

A STUDY TO ASSESS THE PATIENTS RECALL REGARDING THE PAIN AND ITS RELIEF AFTER OPEN HEART SURGERY

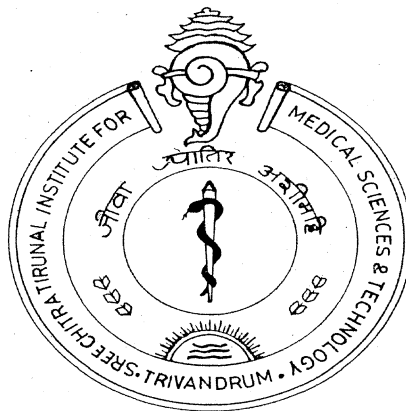
PROJECT REPORT

Submitted as a partial fulfillment of the requirements for the
**DIPLOMA IN CARDIOVASCULAR AND THORACIC
NURSING**

Submitted by

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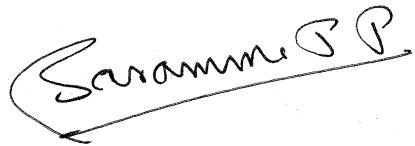


**SREE CHITRA TIRUNAL INSTITUTE FOR MEDICAL
SCIENCES AND TECHNOLOGY
TRIVANDRUM**

NOVEMBER 2009

CERTIFICATE FROM SUPERVISORY GUIDE

This is to certify that **Miss.ASWATHI A.K** has completed the project work on
**"A STUDY TO ASSESS THE PATIENTS RECALL REGARDING PAIN AND
ITS RELIEF AFTER OPEN HEART SURGERY"** among patients who
admitted in Cardiology Surgical Unit at SCTIMST, Trivandrum under my direct
supervision for the partial fulfillment for the Diploma in Cardiovascular and
Thoracic Nursing in the University of Sree Chitra Tirunal Institute for Medical
Sciences and Technology. It is also certified that no part of this report has
been included in any other thesis for processing any other degree by the
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November 2009

CERTIFICATE FROM THE CANDIDATE

This is to certify that the project on **“A STUDY TO ASSESS THE PATIENTS RECALL REGARDING PAIN AND ITS RELIEF AFTER OPEN HEART SURGERY”** among patients admitted in cardiology surgical unit at SCTIMST, Trivandrum is a genuine work by me, under the guidance of Dr.Saramma.P.P, M.N, PhD, Senior Lecturer in Nursing, SCTIMST, Trivandrum. It is also certified that this work has not been presented previously to any other University for award of degree, diploma or other recognition.

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ABSTRACT

TOPIC: A study to assess the patients' recall regarding pain and its relief after open-heart surgery.

Background: Assessment and management of patients' pain across practice settings have recently received the increased attention of care providers, patients, and their families. Scientific advances in understanding pain mechanisms, pain assessment, and analgesic have improved pain management practices. However, pain assessment and management for critical care patients, especially those with communication barriers, continue to present challenges to clinicians and researchers. **Aim:** The objectives of the study were to assess pain suffered by the patient after open-heart surgery during hospital recovery, to find out association between pain score of patients and selected variable and to assess the alleviating factors of pain in patients after open heart surgery. **Method:** This study was conducted in the cardiac surgical ICU of Sree Chitra Tirunal Institute for Medical Sciences and Technology; Trivandrum. Thirty patients after open-heart surgery were consecutively selected for this study. Total period of study was from September 2009 to October 2009. Wong Bakers Faces Pain Rating Scale and a validated questionnaire to assess the level of pain and the effectiveness of pain management were used as the tool for the study. **Results:** The data was analyzed by using Epi Info. In general the patients recalled postoperative pain as mild to moderate and pain relief from pain medications was adequate. This study revealed that there was no significant difference between the pain intensity and sex of the patient or type of surgery. The pain intensity was

increased during procedures such as chest physiotherapy and chest tube removal. Seventy percentage of patient identified the chest incision as their location of pain. This study also revealed that Wong Bakers Faces Pain Rating Scale could be used as an easy tool to assess postoperative pain.

Conclusion: The postoperative pain in open-heart surgery as per patients' recall seems to be mild to moderate and pain medications given provide adequate pain relief. Studies using more sample size may be useful to validate findings.

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ABBREVIATIONS

ASD	-	Atrial Septal Defect
AVR	-	Aortic Valve Replacement
CABG	-	Coronary Artery Bypass Graft
DVR	-	Double Valve Replacement
JCAHO	-	Joint Commission of the Accreditation the Health Care Organization
MVR	-	Mitral Valve Replacement
NRS	-	Numerical Rating Scale
VAS	-	Visual Analogue Scale

CHAPTER - 1

INTRODUCTION

"Pain" is derived from the Latin word "poena" or penalty. Physical pain is the unpleasant sensation typically associated with bodily harm. For scientific and clinical purposes, pain is defined by the International Association for the Study of Pain (IASP) as "an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or describe in terms of such damage"(1979).In medicine, pain is considered as highly subjective. A definition that is widely used in nursing was given as early as 1968 by Margo McCaffery: "Pain is whatever the experiencing person says it is, existing whenever he says it does". The patient is the best authority on the existence of pain. There fore validation of existence of pain is based on the patient's report that it exists.

Pain is a major symptom in many medical conditions, significantly interfering with a person's quality of life and general functioning. It is probably the most common compelling reason why a person seeks medical assistance. Diagnosis is based on characterizing pain in various ways, according to duration, intensity, type (dull, burning, throbbing or stabbing), source, or location in body. Usually pain stops without treatment or responds to simple measures such as resting or taking an analgesic, and it is then called 'acute' pain. But it may also become intractable and develop into a condition called 'chronic pain', in which pain is no longer considered a symptom but an illness

by itself. The study of pain has in recent years attracted many different fields such as Pharmacology, Neurobiology, Nursing, Dentistry, Physiotherapy, and Psychology. Pain medicine is a separate subspecialty figuring under some medical specialties like Anesthesiology, Physiatry, Neurology, and Psychiatry. Acute pain, which usually occurs in response to tissue injury, results from activation of peripheral pain receptors and their specific A delta and C sensory nerve fibers (nociceptors). Chronic pain related to ongoing tissue injury is presumably caused by persistent activation of these fibers. Chronic pain may also result from ongoing damage to or dysfunction of the peripheral or central nervous system (which causes neuropathic pain) (Suzane Dewit, 1995).

Post operative pain is a complex process influenced by both physiological and Psychological factors. Postoperative pain can affect all organ systems include:

Table 1.1**Adverse Effects of post operative pain in various systems**

System	Response
Respiratory	Reduced cough, atelectasis, sputum Retention and hypoxemia
Cardiovascular	Increased myocardial oxygen consumption and ischemia
Gastrointestinal	Decreased gastric emptying, reduced gut motility and constipation
Genitourinary	urinary retention
Neuroendocrine	Hyperglycemia, protein catabolism and sodium retention

Nociceptive pain may be somatic or visceral. Somatic pain receptors are located in skin, subcutaneous tissues, fascia, other connective tissues, periosteum, endosteum, and joint Capsules. Stimulation of these receptors usually produces sharp or dull localized pain, but burning is not uncommon if the skin or subcutaneous tissues are involved. Visceral pain receptors are located in most viscera and the surrounding connective tissue. Visceral pain due to obstruction of a hollow organ is poorly localized, deep, and cramping and may be referred to remote cutaneous sites. Visceral pain due to injury of organ capsules or other deep connective tissues may be more localized and sharp.

Pain management is considered such an important part of care that the American Pain Society coined the phrase, pain-the fifth vital sign, to emphasize its significance and to increase awareness among health care professionals of the importance of effective pain management. The Joint Commission of the accreditation of the health care organization also mandates pain assessment and management. Despite a growing trend in acute pain management, many deficiencies still account for the high incidence of moderate to severe postoperative pain to date. Patients nowadays continue to receive inadequate doses of analgesics, but additionally the identification and treatment of those patients with pain still remains a significant health care problem. Advanced techniques are available including epidural or intrathecal administration of local anaesthetics and opioids, various opioid administration techniques such as patient-controlled analgesia and infusions via sublingual, oral-transmucosal, nasal, intra-articular and rectal routes. Nonopioid analgesics such as nonsteroidal anti-inflammatory drugs and newer nonopioid drugs such as α_2 -adrenergic agonists, calcium channel antagonists and various combinations of the above are possible. However, the solution to the problem of inadequate pain relief lies not so much in the development of new drugs and new techniques, but in the effective strategy of delivering these to patients through the introduction of acute pain management services on surgical wards (Filos & Lehmann, 2007).

The American Pain Society goes further by stating that it is "not the responsibility of clients to prove they are in pain; it is the nurse's responsibility to accept the client's report of pain (2005)."

