

**EFFECTIVENESS OF NURSING CARE ON CLIENTS WITH  
FRACTURE TIBIA AND FIBULA AT MELMARUVATHUR  
ADHIPARASAKTHI INSTITUTE OF MEDICAL SCIENCES AND  
RESEARCH**

**By  
Mrs. A.VANITHADEVI**



**A Dissertation submitted to  
THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY,  
CHENNAI.**

**IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR  
THE DEGREE OF MASTER OF SCIENCE IN NURSING**

**MARCH - 2010**

## **CERTIFICATE**

This is to certify that **“EFFECTIVENESS OF NURSING CARE ON CLIENTS WITH FRACTURE TIBIA AND FIBULA AT MELMARUVATHUR ADHIPARASAKTHI INSTITUTE OF MEDICAL SCIENCES AND RESEARCH”**, is a bonafide work done by **Mrs.A.VANITHADEVI**, Adhiparasakthi College of Nursing, Melmaruvathur, in partial fulfillment for the University rules and regulations towards the award of the degree of **Master of Science in Nursing, Branch-I, Medical Surgical Nursing**, under my guidance and supervision during the academic year 2008 - 2010.

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**Internal Examiner**

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**External Examiner**

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# **CHAPTER - I**

## **INTRODUCTION**

Modern nursing involves many activities, concepts and skills, related basic sciences, social sciences, growth and development. Nursing is an integral part of health care system and nurses direct their energies towards the promotion, maintenance and restoration of health, skillful clinical management can minimize functional deficits and avoid complications at the first detectable clinical sign.

Fracture represents one of the major health problems and causing increased morbidity and mortality rate with improvement in statement of nursing care to reduce it. Fracture account for a high percentage of traumatic injuries. It occurs in all age groups but the incidence peaks in males between the age of 15 to 25 also in elderly people.

Fracture is defined as any disruption in the normal continuity of a bone. It can create significant change in a person's quality of life by causing activity restrictions, disability and economic loss Lower leg fractures include fractures of tibia and fibula of these two

bones, the tibia is the only weight bearing bone. Fractures of the tibia generally are associated with fibula fracture because the force is transmitted along the interosseous membrane of the fibula.

The tibia is vulnerable to injury because it lacks a covering of anterior muscle strong force is required to produce a fractured tibia. As a result, soft tissue damage, revascularization and open fracture are frequent.

When fracture occurs, surrounding soft tissues is often damaged as well. A radiographic examination may confirm the bone injury it does not show evidence of the torn muscles or ligaments, several nerves or ruptured blood vessels that can complicated the client's recovery.

The fracture of the tibia is the most common long bone fractures, it is isolated mid-shaft or proximal fibula fractures are common. Limb loss may occur as a result of severe soft tissue trauma, neurovascular compromise, popliteal artery injury, compartment syndrome, or infections such as gangrene or



osteomyelitis, popliteal artery injury as a particular serious injury that threatens the limb and easily overlooked.

The recommended management for closed tibial fracture is closed reduction followed by immobilization in a long leg cast, open reduction internal fixation is indicated for complex fractures and those with extensive soft tissue damage and with other method of reduction emphasis is placed on maintaining the strength of the quadriceps.

The orthopedic clients were required more care when compared with other categories of clients thus the orthopedic nurse must develop the “orthopedic eye” and should have acute awareness in assessing the need of the orthopedic clients.

The bones are bound together by ligaments and collectively form the skeleton which provides a supporting frame-work for the body and protection for vital structures. Alterations in mobility in either temporary or permanent are the most common consequences of interruption in bones and joints function.

A fracture is medical condition in which a bone becomes cracked splinted as a result of physical trauma. Musculoskeletal injuries are producing life threatening complications like death and disabled problems. Disabled are caused by factors like road traffic accidents, fall injury, calcium deficiency, disease condition such as osteoporosis, environmental factors like sports, industrial and agricultural and transports.

Osteoporosis is a major public health problem. It results in fragility fracture of the bone. Post menopausal women may have a chance of getting osteoporosis. Correct immobilization is a critical in promoting proper healing of fractures, relieving pain and allowing some freedom of movement during the healing process. The type of treatment is required for each individual depends on the particular body part that is affected and the type of injury.

A plaster cast is most commonly used for initial treatment of a fracture. Plaster used because it is pliable and economical. It is generally used in the acute stage fracture healing because it is easily molded to the contour desired by the physic to hold the fracture in the correct position.

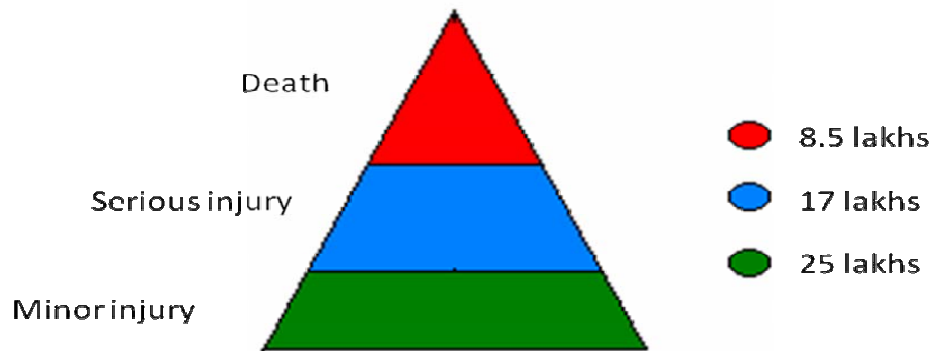
Bracing may be used to maintain a fracture while allowing adjacent joints, the freedom for movement. Splinting is used to immobilize and maintain a particular portion of a bone or joint. The splints are secured to the limb with elastic bandages. Traction is used to regain alignment of a fracture by applying force to the body. It also can relieve muscle spasms while the bone is healing. Skeletal traction is applied directly to the bones using pins wires and screws.

