursing practice, education, administration and research.

NURSING PRACTICE

The findings can be used to understand level of anxiety among pre-operative cardiac procedure patients and plan nursing care according to it so as to lower their anxiety and hence there would be minimal need of interventions in the post operative recovery period and the prognosis of the patient improves.

NURSING ADMINISTRATION

Nursing administrators should focus on in-service education related to stress and anxiety management to create awareness for reducing anxiety among pre-operative patients..

NURSING RESEARCH

- It provides base for other research studies related to similar topic.
- It adds to the existing body of knowledge in conducting research
- It provide base in evidence based practice.

CONCLUSION

Significant number of participants suffered from moderate to severe level of anxiety due to cardiac procedure.

There is a need to provide proper counselling to patients and their caregivers regarding the nature of illness, duration of use of medication, associated side effects as well as elaborately discussing ways to reduce

anxiety in patients.

Medical practitioners need to be aware of it and address this problem because counselling may be needed to help patients reduce anxiety before cardiac procedure.

There are numerous reasons which cause anxiety in the patients in preoperative period.

- Fear of unknown
- Worrying about the surgery not working
- Fear of anaesthesia
- Losing personal identity
- Having to recover around stranger
- Losing control
- Pain
- Not being able to recover
- Being in unfamiliar environment

The intensity of this fear depends upon the range of factors like the experiences people have had in hospitals in the past, their demographic background, their personal psychology and their gender.

Being afraid of going into surgery has an impact on people in a variety of different ways. These include:

1. **Psychological effects**, including cognitive and behavioural changes such as aggression, nervousness, apprehension, and tension. Sometimes, this makes patients finding it difficult to follow instructions and others becoming so aggressive that they may pose a danger to others.
2. **Physical effects**, which include things such as heightened senses, nervous diarrhoea before surgery, a fever, hypertension, and tachycardia. Peripheral vasoconstriction is also common.

The various tips can be given to patients before surgery to help them calm down:

- Help them to develop trust in their medical team.
- Trusting themselves
- Educating the patients
- Planning everything in advance
- Listening to all preoperative tips and instructions provided by the physician.
- Distracting themselves
- Listening to soothing music
- Getting access to professional support
- Making use of relaxation techniques
- Using alternative therapies
- Talking to family
- Joining support groups
- Talking to patients undergone same surgery
- Trying anxiety reducing herbs like ashwagandha

Recommendations

On the basis of the findings, following recommendations can be drawn for future research:

- A similar study can be replicated on a larger sample to validate the findings and make generalization.
  - A comparative study may be done on a level anxiety of urban and rural people.

- It provides sufficient data for any concerned body, including health professionals, psychologists, policy makers, and planners to help reduce anxiety levels of preoperative cardiac procedure patients.
- This could fill the information gaps in the study area and provide baseline information for other researchers to conduct similar studies by considering the limitations of this study.

REFERENCES

1. Topal Hançer A. Prevalence and factors associated with surgery anxiety in hospitalized patients: a point-prevalence study. *Irish journal of medical science*.2023. 10.1007/s11845-023-03475-7. Advance online publication. https://doi.org/10.1007/s11845-023-03475-7
2. Behrooz Goli et. All. Prevalence of anxiety , depression and stress in CABG candidate patients and factors affecting it at Farshchian cardiovascular hospital in Hamadan. Iran J health educ health promotion 2021; 9(2);212-225. URL:http;//journal.ihepsa.ir/article-1-1608-en.html
3. Mudgalkar, N., Kandi, V., Baviskar, A., Kasturi, R. R., & Bandurapalli, B. (2022). Preoperative anxiety among cardiac surgery patients and its impact on major adverse cardiac events and mortality- A randomized, parallel-group study. Annals of cardiac anaesthesia, 25(3), 293–296. Https://doi.org/10.4103/aca.aca_80_21
4. Hernández-Palazón, J., Fuentes-García, D., Falcón-Araña, L., Roca-Calvo, M. J., Burguillos-López, S., Doménech-Asensi, P., & Jara-Rubio,et al. Assessment of Preoperative Anxiety in Cardiac Surgery Patients Lacking a History of Anxiety: Contributing Factors and Postoperative Morbidity.2018. Journal of cardiothoracic and vascular anesthesia, 32(1), 236–244. Https://doi.org/10.1053/j.jvca.2017.04.044
5. Prado-Olivares J, Chover-Sierra E. Preoperatory Anxiety in Patients Undergoing Cardiac Surgery. *Diseases*. 2019; 7(2):46. Https://doi.org/10.3390/diseases7020046.
6. Behrooz Goli et. All. Prevalence of anxiety , depression and stress in CABG candidate patients and factors affecting it at Farshchian cardiovascular hospital in Hamadan. Iran J health educ health promotion 2021; 9(2);212-225. URL:http;//journal.ihepsa.ir/article-1-1608-en.html
7. Guo P. Preoperative education interventions to reduce anxiety and improve recovery among cardiac surgery patients: A review of randomised controlled trials. J Clin Nurs 2015;24:34-46.
8. Kumar A, Dubey PK, Ranjan A. Assessment of anxiety in surgical patients: An observational study. Anesth Essays Res 2019;13:503-8.
9. Felicity Astin et. All. https://doi.org/10.1016/j.hrtlng.2005.05.002
10. Ronak Delewi et. All, Anxiety levels of patients undergoing coronary procedures in the catherisation laboratory intj cardiol.2017 feb 1;228:926-930.doi:10.1016/j.ijcard.2016.11.043. Epub 2016 november 11.PMID:27912201.
11. Jiwanmall M, Jiwanmall SA, Williams A, Kamakshi S, Sugirtharaj L, Poornima K, et al. Preoperative anxiety in adult patients undergoing day care surgery: Prevalence and associated factors. Indian J Psychol Med 2020;42:87-92.
12. Joseph TT, Krishna HM, Kamath S. Premedication with gabapentin, alprazolam or a placebo for abdominal hysterectomy: Effect on pre-operative anxiety, post-operative pain and morphine consumption. Indian J Anaesth 2014;58:693-9.
13. Mudgalkar N. Anaesthesia for off pump coronary artery bypass- Recent updates. Perspect Med Res 2017;5:1-2.