BACK GROUND OF THE STUDY:

Surgical procedures are characterized by incisional damage to skin and various other tissues, application of thermal and chemical stimuli to wound and often-prolonged traction and manipulation of somatic and visceral structures. Nociceptive pain is often regarded as the key feature of acute postoperative pain. Besides inflammatory, visceral and neuropathic pain mechanisms may contribute to the pain occurring during the postoperative period (Chadurvedi.S,2007). There are two pathophysiological classification of pain: nociceptive pain and neuropathic. Neuropathic pain is a complex, chronic pain state that usually is accompanied by tissue injury. With neuropathic pain, the nerve fibers themselves may be damaged, dysfunctional or injured. These damaged nerve fibers send incorrect signals to other pain centers. The impact of nerve fiber injury includes a change in nerve function both at the site of injury and areas around the injury (Grayson E.C,2004). Nociceptive pain is associated with pain stimuli from either somatic (body tissue) or visceral (organs) structures. Somatic nociceptive pain arises from injury to tissue where pain receptors called nociceptors are located. These nociceptors may be found in skin, connective tissue, bones, joints, or muscles. Trauma, burns, or surgery may cause injuries triggering somatic nociceptive pain. Visceral nociceptive pain arises from pathophysiology in visceral organs such as the organs of the cardiovascular system. There are four phases of pain associated with nociceptive pain (McCaffery and Pasero, 1999). *Transduction* is the first phase and begins when the tissue damage the release of substances (prostaglandin's, bradykinin, serotonin, substance p,

histamine) that stimulate nociceptors and initiate the sensation of pain (these substances activate nociceptors and lead to generation of action potential). Transmission is the second phase and involves movement of the pain sensation to the spinal cord (action potential continues from site of injury to spinal cord, spinal cord to brain stem and thalamus, thalamus to cortex for processing. Perception, the third phase, occur when impulses reach the brain and the pain is recognized (conscious experience of pain). The fourth phase, modulation, occurs when neurons in the brain send signals back down the spinal cord by release of neurotransmitters (eg: endogenous opioids) (Suzane dewit,1995).

Physiologic sources of acute postoperative pain are incisional pain, pain at insertion sites of tubes and drains, wound complications, orthopedic procedures, skeletal muscle tissue. Perception of pain varies widely from person to person and in the same individual under different circumstances. Pain threshold and pain tolerance are concepts that are used when discussing the perception of pain. Pain threshold is the point at which pain is perceived. Research indicates that the threshold of pain does not vary significantly among people. Pain tolerance is the length of time or the intensity of time a person will endure before outwardly responding to it. Research indicates that tolerance varies among people. (Suzane Dewit, 1995).

Factors that affect pain tolerance include culture, pain experience, expectations and role behaviours. Coping with pain takes a lot of energy, and patients who are debilitated are less able to withstand pain than are strong,

robust people. Fatigue caused by pain can lead to an increase in pain perception. A person's cultural background influences feelings about pain. In much of western culture it is considered valuable to have high pain tolerance, particularly among men. Some cultures allow free expression of, and moaning, crying, and other actions are considered appropriate. A nurse whose cultural background approves the "stiff upper lip" approach to handling pain may see the patient who outwardly expresses pain as weak or manipulative. Those patients whose cultural upbringing causes them to hide and deny pain may suffer needlessly unless the nurse can intervene by helping them to understand that analgesia will aid the healing process by encouraging movement and decreasing fatigue. Learning to accept without judgment the various ways of coping with and expressing pain is a very necessary process for nurses.

Pain has been studied extensively for centuries and currently there are recognized theories of pain transmission. The gate control theory of pain, put forward by Ronald Melzack (a Canadian psychologist) and Patrick David Wall (a British physician) in 1962, and again in 1965, is the idea that the perception of physical pain is not a direct result of activation of nociceptors, but instead is modulated by interaction between different neurons, both pain-transmitting and non-pain-transmitting. The theory asserts that activation of nerves that do not transmit pain signals can interfere with signals from pain fibers and inhibit an individual's perception of pain. Both Specificity and Pattern theories are used to help explain how different kinds of pain can occur. Specificity theory in 1664 Treatise of Man, René Descartes traced a pain pathway. "Particles of

heat" (A) activate a spot of skin (B) attached by a fine thread (cc) to a valve in the brain (de) where this activity opens the valve, allowing the animal spirit to flow from a cavity (F) into the muscles that then flinch from the stimulus, turn the head and eyes toward the affected body part, and move the hand and turn the body protectively. The underlying premise of this model - that pain is the direct product of a noxious stimulus activating a dedicated pain pathway, from a receptor in the skin, along a thread or chain of nerve fibers to the pain center in the brain, to a mechanical behavioral response - remained the dominant perspective on pain until the mid-nineteen sixties; though by 1965 the pathway had evolved to: free nerve endings are pain receptors and generate electrical-chemical pulses that travel along thin (A delta and C) "pain" fibers to the spinal cord and up the spinothalamic tract to the pain center in the thalamus. In short Specificity theories consider pain as an independent sensation with specialised peripheral sensory receptors [nociceptors], which respond to damage and send signals through pathways (along nerve fibres) in the nervous system to target centres in the brain. These brain centres process the signals to produce the experience of pain. This specificity (dedicated pain receptor and pathway) *theory* has been challenged by the theory, proposed initially in 1874 by Wilhelm Erb, that a pain signal can be generated by stimulation of *any* sensory receptor, provided the stimulation is intense enough: the pattern of stimulation (intensity over time and area), not the receptor type, determines whether pain is felt. Alfred Goldscheider (1894) proposed that stimulation might accumulate or "summate" in the dorsal horns of the spinal cord and begin to signal pain once a certain threshold of accumulated stimulation has been crossed.

William K. Livingston (1943) proposed that a "reverberatory" circuit in the dorsal horns might be the mechanism of this summation. Willem Noordenbos (1953) proposed that a signal carried from the area of injury along large diameter (thought to be "touch") fibers may inhibit the signal carried by the thinner "pain" fibers - the ratio of large diameter fiber signal to thin fiber signal determining pain intensity. Hence, we rub a smack. In short Pattern theories consider that peripheral sensory receptors, responding to touch, warmth and other non-damaging as well as to damaging stimuli, give rise to non-painful or painful experiences as a result of differences in the patterns [in time] of the signals sent through the nervous system.

The effective relief of pain is of paramount importance to anyone treating patients undergoing surgery. This should be achieved for humanitarian reasons, but there is now evidence that pain relief has significant physiological benefit. Not only does effective pain relief mean a smoother postoperative course with earlier discharge from hospital, but it may also reduce the onset of chronic pain syndromes. (Charlton.E, 1997).

Even with improved and advanced surgical techniques, people still feel some pain and discomfort after surgery, since even minor surgery causes swelling and breakup of tissue. Everyone has a different pain threshold and reacts to pain in an individual way. It is important for the patient to communicate with the health care team for better control of postoperative pain. Some of the patients, who undergo surgery under local or regional anesthesia, may not have pain for a while. Different surgical procedures cause different types of

pain. Postoperative pain can range from mild to intense, it can be throbbing, burning and irritating. There are medications and relaxation techniques that can help the patient to feel better. Pain will be assessed with the help of pain scale. If 0 means no pain and 10 is the worst pain possible. To relieve the pain most effectively, the health care team needs to know how well pain relief measures are working. Medications can be adjusted to meet the patient's needs. It is most important to try to relax after surgical procedure. When the patient is relaxed, pain medications work better. When the muscles aren't tense, this decreases the amount of fear and anxiety signals sent to the brain. The patient can position himself for comfort and ease of breathing. A pillow can be placed against the incision site or to help support the injured area of the patient body. Deep breathing can help relax tense muscles. Soft music can help the patient to relax. Pain medication allows the patient to be up and around more comfortably. Movement is easier when it doesn't hurt. This helps healing and circulation and can prevent post-op problems such as blood clots and pneumonia. All this can add up to a shorter hospital stay. Pain management based on the surgery, medical history, and the amount of pain the patient having and the phase of recovery. Initially, to help relieve immediate post-op pain, medications may be given intravenously (IV) or intramuscularly (IM). One popular IV method is called a Patient Controlled Analgesia (PCA). This is a pain medication administration apparatus that is connected to the patient's IV. The nurse will give the patient a button, which can be pressed when he/she has discomfort. This PCA machine will deliver a dose of pain medication through the IV when one presses the button. Of course, it is programmed with safety features to insure no overdosing. A

measured dose of narcotic is delivered with each use and the patient can only receive a certain amount of medication each hour. It is important for the patient to communicate with the health care team if the pain medication is not effective. Adjustments can be made to PCA, IV or IM injections. As hospital stay nears its end, the patient will probably be switched to oral pain medication. The patient may also be given a prescription for pain relieving pills to take home. (Dhruva.A.S).

Many State and professional organizations have developed clinical practice guidelines to direct health care providers in adequate management of acute pain. The 1992 *Acute Pain Clinical Practice Guideline*²² lays the foundation for the more current guidelines. Listed below is a sample of current guidelines available from the National Guideline Clearing House.