Fracture represents one of the major health problems. Accidents are one of the fourth leading causes of death, during half of the human life span. Among twenty clients with fracture have associated with injuries that may be life threatening. Worldwide incidence showed that the accident death rate changes from 17.8 percentage to 69.1 percentage per 1,00,000 of population.

**Road peace 2005**, on average, 3242 persons died each day around the world in road crashes. World health organization was estimated that nearly 12 lakhs people might in road crashes in 2007.

The overall Global rate was 19/100,000 with nearly 90 percentages of these in low and middle income countries.

**Fig.1.1 BURDEN INJURIES 2000-2015**



**Source - Google.com related to injuries**

The India injury pyramid shows that minor and serious injuries were 25lakhs, 17lakhs and mortality rate shows 8.5lakhs in the year of 2007.

A review of Indian studies and observation by other agencies indicate the ratio of death to serious injuries needed hospitalization. The minor injuries as 1:20:50 developing mechanisms for intervention, allocating of physical human, financial resources to control the problem and for reducing the burden of injuries.

The nursing care should emphasis on reduction and stabilization of the fracture with immobilization, monitoring complication and eventual remobilization and rehabilitation.

## **NEED FOR THE STUDY**

Today's modern health care services are focusing on the current health problems, early assessment, stabilization, treatment, discharge, home care or holistic care. Efficient nurses function effectively and nurse should contact need based research studies in various health care settings were also utilizing the research findings to improve the quality of health care.

People are recognizing health care as a right rather than privilege hence the need to conduct studies on nursing practice has been considered imperative by many authors and it has a high priority. The body need time and help to build new cells and repair it. The study makes an attempt to find out the effectiveness of nursing care.

According to **international and road traffic federation**, India stands fourth in number of accidents after United States,

Japan and Germany. One out of every forty two vehicles in the country met with an accident. The peak mortality and morbidity from road traffic accidents were seen in 15 to 24 years age group of male. A large proportion of vehicles involved in accidents were two wheelers comparing to cars they were unstable and provide little protection for the riders in accidents.

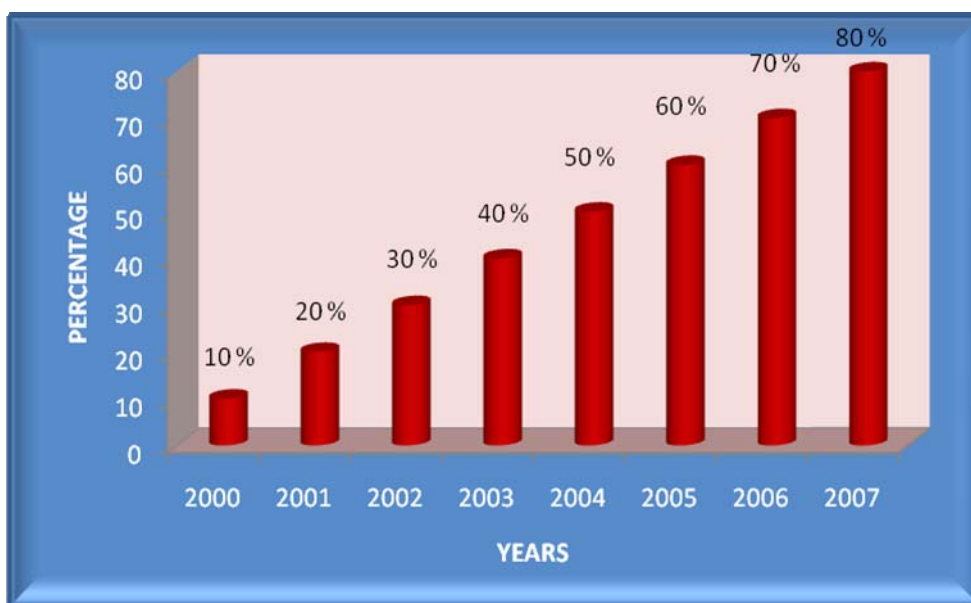
**Jibber (2006)** identified the prevalence of road traffic accidents coming to hospitals. Generally the accidents occurred during the month of January (12.6 percentage) and out of which 17.1 percentage occurred on Sunday.

**Bhandari (2005)** conducted that social factors may be important determinants of outcome in patients with traumatic fractures. Optimal orthopaedic care may involve attention to modifiable risk factors including smoking and alcohol consumption

**Bickerton.J (2000)** stated that nursing has always being considered as a generic occupation, the basic concept of which would be applied to the care of patients whatever the reason for their admission to the hospital.

**Chennai Sathyasekaran (1991)** reviewed that among the victims of road accident, eleven percentage had life threatening injuries, eleven percentage had serious disability injuries and 38 percentage had mild disability injuries.

**Fig: 1.2 MORTALITY RATE DUE TO ROAD ACCIDENTS IN INDIA**



**Source - Road accidents in India by registered motor vehicles**

The figure shows that the mortality rates due to road accidents increase in India from 40,000 in 2000 to 85,000 in 2007.

There is an accident in every 90 seconds and every 7minutes a fatality with just one percentage of the global vehicle

population. India has six percentages of the total accidents of the world.