14. Sabaté S, Mases A, Guilera N, Canet J, Castillo J, Orrego C, et al. ANESCARDIOCAT group. Incidence and predictors of major perioperative adverse cardiac and cerebrovascular events in non-cardiac surgery. Br J Anaesth 2011;107:879-90.
15. Tully PJ, Baker RA. Depression, anxiety, and cardiac morbidity outcomes after coronary artery bypass surgery: A contemporary and practical review. J Geriatr Cardiol 2012;9:197-208.
16. Blumenthal JA, Lett HS, Babyak MA, White W, Smith PK, Mark DB, et al. Depression as a risk factor for mortality after coronary artery bypass surgery. Lancet 2003;362:604-9.
17. Burg MM, Benedetto MC, Rosenberg R. Presurgical depression predicts medical morbidity 6 months after coronary artery bypass graft surgery. Psychosom Med 2003;65:111-8.
18. Oteri V, Martinelli A, Crivellaro E, Gigli F. The impact of preoperative anxiety on patients undergoing brain surgery: A systematic review. Neurosurg Rev 2021. Do1007/s10143-021-01498-1.
19. Sigdel, Shailendra & Ozaki, Akihiko & Basnet, Madindra & Kobashi, Yurie & Pradhan, Bishwas & Higuchi, Asaka & Uprety, Anup. (2020). Anxiety evaluation in Nepalese adult patients awaiting cardiac surgery: A prospective observational study. Medicine. 99. E19302. 10.1097/MD.0000000000019302.
20. Fathi M, Alavi SM, Joudi M, et al. Preoperative anxiety in candidates for heart surgery. Iran J Psychiatry Behav Sci. 2014;8(2):90-96.
21. Turksal E, Alper I, Sergin D, Yuksel E, Ulukaya S: The effects of preoperative anxiety on anesthetic recovery and postoperative pain in patients undergoing donor nephrectomy. Braz J Anesthesiol. 2020, 70:271-10.1016/j.bjan.2020.03.010
22. Khanal, R., Banjade, P., Bhandari, B., Sharma, S. C., & Rijal, R. (2022). Study to Assess Level of Preoperative Anxiety in Patients Scheduled for Surgery. Journal of Nepal Health Research Council, 20(2), 482–486. Https://doi.org/10.33314/jnhrc.v20i02.3308
23. Tulloch, I., & Rubin, J. S. (2019). Assessment and Management of Preoperative Anxiety. *Journal of voice : official journal of the Voice Foundation*, *33*(5), 691–696. Https://doi.org/10.1016/j.jvoice.2018.02.008
24. Gürler, H., Yılmaz, M., & Türk, K. E. (2022). Preoperative Anxiety Levels in Surgical Patients: A Comparison of Three Different Scale Scores. *Journal of perianesthesia nursing : official journal of the American Society of perianesthesia Nurses*, *37*(1), 69–74. Https://doi.org/10.1016/j.jopan.2021.05.013
25. Akinsulore A, Owojuyigbe AM, Faponle AF, Fatoye FO. Assessment of preoperative and postoperative anxiety among elective major surgery patients in a tertiary hospital in nigeria. *Middle east j anaesthesiol*. 2015;23(2):235-240.
26. Bedaso A, Ayalew M. Preoperative anxiety among adult patients undergoing elective surgery: a prospective survey at a general hospital in Ethiopia. *Patient Saf Surg*. 2019;13:18. Published 2019 Apr 8. Doi:10.1186/s13037-019-0198-0
27. Khanal, R., Banjade, P., Bhandari, B., Sharma, S. C., & Rijal, R. (2022). Study to Assess Level of Preoperative Anxiety in Patients Scheduled for Surgery. *Journal of Nepal Health Research Council*, *20*(2), 482–486. Https://doi.org/10.33314/jnhrc.v20i02.3308
28. Bedaso, A., & Ayalew, M. (2019). Preoperative anxiety among adult patients undergoing elective surgery: a prospective survey at a general hospital in Ethiopia. *Patient safety in surgery*, *13*, 18. https://doi.org/10.1186/s13037-019-0198-0