Pain management guideline; developed by the Health Care Association of New Jersey; released July 2006. This guideline includes definitions of pain (acute and chronic); clear direction for assessment and treatment with pharmacological and nonpharmacological interventions (including physical and occupational therapy); policies for pain education for staff, patients, and families; and direction for quality monitoring. The guideline is applicable to pain management in acute care and long-term care nursing facilities.

"Pain Management"; written for the 2nd edition of Geriatric Nursing Protocols for Best Practice; published in 2003. This guideline addresses pain in the elderly, assessment strategies, and nursing interventions to control pain.

Pharmacological and nonpharmacological interventions are included in the guideline.

ASPAN Pain and Comfort Clinical Guideline; developed by American Society of Perianesthesia Nurses; released August 2003. This guideline provides direction for assessment, interventions, and expected outcomes for the preoperative and postoperative phases of treatment. Use of pharmacological and nonpharmacological interventions is endorsed.

Pain is a worry for most people. But it is comforting to know that pain control is an important part of patient recovery after heart surgery. Every effort is made to minimize the pain; however, it is normal to experience some discomfort after surgery.

NEED AND SIGNIFICANCE

Evaluation of another person's pain is a major nursing challenge. Because there is no technology for accurate measurement, a combination of evaluation method is used. The complete assessment of the person's pain should include information about the pain's location, characteristics, quantity, and pattern. In addition, the assessment should include data concerning other symptoms that occur when the person is in pain, what factors aggravate the pain.

Critically ill patients are particularly vulnerable to pain, patients citing it as their greatest ICU stressor. Pain has also been identified as a complicating factor in critical illness. Despite this, pain management is often not considered priority by the ICU team. Effective management can only be achieved with accurate pain assessment. However, this is difficult in the critically ill as patients are often unable to communicate verbally due to the presence of endotracheal/ tracheostomy tubes, sedation and paralyzing agents. Nurses therefore rely on behavioural and physiological indicators in establishing the presence of pain. However, as these also occur in situations and conditions not associated with pain there is a need for a systematic objective assessment tool. Such a tool, consisting of a numerical and verbal rating scale to facilitate documentation and audit, was developed as a result of ongoing adjustment and evaluation. The tool scores the patient's pain by incorporating behavioural and physiological indicators and is used in conjunction with the Glasgow coma score and the modified Sheffield Sedation Scale to achieve a comprehensive neurological assessment. As movement and intervention may exacerbate pain, assessment is carried out at rest and during procedures such as suctioning and manual handling. As an aid to pain assessment and management a flow chart and a clinical guideline have also been introduced. Although preliminary evaluation established the effectiveness of the tool as a mean of estimating and recording pain levels in individual patients, it was evident that there has been no change to the way in which pain is managed. To address this issue, the level of nurses understanding regarding pain management has been ascertained and

teaching sessions delivered to increase the profile of pain management in the unit.

Statement of the problem

A study to assess the patients recall regarding pain assessment and pain relief after open-heart surgery.

Objectives

- To assess the level of pain suffered by the patient after open-heart surgery during hospital recovery.
- To find out association between pain score of patients after open-heart surgery and selected variables.
- To assess the alleviating factors of pain in post cardiac surgical patients.

Operational Definition

Pain assessment: Assessing the severity of postoperative pain cardiac surgical patients using Wong Bakers faces pain-rating scale. The nature, location, duration, aggravating factors are also assessed by using a pain impact questionnaire.

Pain management: The measures tried to relieve pain such as medications, certain positions, application of heat or cold, distraction.

Wong-Bakers Faces Pain Rating Scale: It combines pictures and numbers to allow pain to be rated by the user. The faces range from a smiling face to a sad, crying face. A numerical rating scale is assigned to each face of which there are 6 total.

Open-heart surgery: Surgery in which thoracic cavity is opened to expose the heart and the blood is recirculated and oxygenated by a heart lung machine.

Postoperative cardiac surgery patients: Patients who undergone open-heart surgeries such as Coronary Artery Bypass Graft (CABG) and Valve Replacement Surgery. Valve Replacement Surgeries including Mitral Valve Replacement (MVR), Aortic Valve Replacement (AVR), and Double Valve Replacement (DVR).

Analgesics: Drug used to reduce pain such as morphine sulphate, diclofenac sodium, tramadol, paracetamol etc.

Research Methodology:

Setting	: Cardiac surgical intensive care in SCTIMST Trivandrum.
Population	: Postoperative cardiac surgery patients in SCTIMST
Sample Size	: 30
Sampling Technique	: Consecutive sampling

Tool Preparation:

Only the patient can accurately describe and assess his/her pain. A number of pain assessment instruments have been developed to assist in assessment of patients' perception of pain. The Joint Commission developed pain standards for assessment and treatment based upon the recommendations in the Acute Pain Clinical Practice Guideline. The Joint Commission requires that hospitals select and use the same pain assessment tools across all departments. This standard suggests providing options among scales such as the Numerical Rating Scale (NRS), the Wong-Baker Faces scale, and a verbal descriptor scale. Here Wong Bakers Faces Pain Rating Scale along with fifteen questions to assess the location, nature, intensity, aggravating factors, and alleviating factors and the effectiveness of pain management.

Delimitations:

- Patients who are not speaking Malayalam are excluded.
- Patient who are on ventilator are not included.
- Study is limited in Cardiac Surgery ICU.
- The sample size is limited as 30.

Summary:

The above chapter deals with introduction, background of the study, need and significance of the study, statement of the problem, objectives, operational definitions, research methodology and delimitations.

Organization of the report:

Chapter 2 deals with the summary of related studies reviewed, chapter 3 deals with methodology of the study, chapter 4 contains analysis and interpretation of findings, chapter 5 contains summary and conclusion and limitation of the study and recommendations. This report also includes a selected bibliography and appendix.

CHAPTER - 2

REVIEW OF LITERATURE

Review of literature can serve a number of important functions in the research process. Literature review helps to lay the foundation for a study, and can also inspire new research ideas. It gives character insight into the problem and helps in selecting methodology, developing tool and also analyzing data. With these in view an intensive review of literature has been done.

2.1 Studies related to pain assessment and validation of pain observation tool.

Fillion, et al.(2006) has been conducted a study to validate pain assessment tools in critical care, especially for patients who couldn't communicate verbally. A total of 105 cardiac surgery patients in the intensive care unit, in a cardiology health center in Quebec, Canada, participated in the study. Following surgery, 33 of the 105 were evaluated while unconscious and intubated and 99 while conscious and intubated; all 105 were evaluated after extubation. For each of the 3 testing periods, patients were evaluated by using the Critical-Care Pain Observation Tool at rest, during a nociceptive procedure (positioning), and 20 minutes after the procedure, for a total of 9 assessments. Each patient's self-report of pain was obtained while the patient was conscious and intubated and after extubation. The reliability and validity of the Critical-Care Pain Observation Tool were acceptable. Moderate to high

weighted κ coefficients supported interrater reliability. For criterion validity, significant associations were found between the patients' self-reports of pain and the scores on the Critical-Care Pain Observation Tool. Higher scores supported discriminant validity during positioning (a nociceptive procedure) versus at rest. The Critical-Care Pain Observation Tool showed that no matter their level of consciousness, critically ill adult patients reacted to a noxious stimulus by expressing different behaviors that may be associated with pain. Therefore, the tool could be used to assess the effect of various measures for the management of pain.

Baglama, et al.(2007) conducted a study describe the development and evaluation of the Pain Impact Questionnaire (PIQ-6TM), a six-item measure of pain severity and impact on health-related quality of life (HRQOL)_domains. Two general US population samples (N = 829 and N = 7,025) and one chronic pain patient sample (N = 350) were included. The PIQ-6TM was developed using conventional and IRT (Item Response Theory) methods in four steps: Initial selection and development of items_based on results from a previously developed Bodily Pain item bank; 2) final item selection based on new data and investigations of unidimensionality, differential item functioning (DIF), and IRT modeling; 3) development of scoring algorithms, population norms, and cross-calibrations; and 4) psychometric evaluation. Six items on pain intensity and impact satisfied requirements of unidimensionality and lack of DIF and could be scored using IRT methods. The PIQ-6 showed good internal consistency reliability (coefficient alpha = 0.94) and good construct validity. Convergent validity was supported by strong correlations with pain severity

scales (visual analog and numerical rating scales; $r = 0.81-0.84$); discriminant validity was suggested by correlations with the SF-8™ Health Survey Physical and Mental Component Summary measures ($r = -0.77$; $r = -0.32$, respectively), significant mean score differences between chronic pain patients and the general population, and between patients differing in self-reported medical conditions ($P < 0.001$). The PIQ-6 is a brief, precise questionnaire available in a paper-and-pencil version and a computerized version that includes scoring and feedback software. It may facilitate large scale, inexpensive, precise, and norm-based pain assessment and monitoring in a wide variety of settings (e.g., homes, clinics, offices)