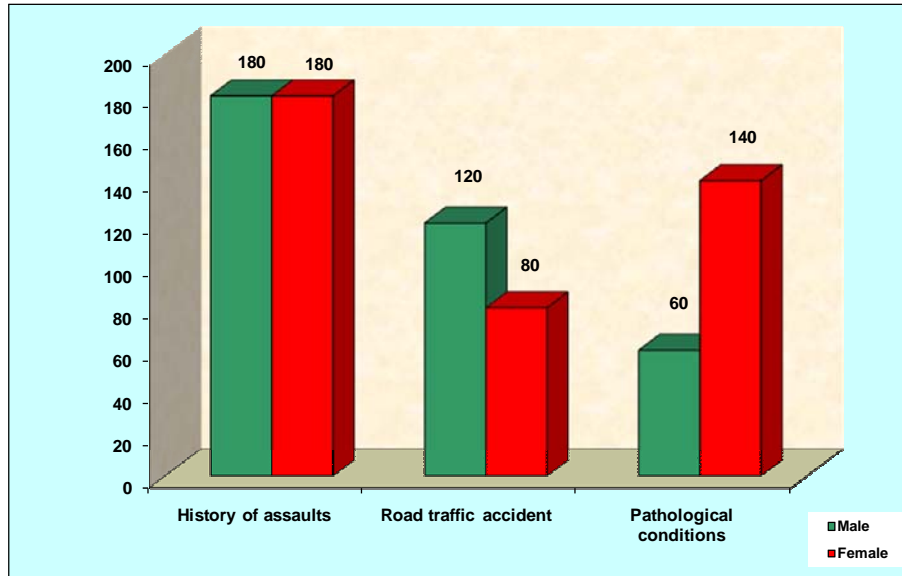
Two of the major reasons for road accidents and fatalities in Chennai are drunken driving and the use of mobile phones when driving and crossing the road. Incidence of tibia and fibula fracture occurred for men and women in 2007 were 3,38,000 and 9,17,000 respectively a total of 1.26 million.

The annual incidence are highest among school and the graduate students, 62.2 percentage had lower limb fracture followed by accident, superficial injuries were most common in 47.4 percentage, crush injuries 14.1 percentage and concealed injuries 12.4 percentage. Majority of the injured victims 92.4 percentage had treatment within six hours while 70 percentage availed treatment within one hour after the injury.

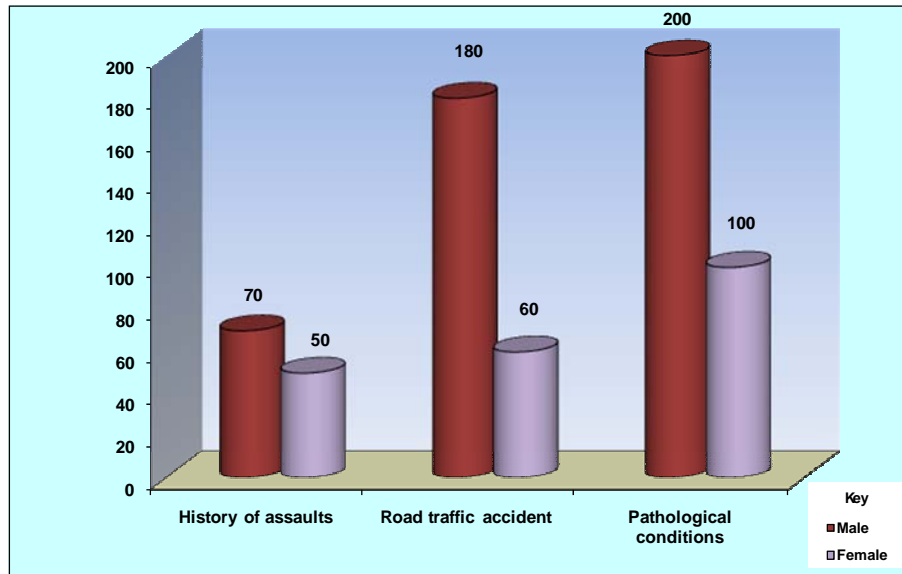
Increased building construction works contribute to the increased incidence. In the year of 2005 and 2007 the accidents were 7959 and 3000, death were 1156 and 473.



**Fig: 1.3 Motor Vehicles Registered in India (1998 – 2007)**



**Various causes of injuries in civil hospital**



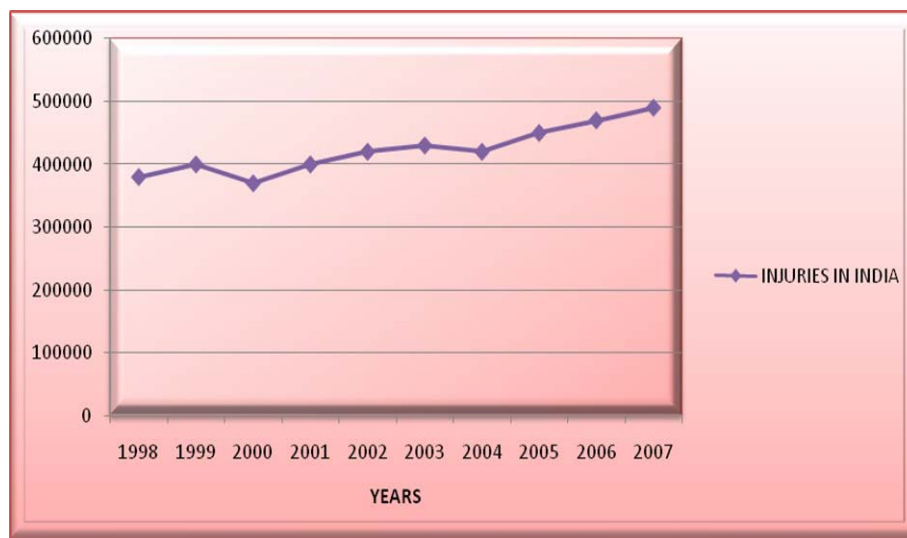
**Various causes of injuries in Private hospital**

**Source - Motor Transport Statistics of India 2008**

The causes of injuries in India are history of assaults, road traffic accident and pathological conditions. The incidence of history of accidents in the age group of above 52 years is as high

as 180 per 200 population. In road traffic accident males are injured highly than females that are 180 per 280 populations. Due to pathological conditions the females are injured highly than males that are 140 per 304 populations

**Fig: 1.4 Fractures due to injuries in India (1998 – 2007)**



**Source - National institute of mental and neuro-science with support from world health organization**

Fractures due to injuries have increased from 2152 in 2000, 4334 in 2007. An estimated 5000 deaths and more than 1,00,000 hospitalizations occurred in 2007. The number of minor injuries resulting in contact with a health centre could be in the range of 2,50,000 – 3, 00,000 every year.