29. Lakhe G, Shrestha BB, Subedi A. Preoperative Anxiety among Patients Undergoing Elective Surgery in a Tertiary Care Centre: A Descriptive Cross-sectional Study. *JNMA J Nepal Med Assoc*. 2022;60(252):681-684. Published 2022 Aug 1. doi:10.31729/jnma.7636
30. Ferede YA, Bizuneh YB, Workie MM, Admass BA. "Prevalence and associated factors of preoperative anxiety among obstetric patients who underwent cesarean section": A cross-sectional study. *Ann Med Surg (Lond)*. 2022;74:103272. Published 2022 Feb 4. doi:10.1016/j.amsu.2022.103272
31. Jayawardane M, Gankanda W, Gunathilake M. Prevalence of pre-operative anxiety and associated factors among a group of women undergoing gynaecological surgeries at a single unit in a tertiary care hospital in Sri Lanka. *F1000Res*. 2021;10:74. Published 2021 Feb 5. doi:10.12688/f1000research.26964.1
32. Tadesse M, Ahmed S, Regassa T, et al. Effect of preoperative anxiety on postoperative pain on patients undergoing elective surgery: Prospective cohort study. *Ann Med Surg (Lond)*. 2021;73:103190. Published 2021 Dec 22. doi:10.1016/j.amsu.2021.103190
33. Yu J, Zhang Y, Yu T, et al. Preoperative Anxiety in Chinese Adult Patients Undergoing Elective Surgeries: A Multicenter Cross-Sectional Study. *World J Surg*. 2022;46(12):2927-2938. doi:10.1007/s00268-022-06720-9.
34. Sigdel S. Perioperative anxiety: a short review. Glob Anaesth Perioper Med. 2015;1. https://doi.org/10.15761/GAPM.1000126.
35. Almalki MS, Ahmed O, Hakami O, Al-Amri AM. Assessment of preoperative anxiety among patients undergoing elective surgery. Egypt J Hosp Med. 2017;69(4):2329–33.
36. Woldegerima YB, Fitwi GL, Yimer HT, Hailekiros AG. Prevalence and factors associated with preoperative anxiety among elective surgical patients at university of Gondar hospital. Gondar, Northwest Ethiopia, 2017. A cross-sectional study. Int J Surg Open. 2018;10(November 2017):21–9.
37. Gümüs K. The Effects of Preoperative and Postoperative Anxiety on the Quality of Recovery in Patients Undergoing Abdominal Surgery. *J Perianesth Nurs*. 2021;36(2):174-178. doi:10.1016/j.jopan.2020.08.016
38. Aloweidi A, Abu-Halaweh S, Almustafa M, Marei Z, Yaghi S, Hababeh L L et al. Preoperative Anxiety among Adult Patients Undergoing Elective Surgeries at a Tertiary Teaching Hospital: A Cross-Sectional Study during the Era of COVID-19 Vaccination. *Healthcare*. 2022; 10(3):515. https://doi.org/10.3390/healthcare10030515
39. Prado-Olivares J, Chover-Sierra E. Preoperatory Anxiety in Patients Undergoing Cardiac Surgery. *Diseases*. 2019; 7(2):46. https://doi.org/10.3390/diseases7020046
40. Valencia L, Becerra Á, Ojeda N, Domínguez A, Prados M, González-Martín JM, Rodríguez-Pérez A. Effect of Preoperative Anxiety on Postoperative Pain after Craniotomy. *Journal of Clinical Medicine*. 2022; 11(3):556. https://doi.org/10.3390/jcm11030556
41. Dziadzko M, Mazard T, Bonhomme M, Raffin M, Pradat P, Forcione J-M, Minjard R, Aubrun F. Preoperative Anxiety in the Surgical Transfer and Waiting Area: A Cross-Sectional Mixed Method Study. *Journal of Clinical Medicine*. 2022; 11(9):2668. https://doi.org/10.3390/jcm11092668
42. Yi H, Lee H. Intervention to Reduce Anxiety Pre- and Post-Eye Surgery in Pediatric Patients in South Korea: A Preliminary Quasi-Experimental Study. *Children*. 2022; 9(1):65. https://doi.org/10.3390/children9010065
43. Navarro-Gastón D, Munuera-Martínez PV. Prevalence of Preoperative Anxiety and Its Relationship with Postoperative Pain in Foot Nail Surgery: A Cross-Sectional Study. *International Journal of*

Environmental Research and Public Health. 2020; 17(12):4481. https://doi.org/10.3390/ijerph17124481