Puntillo, et al. (2006) conducted a descriptive study to evaluate the multidimensions of pain and symptom experience and comparing the recall in 15 medical and surgical ICU patients receiving mechanical ventilation. Patients' self-reports of pain intensity (PI) and symptom intensity were assessed by a numeric rating scale (0=none, 10 worst possible) while the patient was intubated. Descriptive Statistics and Pearson correlation coefficients were computed between PI and the intensity of 8 symptoms. Significance level was 0.05. The study evaluated critically ill patients' perceptions of: 1) pain intensity (PI) related to mechanical ventilation, 2) the intensity of 8 distressing symptoms (dyspnoea, thirst, nausea, hunger, tire/fatigue, anxiety, generalized discomfort, depressed feelings), and 3) the relationship of pain and coexisting symptoms. The significance of pain in ICU patients is clearly documented. A range of distressing symptoms has been suggested as consequences of mechanical ventilation and critical illness. Yet,

the coexisting nature of pain and these symptoms is not well understood. This query provides directions to improve pain and symptom management. Patients reported mild pain, anxiety, hunger, and depressed feelings (mean=2.6–4.5), and moderate levels of thirst, fatigue, and generalized discomfort (mean=5–5.8) while intubated. Significant correlations were found between thirst, hunger, fatigue, anxiety, and generalized discomfort, and between discomfort and pain. Surgical patients had higher levels of pain and symptoms than did medical patients. There was no gender difference on symptom perception. Substantial levels of pain and discomforting symptoms existed in ventilated ICU patients. There was evidence of associations among several discomforting symptoms. Further research using a larger sample is needed to evaluate and validate the relationships among these symptoms. This study implies that improving patient comfort requires attention to multiple symptoms.

Zalon and Margarete, (1999) conducted a study to compare pain measures in a sample of postoperative patients. Numerous instruments have been developed for the measurement of pain with various clinical populations. The Brief Pain Inventory-Short Form (BPI-SF) was administered along with the Short-Form McGill Pain Questionnaire (SF-MPQ) and two visual analogue scales, one for pain while at rest (VAS-R) and one for pain upon movement (VAS-M), in random order, to 115 hospitalized patients twice following their surgery. An additional 29 patients completed the instruments once. Correlations between the visual analogue scales, BPI-SF, and SF-MPQ

ranged from .33 to .76 ($p < .01$), suggesting that the instruments measure different aspects of pain and that instructions can influence the results.

2.2 Studies related to pain management outcomes.

Leegaard, et al. (2008) conducted a study regarding women's experiences and their self-management of postoperative pain after elective cardiac surgery. Semi-structured interviews were conducted in 2004–2005 with 10 women 1–2 weeks after discharge from their first elective cardiac surgery. Qualitative content analysis was used to identify recurring themes. Pain diaries were used to record postoperative pain experiences 1–2 weeks before the interviews, providing more nuances to the experiences of pain and pain management. Postoperative pain experiences varied from no pain-to-pain all the time. Worst pain intensity was recorded as moderate or more. Pain experiences depended on what women's expectations of pain after cardiac surgery. None wanted to complain about their painful experiences. The women had needed for more individualized information about self-management of pain, and had difficulties remembering the information they had received. Most did not want to use pain medication, or waited to do so until pain was unbearable. Patients need more individualized and gender-specific information before early discharge from cardiac surgery to improve self-management.

Yorke, et al. (2004). conducted a descriptive and co relational study about perceptions of pain management after cardiac surgery in an Australian critical

care unit. The purpose of this study was to investigate patient's perceptions of the effectiveness of pain management regimen, which consisted of IV prn bolus doses of morphine in a critical care unit after cardiac surgery. This study took place at the cardio thoracic intensive care unit of a major teaching hospital in Sydney; Australia. The subjects were 102 patients who underwent cardiac surgical procedures. The mean age group was 61 yrs, and 24.5% were females and 75.5% were males. Analysis revealed that patients received limited total amounts of morphine during their critical care stay (mean =26.7mg; SD=13.3; range:0-68). All activities were associated with increased pain sensation. Patients requiring an internal mammary artery graft experienced increased pain despite receiving greater amount of morphine. Elderly patients received less morphine and were refused painkillers more often than younger patients. Females found their overall pain experience to be less acceptable than did men. Less than half the participants always communicated their experience of pain to nurses. Overall, the majority of participants satisfied with their pain experience.

2.3 Studies related to pain assessment and management outcomes.

Gélinas, (2007) conducted a study about pain assessment & management. This study described the pain experience of cardiac surgery ICU patients. After their transfer to the surgical unit, 93 patients were interviewed using a questionnaire about their pain experience while they were in the ICU. Sixty-one patients (65.6%) recalled being ventilated and 72 patients (77.4%)

recalled having pain. Turning was the most frequent source of pain experienced by the patients. A large proportion of the patients (47.3%) identified the thorax as the location of their pain. All patients had a sternal incision. Pain was mild for 16 patients, moderate for 21, and severe for 25 of them. While ventilated, head nodding and movements of the upper limbs were the most frequent means of communication used by the patients. Despite advances in pain management, the study's findings were disturbingly similar to those of 17 years ago [Puntillo KA 1990]. Evidence from research about clinical guidelines for pain management needs to be applied to the care of cardiac surgery patients' in order to reduce patient suffering.

Valdix and Puntillo (1995) conducted a study regarding Pain, Pain Relief and Accuracy of their Recall After Cardiac Surgery. This study investigated how much pain and pain relief cardiac surgery patients experience in Intensive Care Units (ICUs), and the accuracy of their recall later, during hospital recovery. Thirty-nine patients completed the first interview in the ICU, and 31 of them answered recall questions later. The worst pain patients experienced in the ICU was moderately high, and patients reported 65% pain relief from analgesics administered. In general, patients' later recalled ICU pain was less severe and recalled pain relief from pain medications was greater than what they had reported when in the ICU. A substantial number of patients were unable to rate the effects of analgesics because they did not remember being medicated. One gender difference was noted: women recollected having a higher "worst pain" in ICU than men. Although recall of ICU pain is less than accurate, ICU cardiac surgical patients have episodes of substantial pain.

Despite advances in pain management, patients report that pain relief is frequently incomplete and that they do not remember receiving analgesics. A more proactive approach to pain management by health care professionals, which includes informing patients when they are receiving analgesics, might help to improve pain relief in cardiac surgical patients.

Gardner, et al. (2009) conducted a study about patients experiences following cardio thoracic surgery. Numerous studies have investigated patient outcomes of cardiac surgery, including some examining health-related quality of life. While these studies have provided some insight into patients' physical function, social abilities and perceived quality of life, studies examining the experiences of individuals recovering from cardiac surgery have received only limited investigation. This paper presents a thematic analysis of interviews conducted with patients recovering from cardio thoracic surgery, about their memories and experiences of hospital and recovery post-hospital discharge. and psychological function is important. Using an exploratory qualitative approach, eight participants were interviewed 6 months following their surgery. Transcripts of interviews were examined using a content analysis approach, with open coding of text and categorizing of similar concepts into themes. Participants reported varying degrees of pain and physical dysfunction during their recovery from surgery and some had still not returned to optimal function. Seven themes emerged from the data: impressions of ICU; comfort/discomfort; being sick/getting better; companionship/isolation; hope/hopelessness; acceptance/apprehension; and life changes. A number of the themes were constructed as a continuum, with participants often

demonstrating a range of views or experiences. Many had little or no memory of their stay in the intensive care unit, although others had vivid recollections. Their impressions of hospital were mostly positive, although many experienced fear, apprehension, and mood disturbances at some time during their recovery. Most participants recalled being sick, reaching a turning point, and then getting better. Many participants reported a change in life view since their recovery from surgery. Attention to specific areas of patient orientation, education and support was identified to facilitate realistic expectations of recovery. In addition, some form of systematic follow-up that focuses on patient recovery in terms of both physical.

Evans, et al. (2004) conducted a study regarding development and validation of the pain treatment satisfaction scale (PTSS): a patient satisfaction questionnaire for use in patients with acute or chronic pain. The purpose of this study was to develop and validate a measure of patient satisfaction for patients receiving treatment for either acute or chronic pain. Development of the initial questionnaire included a comprehensive literature review and interviews with patients, physicians and nurses in the United States, Italy and France. After initial items were created, psychometric validation was run on responses from 111 acute and 89 chronic pain patients in the United States. Analyses included principal components, factor analysis tests of reliability and clinical validity. The hypothesized structure of the questionnaire was supported by statistical analyses, and seven overlapping or inconsistent items were removed. The multi-items domains of the final PTSS included 39 items grouped in five dimensions: information (five items); medical care (eight

items); impact of current pain medication (eight items); satisfaction with pain medication which included the two subscales medication characteristics (three items); and efficacy (three items); side effects (twelve items). Internal consistency reliability coefficients were good (ranging from 0.83 to 0.92) The test –retest reliability coefficients were good(ranging from 0.67-0.81)were good for all dimensions except medication characteristics(0.55).All dimensions except medical care discriminated well according to pain severity. The satisfaction with efficacy dimension, hypothesized to change in the acute pain population, indicated preliminary responsiveness properties (effect size0.37;p<0.001).T he PTSS is a valid ,comprehensive instrument to assess satisfaction with treatment of pain based on independent modules that have demonstrated satisfactory psychometric performance.