Based on the policy, the government will take up various activities like road improvement, promotion of self driving, speed regulation, strict enforcement of traffic rules and provision of emergency assistance to those who may suffer injuries in traffic accidents.

Action is being taken to ensure that motorist is severely punished for drunken driving and their driving license are either to be suspended or canceled. It has been decided to make wearing of helmets while driving two wheelers.

## **STATEMENT OF THE PROBLEM**

**EFFECTIVENESS OF NURSING CARE ON CLIENTS WITH FRACTURE TIBIA AND FIBULA AT MELMARUVATHUR ADHIPARASAKTHI INSTITUTE OF MEDICAL SCIENCES AND RESEARCH.**

## **OBJECTIVES**

1. to assess the health status of the clients with fracture tibia and fibula.
2. to evaluate the effectiveness of nursing care on clients with fracture tibia and fibula.

3. to find out the correlation between selected demographic variables with the effectiveness of nursing care on clients with fracture tibia and fibula.

## **OPERATIONAL DEFINITIONS**

### **EFFECTIVENESS**

It refers to desired change in outcomes through nursing care and promotes the health status of clients with fracture of tibia and fibula, which were assessed and evaluated by rating scale.

### **NURSING CARE**

The nursing care refers to the complete nursing intervention done by the scholar like assessment of vital parameters, pain management including rest and sleep, comfort devices, relaxation therapy, administration of medication, personal hygiene, maintenance of nutrition, fluid and electrolyte balance, prevention of infection, skin care, wound dressing, care of clients with traction, external fixation and internal fixation, active and passive exercises, early ambulation, maintenance of normal bowel and urinary elimination, change of position and prevention of bed sores,

prevention of complications such as hemorrhage and shock and health education.

## **CLIENT**

Clients refer to those who diagnosed as fracture in tibia and fibula certified by the physician.

## **FRACTURE TIBIA AND FIBULA**

Disruption in the continuity of bone structure affected in tibia and fibula.

## **ASSUMPTION**

1. Effective nursing care on clients with fracture in tibia and fibula can provide good prognosis and prevent complication and help for speedy recovery.
2. Proper treatment for fracture clients would save the life of the client.

## **LIMITATION**

1. The studies were limited to six weeks only.
2. The sample size was 30.

3. Samples were selected in the ortho ward at Melmaruvathur Adhiparasakthi Institute of Medical Sciences and Research.

## **PROJECTED OUTCOMES**

Nursing inventions for clients with fracture tibia and fibula would promote comfort, prevent complications and improve the quality of life.

Clinical evidence of fracture in tibia and fibula must always be confirmed by ortho-surgeon. Study would be very useful to strengthen the responsibilities of health personnel to improve the quality of care.

## **CONCEPTUAL FRAMEWORK**

Conceptual framework is a group of concepts or ideas that are related to each other but the relationship is not explicit. Conceptual framework deals with abstractions that are assembled by virtue of their relevance to a common theme. Conceptualization is a process of forming ideas which are utilized and forms in the conceptual framework for the development of research design. It helps the researcher to know what data is to be collected and gives direction to an entire research process. It provides certain frame of reference for clinical practice. The conceptual framework for this study was developed on the basis of modified Orem's self care theory model by Dorothea E. Orem.

In the present study, the assessment involves the assessment of demographic data, vital parameters such as pain temperature, peripheral pulse, types of fracture, causes of fracture, any first aid given out side, presence

of edema and tenderness, paresthesia, muscle strength, range of motion, routine investigations

Nursing system involves the wholly compensatory system partially compensatory system and supportive educative system.