Table 2.1

Key elements

Key word	Number of articles
Pain assessment	244,000
pain management	5000,000
Pain assessment and management	94,200
Pain assessment using VAS	27,800

CHAPTER - 3

METHODOLOGY

This chapter deals with research approach, study design, the sample and sampling technique, development and description of the tool, pilot study, data collection, procedure and plan of analysis.

3.1 Objectives of the study

The objectives of the study were

- to assess pain suffered by the patient after open-heart surgery during hospital recovery.
- to find out association between pain score of patients and selected variable.
- to assess the alleviating factors of pain in patients after open-heart surgery.

3.2 Research approach

Survey method

3.3 Settings

The study was conducted in the cardiac surgery intensive care unit of Sree Chitra Tirunal Institute for Medical Sciences and Technology, Trivandrum.

3.4 Population

Postoperative patients in the cardiac surgery intensive care unit of Sree Chitra Tirunal Institute for Medical Sciences and Technology, Trivandrum.

3.5 Sample and sampling technique

Consecutive sampling technique was used. The sample consisted of postoperative I patients in Cardiac Surgery Intensive Care Unit (CSICU) of SCTIMST. The sample size was 30. The duration of the study was from August 2009 to October 2009

3.6 Inclusion criteria

Patients who underwent Coronary Artery Bypass Graft and Valve Replacement Surgeries.

3.7 Exclusion criteria

- Patient who do not understand Malayalam.
- Patients who remain on ventilator, on the second postoperative day.

3.8 Development of the tool

An extensive study and review of literature helped in the preparation of the tool. A self-prepared validated questionnaire and Wong Bakers Faces pain rating scale were used as the tools for this study. Patients' medical records also were reviewed to collect data on analgesic use.

3.9 Description of the tool

Part i : This part contains item such as patient name, age, sex, name of the surgery, postoperative day, and date of assessment.

Part ii : Questionnaire about pain experience after open-heart surgery with in three days. These include five questions regarding the intensity of pain, after the assessment pain score given to each questions. Total pain score was 15. The highest score indicates the highest intensity of pain. Questions about pain aggravating activities are also included.

Part iii : This part includes two questions about alleviating factors of pain. Medical records also were reviewed to collect data on analgesic use.

3.10 Pilot study

Pilot study was done in September 2009. Five patients were taken for the pilot study. The pilot study was conducted to find out the feasibility of the study. Wong Bakers Faces pain rating scale and selected questions to assess pain intensity and its relief were used as the tool. After pilot study modification of the tool was done.

3.11 Data collection

The data was collected from postoperative cardiac surgery ICU of Sree Chitra Tirunal Institute for Medical Sciences and Technology. The period of data collection was from August 2009 to October 2009. Assessment of patient has been done while they are in the CSICU, in the second postoperative day (operation day count as '0'day). Most of the patient was shifted to ward on second postoperative day.

3.12 Plan of analysis

The investigator developed a plan of analysis after the pilot study. The data were coded, entered in excel sheet and analyzed using Epi info. Version.

CHAPTER - 4

ANALYSIS AND INTERPRETATION OF DATA

This chapter represents analysis and interpretation of data collected from 30 postoperative cardiac surgery patients in the cardiac surgery ICU of Sree Chitra Tirunal Institute for Medical Sciences and Technologies, Trivandrum. Analysis is a process of organizing and synthesizing data in such a way that, project questions can be answered. The overall objective of analysis is to organize, structure and to elucidate meaning from the collected data. Interpretation is the process of making sense of the result and examining the implication of findings within the broader content. The findings of the study were arranged and analyzed under the following sections.

- 4.1 Distribution of sample according to demographic data.
- 4.2 Distribution of sample according to type of surgery.
- 4.3 Distribution of sample according to pain score, analgesics, alleviating factors and selected variables.

Table No. 4.1

Distribution of sample according to age category

Age Group	Frequency	Percentage
<30	3	10
31-40	8	26.7
41-50	5	16.6
51-60	9	30
>60	5	16.1
Total	30	100

The data given in Table 4.1 shows that the age of the sample ranged from 29-67 with a mean of 47.7, standard deviation 12.1, median 48. This shows that more patients are in the age group of 51-60 (30%). Same data is shown in the figure.

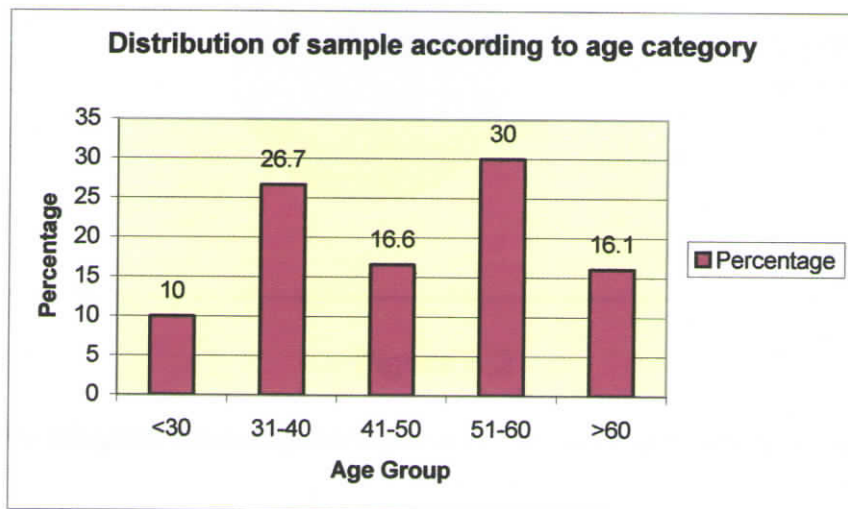


Figure 4.1

Bar diagram showing age category

Table No. 4.2

Distribution of sample according to sex

Sex	Frequency	Percentage
Male	19	63.3
Female	11	36.7
Total	30	100

Table 4.2 shows more patients were male than female (male =63.3%, female =36.7). The same data shown as pie diagram in figure 4.2

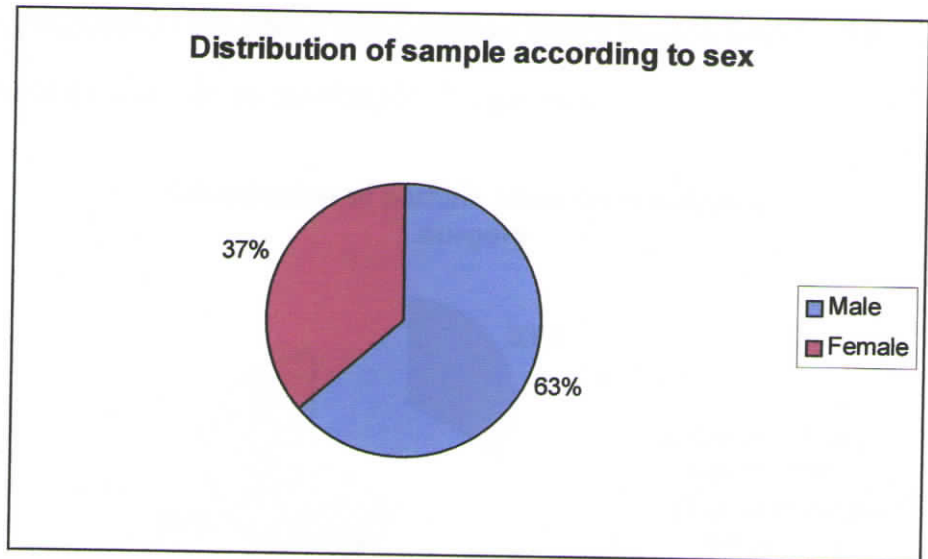


Figure 4.2

Pie diagram showing distribution of sample according to sex

Table No. 4.3

Distribution of sample according to type of surgery

Type of surgery	Frequency	Percentage
Coronary Artery Bypass Graft	10	33.3
Valve Replacement Surgery	20	66.7
Total	30	100

Table 4.3 shows that more patients have undergone Valve Replacement Surgery 20(66.7) compared with Coronary Artery Bypass Graft10 (33.3). Same data is shown as pie diagram in figure4.3

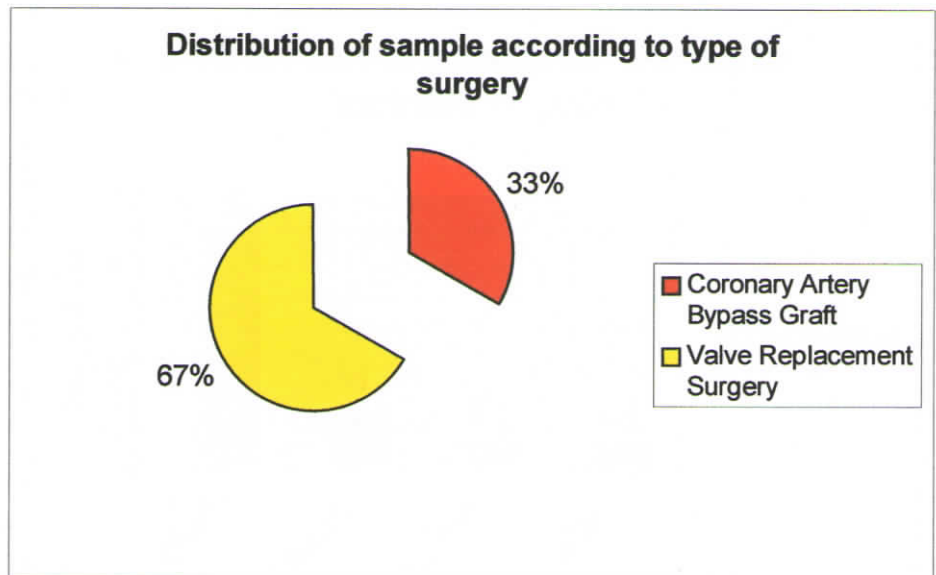


Figure 4.3

Pie diagram showing distribution of sample according to type of surgery

Table No. 4.4

Distribution of sample according to location of pain

Location	Frequency	Percentage
Chest	21	70
Abdomen	5	16.7
Extremities	2	6.7
Back	2	6.7
Total	30	100

Table 4.4 shows that majority of the patients had pain on the chest incision site (70%). The same data is shown as bar diagram in figure 4.4

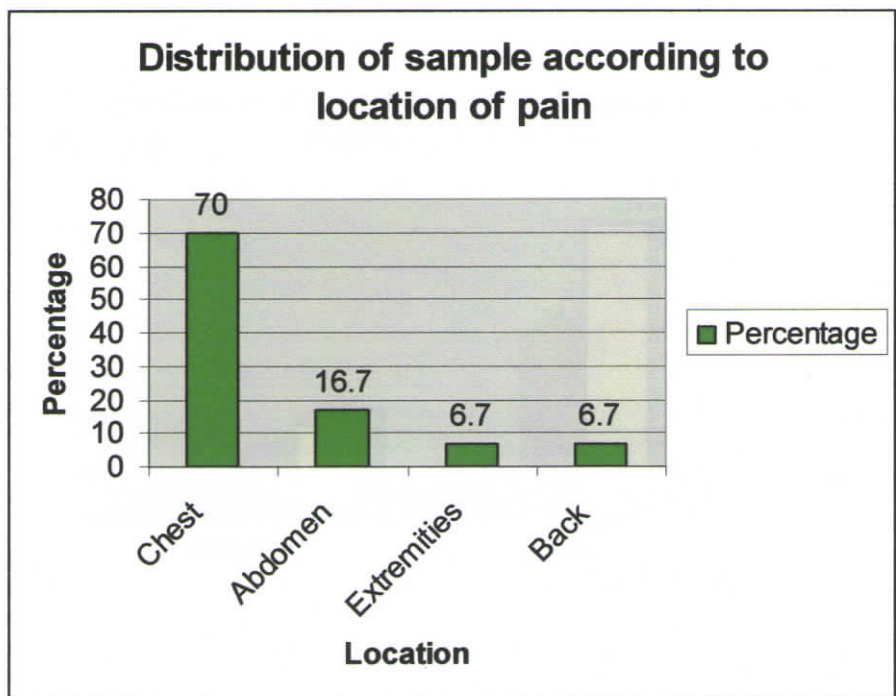


Figure 4.4

Bar diagram showing samples according to location of pain

Table 4.5

Distribution of sample according to severity of pain in the postoperative days

Post operative day	Frequency	Percentage
0-Day	1	3.3
1-Day	11	36.7
2-Day	18	60
Total	30	100

Table 4.5 shows that most of the patient had increased pain intensity on the second postoperative day (60%) compared with other post operative days.

The same data is shown as bar diagram in Figure 4.5

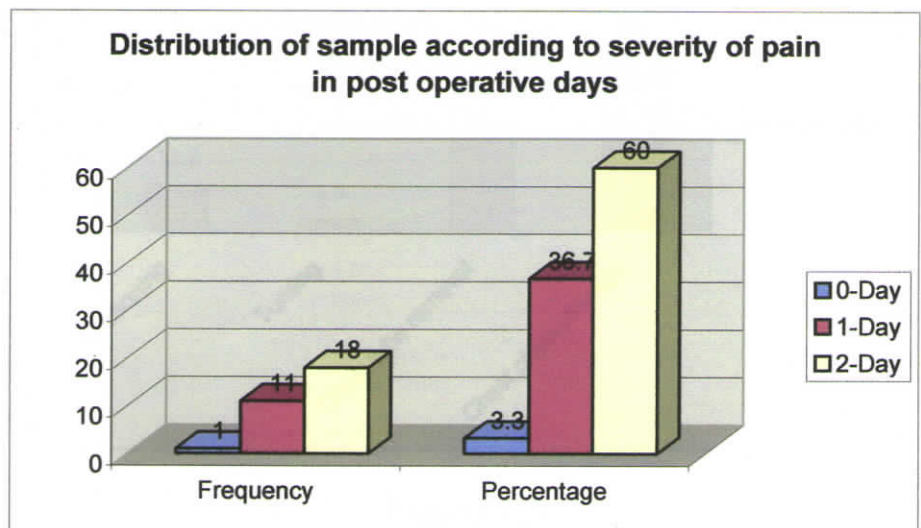


Figure 4.5

Bar diagram showing samples according to severity of pain in the postoperative days

Table 4.6

Distribution of sample according to pain intensity during activities

Activity	Frequency	Percentage
Suctioning	4	13.3
Turning	1	3.3
Chest tube removal	10	33.3
Chest physiotherapy	15	50
Total	30	100

Table 4.6 shows that pain intensity high at the time of chest physiotherapy (50%) and chest tube removal (33.3%). Same data is shown in the figure 4.6

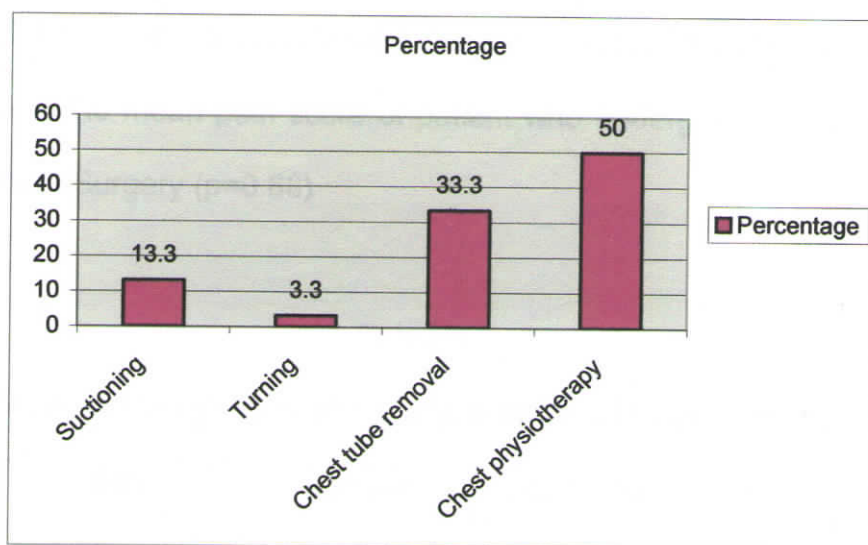


Figure 4.6

Bar diagram showing samples according to pain intensity during activities

Table 4.7

Comparison of pain score according to type of surgery

Assessment	Mean	Standard Deviation	p value
CABG	7	2	0.68
Valve Replacement Surgery	6.75	1.29	

The maximum obtainable pain score was 15. Table 4.7 shows that the patient who undergone CABG had a mean pain score of 7 ± 2 and those who had undergone Valve Replacement Surgery had a mean pain score of 6.75 ± 1.29 . An unpaired 't' test showed that there was no statistically significant difference in the mean pain score of patient who undergone CABG or Valve Replacement Surgery ($p=0.68$)

Table 4.8

Mean, Standard Deviation, and p value of pain score by sex

Sex	Mean	Standard Deviation	p value
Male	6.84	1.83	0.97
Female	6.81	0.87	

The maximum obtainable pain score was 15. Table 4.8 shows that male patients had a mean pain score of 6.84 ± 1.83 and female patient had a mean

pain score of 6.81 ± 0.87 . An unpaired 't' test showed that there was no significant difference in the mean pain score of male and female ($p=0.97$).