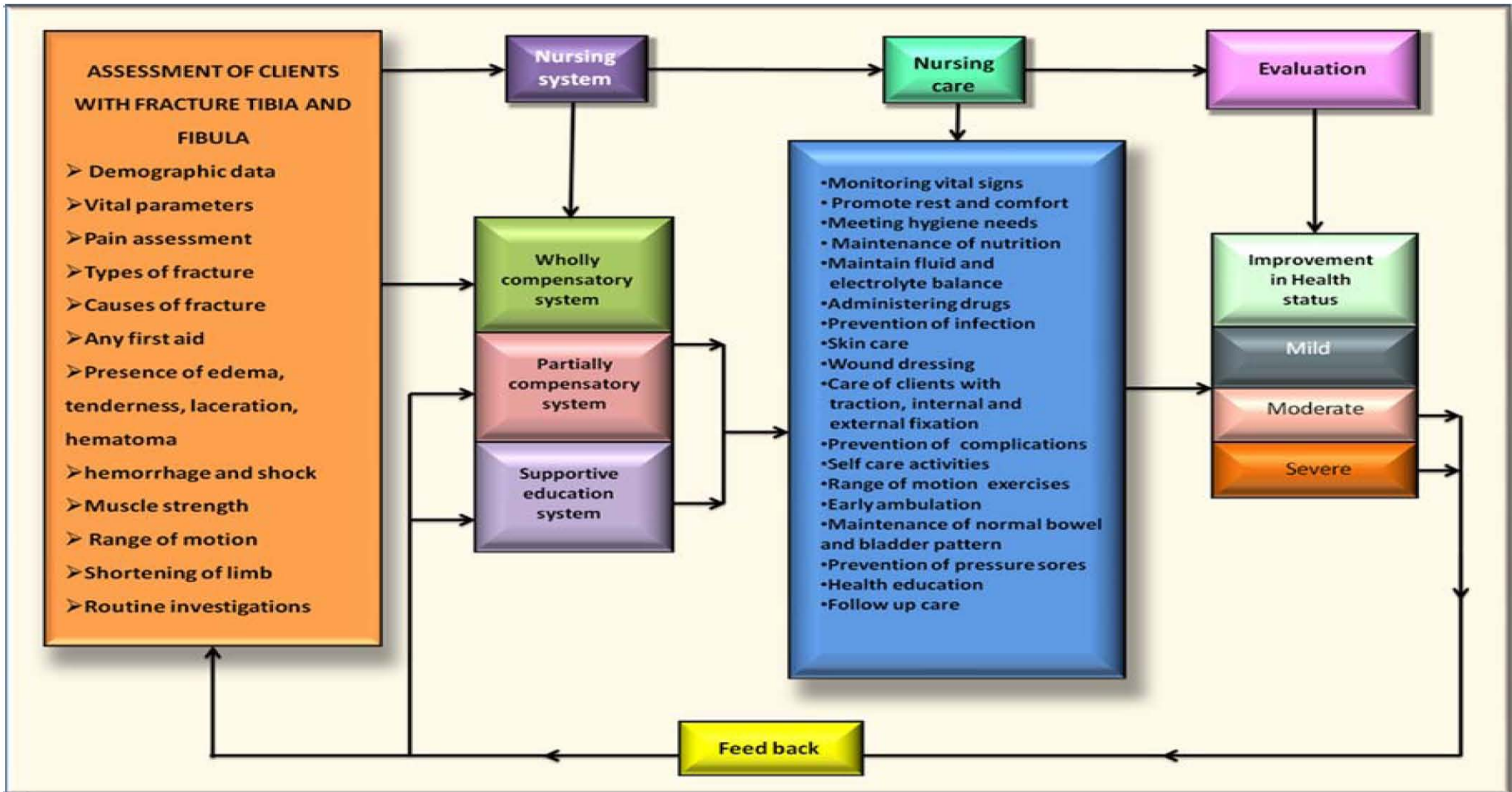
The wholly compensatory nursing system is represented by a situation in which the individual is unable to engage in those self care actions requiring self directed and controlled ambulation and manipulative movement. The partially compensatory system is represented by a situation in which both nurse and patient performs care measures or other actions involving manipulative tasks or ambulation.

In supportive educative system the persons is able to perform or can and should learn to perform required measures of externally or internally oriented therapeutic self care.



Nursing care involves monitoring vital signs, pain management including rest and sleep, comfort devices, relaxation therapy, administration of medication, personal hygiene, maintenance of nutrition, fluid and electrolyte balance, prevention of infection, skin care, wound dressing, care of clients with traction, external fixation and internal fixation, active and passive exercises, early ambulation, maintenance of normal bowel and urinary elimination, change of position and prevention of bed sores and health education.

Evaluation involves evaluating the improvement in health status in the form of health deterioration, moderate health deterioration and normal health condition.



**Fig 1.5 - Conceptual frame work based on Modified Orem's Self care Theory model**

## **CHAPTER - II**

### **REVIEW OF LITERATURE**

This chapter deals with review of literature which helps in integrating diverse opinion on the study and is an essential component research problem. The investigator carried out extensive review of literature relevant to the research topic to gain insight and to collect information for this study.

Review of literature serves a number of important functions in the research process. It helps the researcher to generate ideas or to focus on a research topic. It also can be useful in pointing out the research approach, methodology, measuring tools and even types of statistical analysis that might be productive in pursuing the research problem.

The review of literature is an extensive, systematic selection of potential sources of previous work, facts and findings of the chosen problem. The most literature review had contributed good background material, helpful methodology and relevant insight to this study.

**THIS CHAPTER DEALS WITH REVIEW OF LITERATURE ON  
THE FOLLOWING HEADINGS**

**PART- I** Review of literature related to causes of fracture tibia and fibula.

**PART- II** Review of literature related to complications of fracture tibia and fibula.

**PART-III** Review of literature related to Management and nursing interventions on clients with fracture tibia and fibula.

**PART-I REVIEW OF LITERATURE RELATED TO CAUSES OF  
FRACTURE TIBIA AND FIBULA.**

**Banena.D., (2007)** stated that an incidence, treatment and outcome of severe tibia and fibula fracture as well associated injuries are more in his hospital. Client in shock with tibial fracture have a poor prognoses. The main cause of death where massive hemorrhage.

**Linc.c., (2006)** stated that the passive joint mobilization was a technique, frequently used by to reduce pain, improve joint movement and facilitate return to activities after injury.

**Spencer.J., (2005)** stated that there were osteoporosis affected three million people in United Kingdom. The condition puts people at high risk sustaining potentially debilitating fractures. The key to effective management was early intervention & disease management to reduce clients fracture risk. This article reports on the introduction of a nurse-led fracture intervention service that aims to selectively case find those at highest risk of osteoporosis.

**Sambrook (2004)** examined that the clients with low bone density or any prior low trauma fracture should be considered the therapeutic intervention. Estrogen replacement therapy remains the first choice for prevention of bone loss in early postmenopausal women with existing fracture.

**Walsh.E.F., (2004)** stated that the distal fibula non-union appears to be a relatively common cause of persistent lateral ankle symptoms in clients, who do not enjoy a satisfactory recovery after

appropriate conservative treatment. The authors believe that the persistent lateral pain in such clients results from micro motion strain at the incomplete fracture union site. Surgical stabilization of fibular non union seems to be a reliable means of resolving these symptoms when conservative measures fail.