Table 4.9

Distribution of sample according to alleviating factors of pain

Alleviating Factors	Frequency	Percentage
Analgesics	18	60
Assume certain positions	1	3.3
Tolerate the pain	11	36.7
Total	30	100

Table 4.9 shows that most of the patients were seeking analgesics for alleviating pain (60%). Same data shown in the figure 4.9

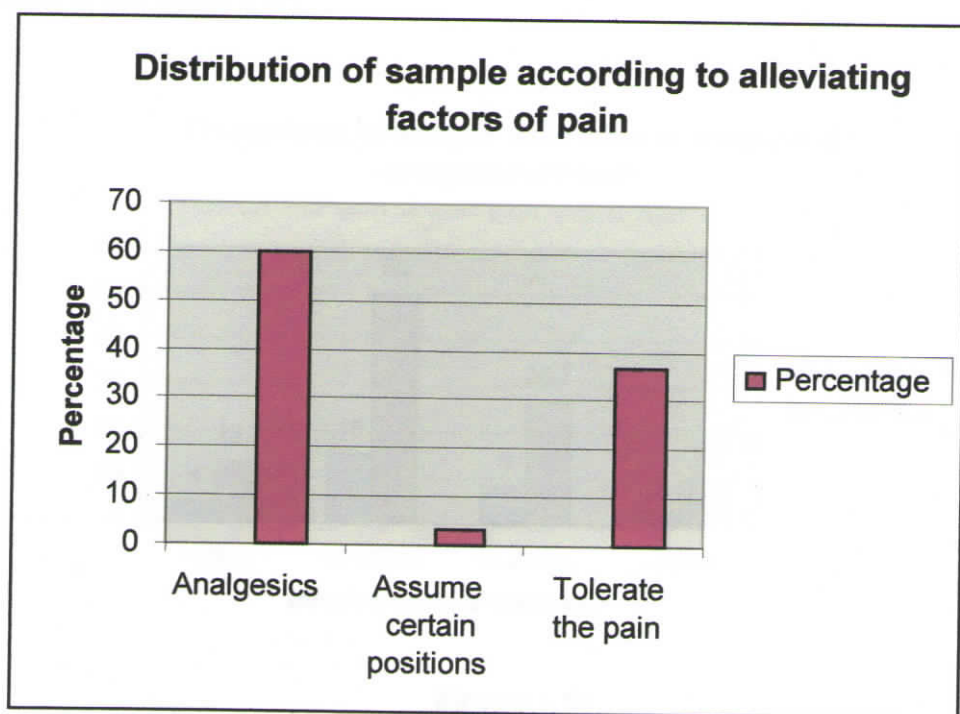


Figure 4.9

Bar diagram showing samples according to alleviating factors of pain

Table 4.10

Distribution of sample according to duration of morphine infusion

Morphine infusion	Frequency	Percentage
<10	4	13.3
10-15	15	50
15-20	8	26.7
>20	3	10
Total	30	100

Table 4.10 shows that most of the patient received morphine infusion ranges 10-15 hours (50%), 26.7% received infusion ranges 15-20hrs, 13.3% received infusion ranges <10hrs, 10% received infusion ranges >20 hrs. Same data shown in the figure 4.10

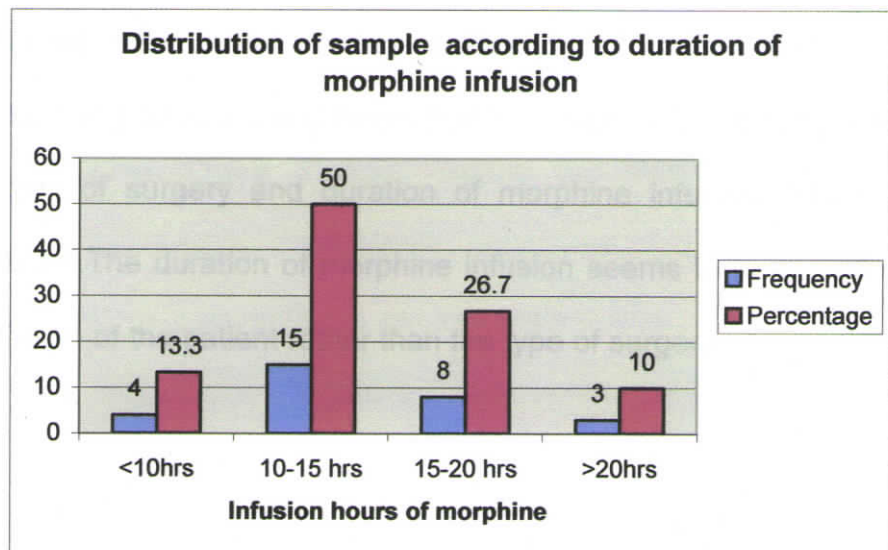


Figure 4.10

Bar diagram showing samples according to duration of morphine infusion

Table 4.11

**Mean, median, p value of duration of morphine infusion according to
type of surgery**

Type of surgery	Morphine infusion frequency (%)		Total	p value
	<14 hours	>14 hours		
CABG	5(50)	5(50)	10	0.6
Valve Replacement Surgery	8(40)	12(60)	20	

The duration of morphine infusion ranges from 5-29 hours. The patients were divided into two categories by using median (14). Mean was 14.06. The chi-squares test was performed and found that there was no significant difference between type of surgery and duration of morphine infusion. The p value obtained is 0.6. The duration of morphine infusion seems to be based on the intensity of pain of the patient rather than the type of surgery

CHAPTER - 5

SUMMARY, CONCLUSION, DISCUSSION AND RECOMMENDATIONS

This chapter gives a brief account of the present study including conclusions drawn from the findings and possible applications of the result. Recommendations for future research and suggestions for improving the present study are also included.

5.1 Summary

This study was undertaken to assess pain and pain relief in postoperative cardiac surgery patients. This was conducted in the cardiac surgery intensive care unit of Sree Chitra Tirunal Institute for Medical Sciences and Technologies, Trivandrum. The specific objectives of the study were 1) to assess the level of pain suffered by the patient after open-heart surgery during hospital recovery. 2) To find out association between pain score of patients after open-heart surgery and selected variables. 3) To assess the alleviating factors of pain in post cardiac surgical patients.

The review of related literature helped the investigator to get a clear concept about the topic, methodology of the study, tool preparation and plan of analysis. Using Wong Bakers Faces pain rating scale and selected questions to assess pain intensity, location, nature, aggravating factors and alleviating

factors did this study. The effectiveness of pain medications also assessed. The assessment was done on the third postoperative day about their three days pain experience and the effectiveness of pain management. Pilot study was done prior to the main investigations. Five postoperative cardiac surgery patients were assessed. After pilot study modification of tool was done. The actual study was conducted in the cardiac surgery intensive care unit of Sree Chitra Tirunal Institute for Medical Sciences and Technologies, Trivandrum during the period of August 2009 to October 2009. The sample size for the study was 30. The data obtained from the study were analyzed by using descriptive and inferential statistics. Both bar and pie diagrams were utilized to illustrate the findings of the study.

5.2 Major findings of the study

- Seventy percentage of the patients had pain on the chest incision site.
- Sixty percentage of the patients had increased pain intensity on the second postoperative day compared with other postoperative days.
- Most of the patient had pain intensity high at the time of chest physiotherapy and chest tube removal.
- There was no gender difference on pain perception.
- There was no significant difference between the intensity of pain in patients who undergone CABG and those who undergone Valve replacement surgery.
- Most of the patients get pain relief from pain medications.

- Most of the patients later recalled postoperative pain was mild to moderate and pain relief from pain medications was adequate.

5.3 Limitations

- The study was conducted in single group patients who have undergone cardiac surgery.
- The study was limited to cardiac surgery intensive care unit of Sree Chitra Tirunal Institute for Medical Sciences and Technologies, Trivandrum.
- The study was limited to patients who could understand Malayalam, who were conscious and cooperative and were not on ventilator.

5.4 Conclusion

Education about safe pain management will help prevent under treatment of pain and the resulting harmful effects. Safety includes the use of appropriate tools for assessing pain. Use of analgesics, particularly opioids, is the foundation of treatment for most types of pain. Based on the findings of the study, the following conclusion drawn. The Wong Bakers Faces pain rating scale is a valid tool to assess the intensity of pain. Patients self report of pain along with assessment using pain scale were helpful for effective management of pain. In general patients later recalled postoperative pain was mild to moderate and pain relief from pain medications was greater. Further research using a large sample is needed to evaluate and validate the findings.

5.5 Discussion

There are many studies related to the different aspects of pain. The present study emphasized to assess pain and its relief in postoperative cardiac surgery patients using Wong Bakers Faces Rating Scale. The aim of the study were to assess the patients postoperative pain and effectiveness of pain management across all sites of care with in three days after surgery and to find out relationship between pain scale and selected variables. Zalon and Margarete, (1999) suggesting that the instruments measure different aspects of pain and those instructions can influence the results. Valdix and Puntillo (1995) suggested that a more proactive approach to pain management by health care professionals, which includes informing patients when they are receiving analgesics, might help to improve pain relief in cardiac surgical patients. Puntillo, et al. (2006) conducted a descriptive study reveals that, there was no gender difference on pain perception. The results of the above studies were comparable. The present study investigator got similar result and also found out that a large proportion of the patients identified the chest incision as the location of their pain.