**Estrada.L.S., (2004)** demonstrated that usage of seat belts and air bags were significantly reduced morbidity and mortality following motor vehicle accidents.

**Keegan.T.H., (2004)** examined that the relation of circumstances of falls and characteristics of fallers with risk of fracture. Medium high heeled shoes and shoes with a narrow heel increased the risk of tibia and fibula fracture.

**Korpelainen.R., (2001)** identified that predisposing athletes to multiple stress fractures, with the emphasis on biomechanical factors. The fracture site was the tibia or fibula. In 70 percent of the fracture in runners with high weekly training mileage were found to be at risk of recurrent stress fractures of the lower extremities.

**Alongo and Bartotome (1999)** assessed a study on insufficiency fractures occur when normal or physiological muscular activity stresses a bone that was deficient in mineral or elastic resistance. The tibia and fibula fractures are more common in clients with underlying rheumatic diseases mainly rheumatic arthritis and are frequently mistaken for other joint and bone conditions. Despite a frequent delay in diagnosis, they have a good prognosis with conservative treatment.

## **PART - II REVIEW OF LITERATURE RELATED TO COMPLICATION OF FRACTURE TIBIA AND FIBULA**

**Altizer.L., (2004)** stated that the compartment syndrome was a possible complication for every client with a fracture, sprain or ortho-paedic surgery, complete evaluation of the client is necessary on a continual basis to determine any deviation from the normal range of the neuromuscular parameters. Early identifiable of the symptoms will promote immediate treatment and prevent the loss of limb.

**Tohs (2001)** conducted a study on ipsilateral pedicle vascularized fibula grafts for reconstruction of tibial defects and non-unions. In the cases with delayed union or fractured grafted fibulas, the periods to walking without a brace were longer than in the cases without such major complications. From the results, the ipsilateral vascularized fibula graft appears to be a useful option for re-construction of tibial defects.

**Wada.T., (2000)** presented the study on Resection arthrodesis of the knee with a vascularised fibular graft medium to long term results. The result shows that clients of arthrodesis of the knee using vascularised fibular graft after resection of a malignant bone tumor, they had at least one complication such as non union, deep infection requiring above knee ambulation. So careful preoperative counseling is required.

**Teitz (1998)** suggested that when the fibula remains intact, a tibio fibular length discrepancy develops and causes altered strain patterns in the tibia and fibula. These may lead to delayed union, non-union or mal-union of the tibia with the sequel of joint disturbances. The lower incidence of complications in clients less



than 20 years old may be due to the greater compliance of their fibula and tissues.

**Delgate daza.R., (1998)** found that late vascular complications after fracture of tibia and fibula. He presented a case report of an aneurysm from posterior tibial artery secondary to a traffic accidents with trauma on tibia. First symptoms appeared four months after accident.

**Marsh.J.L., (1995)** suggested that the prevalence of early complications associated with severe fractures of the tibia and their treatment can be decreased with use of an articulated external fixator combined with limited internal fixation. We concluded that this technique of external fixation was a satisfactory technique for the treatment of these fractures.

**Dacatra.U., (1985)** stated a study on use of the external fixator in the treatment of recent fractures of the leg. The authors show 30 cases of recent tibial fractures treated by external fixation. They study the different types of fractures, the models of external

fixation employed, the complications occurring during the treatment and the ultimate results obtained.

**Lortat and Jacob.A., (1985)** analysed a study on septic leg fractures. Value of cancellous bone grafting without skin closure, aligned on the fibula: This study leads to a firmer and more rapid bone union than the Papineau technique. Secondary bone or skin procedures were needed less often. Tibio-fibular grafting was indicated in cases of limited infection and when the main tibial fragments were still uniting postero laterally.

### **PART-III REVIEW OF LITERATURE RELATED TO MANAGEMENT AND NURSING INTERVENTIONS ON CLIENTS WITH FRACTURE TIBIA AND FIBULA.**

**Sarminento.A., (2008)** suggested that satisfactory results can be obtained in most instances using a functional brace for management of closed fractures of the middle third of the tibia.

**Manninen.M.J., (2007)** concluded that lateral approach for the distal tibia is a demanding, but useful surgical method for

treatment of the distal tibia fractures especially in asses where no medial communication of the tibia is present and when the fibula has to be fixed too.

**Academic and Clinical Unit for Musculoskeletal Nursing (2007)** reported and applied knowledge for the improvement of nursing practice and patient outcomes and to evaluate its effects. It is also anticipated that the programmes of work will expand into other areas of musculoskeletal nursing such as orthopaedics and paediatric rheumatology. Exciting and dynamic developments are often common sense but require ability, energy, commitment and perseverance to bring life. Incorporating education, research and practice was logical and necessary if orthopaedic nursing was to progress.

**Demiralp.B., (2007)** documented a study on Spiral and oblique fractures of distal one-third of tibia-fibula, circular external fixator might be a preferable alternative treatment for distal tibia-fibula fractures due to its easy application, fewer major complications such as shortness and angulation, early mobilisation and shorter treatment time.

**Ristiniemi.J., (2007)** stated that distal tibial fracture is rare and difficult to treat because the bones are subcutaneous. Risk factors for delayed healing after external fixation were identified. Using antibiotic beads and subsequent autogenously cancellers grafting proved to be effective in the treatment of tibial bone loss. Healing potential of the bone loss in distal tibia was at least equally good as in other locations of the tibia.

**Sagg.K.G., (2006)** explained that the patient's initiating long term glucocorticoid therapy the proportion of individuals receiving a bone mass measurement or antiosteoporotic medication remain relatively low, but has improved temporally among postmenopausal women.

**Parker.M.N., (2005)** stated that the pre operative traction following an acute tibial fracture remains standard practice in some hospitals. The evidence was also insufficient to rule out the potential advantages for traction. In particular for specific fracture confirm additional complications due to traction use. Further high quality trails would be traction.

**Zeman.J., (2005)** performed with treatment of the auricular ends of the tibia, using a hybrid external fixator. External fixation application can be used with advantage for treatment of supra or infra auricular fracture of the tibia and treatment associated with marked swelling of soft tissues for which internal osteo-synthesis was not indicated and in open fracture as well.

**Carina Baath (2003)** presented a study were to describe and compare documented nursing assessment and care of skin in hip fracture patients in two settings. Patients who were assessed with the Modified Norton Scale received more interventions than patients not assessed. The most frequent measured interventions were turning schedule, fluid and food intake.

**Zhang.Y., (2002)** performed for clients with severe open tibia fibular fracture, comprehensive analysis should be made for preservations of the wounded limits or amputation as for elderly clients with vessels, nerve injury or with cerebral thoraco abdominal injury. Emerging amputation should be done unilateral external fixation combined with internal fixation for severe open tibia-fibul fracture.

**Toh.S., (2001)** determined a study on ipsilateral pedicle vascularized fibula grafts for reconstruction of tibial defects and non-unions. The results shows that the cases with delayed union or fractured grafted fibulas, the periods to walking without a brace were longer than in the cases without such major complications. From the results the ipsilateral pedicle vascularized fibula graft appears to be a useful option for reconstruction of tibial defects.

**Shantharam.S.S., (2000)** tested that single incision technique for internal fixation of distal tibia and fibula fractures. Open reduction and internal fixation of distal tibia and fibula fractures generally involves two separate incisions. That is an antero-medial incision to approach the tibia and lateral incision to approach the fibula. Exposing the distal tibia from the medial side is associates with the risk of wound dehiscence, infection and discomfort.

**Bonnevialle.P., (2000)** encounter in the orthopedic treatment of leg fractures with intact fibula are reduction of the tibial and an unusually high rate of unions and non-unions. He concluded that nailing fibula. Weight bearing is encountered as

early as possible. The indication for a locked nail depends on the anatomic types of the tibial fracture and its localization.

**Osmond (2000)** stated that the advances in surgical reduction of fracture and musculoskeletal disruptions, coupled with economic imperatives of reducing hospital red stage seen a reduction the use of prolonged periods of traction

**Rzesacz.E.H., (1998)** assessed that proximity of distal tibia fracture to the ankle makes the treatment more complicated than for fractures of the tibial diaphysis, closed intra-medullar nailing combined with covered screw fixation was a good alternative to open reduction and plate fixation. Therefore closed intra-medullary nailing combined with covered screw fixation was a safe and effective method of managing this type of fracture.

**Williams.T.M., (1998)** determined a study on external fixation of tibial plafond fractures is routine plating of the fibula. This result showed that Open reduction and internal fixation of the fibula fracture in tibial plafond fractures treated with external fixation that spans the ankle was associated with a significant rate

of complications, and good clinical results may be obtained without fixing the fibula.

**Wang.C.Q., (1998)** studies on the applicator of external fixation in the open tibia and fibula fractured clients with multiple traumas. The results shows that external fixation for severe multiple injuries with open tibia and fibula fracture has been proved to good which can significantly reduces the mortality and incidence rate of complication and wound infection rate and promote wound healing.

**Weber.T.G., (1997)** determined the role of fibular fixation in combined fractures of the tibia and fibula. Result shows that Osteotomy of the fibula significantly increased tibial defect motion when external fixation was used and plating the fibula in this case significantly decreased motion. Using an Enders rod to stabilize the fibula instead of a plate with tibial external fixation produced smaller decreases in tibial defect site motion.



## **CHAPTER - III**

### **METHODOLOGY**

This chapter deals with methodology adopted for the study and includes the description of research design, setting of study, population, sample size, sampling technique, criteria for the selection of sample, Instruments and tools and data collection.

#### **RESEARCH DESIGN**

Evaluative case study design was used to evaluate the effectiveness of nursing care on clients with fracture tibia and fibula, their needs and problems were assessed and nursing interventions were provided.

#### **SETTING OF THE STUDY**

The study was conducted in orthoward at Melmaruvathur Adhiparasakthi Institute of Medical Sciences and Research, Melmaruvathur, Kanchipuram District.

## **POPULATION**

The population of the study comprises of clients who had fracture in tibia and fibula in the age group of 13-60 years and above admitted in the ortho ward at Melmaruvathur Adhiparasakthi Institute of Medical Sciences and Research, Melmaruvathur, Kanchipuram District.

## **SAMPLE SIZE**

The sample size includes 30 clients who fulfilled the inclusion criteria.

## **SAMPLING TECHNIQUES**

The convenient sampling technique was used to select the clients with fracture tibia and fibula, data was collected from the orthoward at Melmaruvathur Adhiparasakthi Institute of Medical Sciences and Research, Melmaruvathur, Kancheepuram District.

## **CRITERIA FOR SAMPLE SELECTION**

### **INCLUSION CRITERIA**

1. Both male and female clients with fracture tibia and fibula.

2. The clients who were admitted in ortho ward at Melmaruvathur Adhiparasakthi Institute of Medical Science and Research at Melmaruvathur.
3. Clients who understand Tamil or English.
4. The sample was selected between the age group of 13years to 60years and above.

### **EXCLUSION CRITERIA**

1. All the clients who were seriously ill with other complications
2. The Clients who were not willing to participate in the study.

### **INSTRUMENTS FOR DATA COLLECTION**

Instruments of data collection is derived under the following headings like demographic variables, observational check list, structured assessment rating scale, protocol for nursing care on clients with fracture tibia and fibula.

### **SECTION - I**

This section consists of information about demographic variables on clients with fracture tibia and fibula.