5.6 Recommendations

- Using a large sample size can do the same study.
- Same study can be done in another intensive care unit or in another institution.
- Using another pain scale can do this study.

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APPENDIX

QUESTIONNAIRE ABOUT PATIENTS RECALL REGARDING PAIN & ITS RELIEF AFTER OPEN HEART SURGERY

Name :

Age :

Sex :

Hospital No :

Surgery :

Postoperative day :

Date :

1. Did you have pain during postoperative period?

a) No b) Mild c) Moderate d) Severe

2. Where was the pain?

a) Chest b) Abdomen c) Extremities d) Any other area

3. In which postoperative day you felt more pain?

a) 0 day b) 1day c) 2day d) All 3days

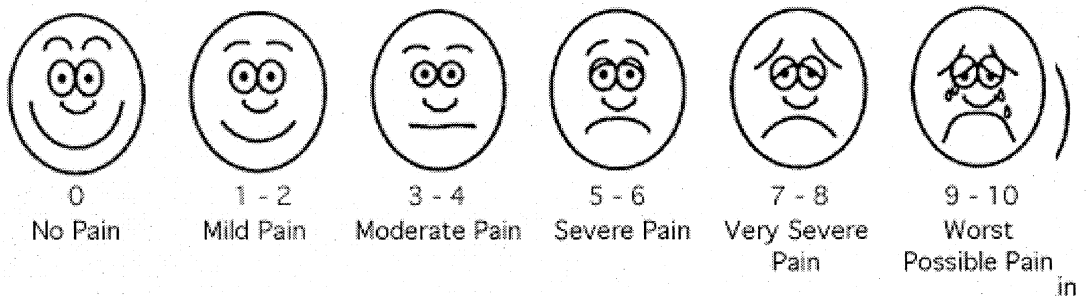
4. Can you point out the site of pain?

a) Chest incision b) Chest drainage tube site c) Arterial/venous
line d) Any other area

5. Does the pain radiate to any direction?

a) No b) Side c) Back & Shoulder d) Any other area

6. What was the nature of pain?
 - a) Continuous b) Intermittent c) No pain
7. Does the pain restrict your activity?
 - a) No restriction b) Some restriction c) Severe restriction
8. During which activities did you suffer more pain?
 - a) Suctioning b) Chest tube removal c) Turning d) Chest physiotherapy e) Any other area
9. How can you compare pain in consecutive days?
 - a) Same b) Little less c) Much less d) Much more
10. Pain Scale



11. What have you tried to relieve the pain?
 - a) Tell the doctor/sister for medicines b) Assume certain positions
 - c) Tolerate the pain d) Any other measures
12. Was the pain medication sufficient?
 - a) No b) Mild pain relief c) Moderate d) Better pain relief
13. What are the self-care activities can you do with out pain?
 - a) Eat / Drink b) Dress changing c) Walk in the room /toilet
 - d) Any other area

14. Frequency of pain medications received as per medical records?

a) Morphine Sulphate : doses

b) Diclofenac Sodium : doses

c) Tramadol : doses

d) Any other : doses

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ശ്രദ്ധയിടപെടേണ്ടുന്ന കാര്യങ്ങൾ

ജനകീയ പദ്ധതികൾക്ക് കൈപ്പറ്റേണ്ടുന്ന പണം കൈമാറുന്നതിനായി

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പൊതുജനങ്ങൾ

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ജനകീയ പദ്ധതികൾ

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ജനകീയ

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ജനകീയ പദ്ധതികൾ/ജനകീയ പദ്ധതികൾക്ക് കൈപ്പറ്റേണ്ടുന്ന പണം കൈമാറുന്നതിനായി

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ജനകീയ പദ്ധതികൾക്ക് കൈപ്പറ്റേണ്ടുന്ന പണം കൈമാറുന്നതിനായി

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പദ്ധതികൾക്ക് കൈപ്പറ്റേണ്ടുന്ന പണം കൈമാറുന്നതിനായി

ശസ്ത്രക്രിയ നടന്ന ദിവസം ☐

അടുത്ത ദിവസം ☐

അതിനടുത്ത ദിവസം ☐

മൂന്ന് ദിവസവും ☐

4. കൃത്യമായി പറഞ്ഞാൽ ഏതു ഭാഗത്താണ് കൂടുതൽ വേദന അനുഭവപ്പെടുന്നത്?

ശസ്ത്രക്രിയ ചെയ്ത നെഞ്ചിന്റെ ഭാഗത്ത് ☐

രക്തം വാർന്നു പോകാൻ നെഞ്ചിൽ ഘടിപ്പിച്ച ട്യൂബിന്റെ ഭാഗത്ത് ☐

രക്തകുഴലുകളിൽ സൂചിവച്ചിരിക്കുന്ന ഭാഗത്ത് ☐

മറ്റെവിടെയെങ്കിലും ☐

5. വേദന മറ്റുഭാഗങ്ങളിലേക്ക് വ്യാപിക്കുന്നുണ്ടോ?

ഇല്ല ☐

വശങ്ങളിലേക്ക് ☐

നടുവിലും തോളിലേക്കും ☐

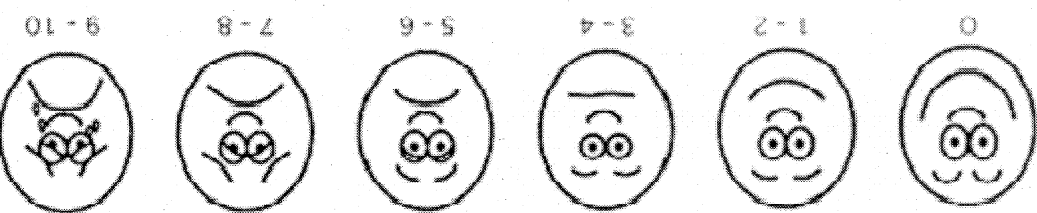
മറ്റെവിടെയെങ്കിലും ☐

6. വേദന ഇല്ലാതെ അനങ്ങാൻ പറ്റുന്നുണ്ടോ?

ബുദ്ധിമുട്ടില്ല ☐

ചെറിയബുദ്ധിമുട്ട് ☐

നല്ല രീതിയിൽ വേദന ☐



10. വെറുത്തു കയ്യടക്കുന്ന ധർമ്മം

- ☐ മൃത്യുഞ്ജയ
- ☐ മൃത്യുഞ്ജയ ധർമ്മം
- ☐ മൃത്യുഞ്ജയ
- ☐ മൃത്യു

6. മൃത്യുഞ്ജയ ധർമ്മം മൃത്യുഞ്ജയ മൃത്യു

- ☐ മൃത്യുഞ്ജയ മൃത്യു
- ☐ മൃത്യുഞ്ജയ മൃത്യു
- ☐ മൃത്യു

7. മൃത്യുഞ്ജയ മൃത്യു

- ☐ മൃത്യു

8. മൃത്യുഞ്ജയ മൃത്യു

- ☐ മൃത്യു
- ☐ മൃത്യു
- ☐ മൃത്യു

7. മൃത്യുഞ്ജയ മൃത്യു

11. വേദന അനുഭവപ്പെടുമ്പോൾ കുറയ്ക്കാനായി എന്തെല്ലാം ചെയ്യും ?

ഡോക്ടറോടോ/സിസ്റ്ററോടോ വേദനയുടെ ഗുളിക ചോദിക്കും. ☐

ചരിഞ്ഞും/തിരിഞ്ഞും കിടക്കും ☐

വേദന സഹിക്കും ☐

മറ്റെന്തെങ്കിലും ☐

12. വേദന സംഹാരികൾ ഫലപ്രദമായിരുന്നോ?

അല്ല ☐

ചെറിയ രീതിയിൽ ☐

സാമാന്യം ഫലപ്രദം ☐

വളരെയധികം ☐

13. വേദനയില്ലാതെ സ്വയം ചെയ്യാൻ കഴിയുന്ന പ്രവൃത്തികൾ?

ഭക്ഷണം കഴിക്കുക ☐

വസ്ത്രം മാറ്റുക ☐

മുറിയിൽ നടക്കുക ☐

മറ്റെന്തെങ്കിലും ☐

14. വേദനസംഹാരികൾ രോഗിക്ക് ലഭിച്ചത്? (48 മണിക്കൂറിനുള്ളിൽ)

a) മോർഫിൻ സൾഫേറ്റ് (.....) തവണ

b) ഡൈക്ലോഫിനാക് സോഡിയം (.....) തവണ

c) ട്രമഡോൾ(.....) തവണ

d) മറ്റെന്തെങ്കിലും(.....)തവണ