## **SECTION - II**

In this section an observational check list was used to monitor the general condition on clients with fracture tibia and fibula. It includes detail such as temperature, pulse, respiration, blood pressure, bowel and bladder pattern.

## **SECTION-III**

In this section the structured assessment rating scale was used to monitor the general condition on clients with fracture tibia and fibula.

## **SECTION-IV**

In this section focused on nursing care which were provided on clients with fracture tibia and fibula.

## **CHAPTER - IV**

### **DATA ANALYSIS AND INTERPRETATION**

This chapter deals with description of the tool, report of pilot study, validity, reliability, informed consent, data collection procedure, scoring interpretation, method of data analysis plan.

#### **DESCRIPTION OF THE TOOL**

The structured tool was developed based on the objectives of the study and also based on research experts concerns, review of literature. The instrument consists of four parts, they are

- Performa for demographic variables
- Observation check list
- structured assessment rating scale
- Protocol for nursing care

#### **SECTION - I PERFORMA FOR DEMOGRAPHIC VARIABLES**

This section consists of information about demographic variables such as age in years, gender, religion, educational status, occupation, marital status, family income per month, personal habits, residential area, type of fracture, causes of

fracture, any first aid given, co-morbid diseases, types of family and sources of information.

## **SECTION - II OBSERVATION CHECK LIST**

In this section an observational check list was used to monitor the general condition on clients with fracture tibia and fibula. It includes detail such as temperature, pulse, respiration, blood pressure, bowel and bladder pattern.

## **SECTION - III STRUCTURED ASSESSMENT RATING SCALE**

In this section the structured assessment rating scale was used to monitor the general condition on clients with fracture tibia and fibula. It includes detail such as pain, skin colour, peripheral pulse, temperature, capillary refilling time, peripheral blood, edema, tenderness, crepitus sound, pares thesis, muscle strength, range of motion, change of position, hydration, voiding, shortening of limb, deformity, skin texture, soft tissue contracture, assessment of pressure sores.

This section consists of 20 components, each component carried maximum score of three and minimum score of one, the total score of 60.

## **SECTION - IV PROTOCOL FOR NURSING CARE**

In this section focused on nursing care which were provided on clients with fracture tibia and fibula. It consists of monitoring of vital parameters, pain management including rest and sleep, comfort devices, relaxation therapy, administration of medication, personal hygiene, maintenance of nutrition, fluid and electrolyte balance, prevention of infection, skin care, wound dressing, care of clients with traction, external fixation and internal fixation, active and passive exercises, early ambulation, maintenance of normal bowel and urinary elimination, change of position and prevention of bed sores and health education.

## **REPORT OF PILOT STUDY**

Pilot study was conducted at Melmaruvathur Adhiparasakthi institute of Medical Sciences and Research, Melmaruvathur for a period of two weeks. The standardized tools were prepared by the investigator and used to find out the reliability and validity, which were evaluated by the experts of research committee. The investigator used simple random sampling technique to select three samples and by using checklist and structured assessment scale, the health conditions of the clients with fracture tibia and

fibula were assessed, the co-operation of the doctors and other staff were highly appreciable and the availability by various data and sources were extensively feasible for their study.

The calculated value is more than tabulated value. Hence, there was statistically significant improvement in the health status on clients with fracture tibia and fibula.

### **VALIDITY**

The tool was prepared by the investigator under the guidance of experts and the basis of objectives which were assessed and evaluated, accepted by experts of research committee.

### **RELIABILITY**

The reliability of the tool was measured by using inter-rater method. The reliability score was  $r=0.84$ . Reliability and practicability of tool was tested through the pilot study and used for main study.



## **INFORMED CONSENT**

The dissertation committee prior to the pilot study approved the research proposal. The investigator obtained written consent from the Director of Melmaruvathur Adhiparasakthi Institute of Medical Sciences and Research at Melmaruvathur. Oral consent was taken from the study participants to conduct the study.

## **DATA COLLECTION PROCEDURE**

The data collection procedures were done for six weeks by using questionnaire and observation method. The investigator introduced her to clients and developed a good rapport with them. The demographic variables were collected from the clients, assessment was done with the help of the prepared tools and nursing intervention was carried out and evaluated with the structured assessment rating scale.

## **SCORING INTERPRETATION**

The obtained data were interpreted by the following procedure.

$$\text{Scoring interpretation} = \frac{\text{Obtained score}}{\text{Total score}} \times 100$$

\*Maximum score = 60

\* Minimum score = 20

Based on, the information data are classified as follows

- Mild health deterioration - 0-50 percentage
- Moderate health deterioration - 51-75 percentages
- Severe health deterioration - >75 percentage

### **METHOD OF DATA ANALYSIS PLAN**

Data analysis was done by using descriptive and inferential according to the need. The items were scored after assessment and evaluation and the results were tabulated. The statistical methods used for analysis were mean, standard deviation, sign test and correlation test.

## STATISTICAL METHOD

<b>S.No</b>	<b>Data analysis</b>	<b>Method</b>	<b>Remarks</b>
1.	Descriptive statistics	The total number of score, mean, percentage of score and standard deviation of score	To describe the demographic variables on clients with fracture tibia and fibula, to assess the effectiveness of nursing care on clients with fracture tibia and fibula.
2.	Inferential statistics	1. Sign test  2. correlation test	To analyze the effectiveness of nursing care on clients with fracture tibia and fibula.  To analyze the correlation between the selected demographic variables and effectiveness of nursing care on clients with fracture tibia and fibula.

## **DATA ANALYSIS AND INTERPRETATION**

Analysis is the categorization of obtained score to research tool. Research analyzed and interpreted under the following sections.

**SECTION-A:** Frequency and percentage distribution of demographic variables on clients with fracture tibia and fibula.

**SECTION-B:** Frequency and percentage distribution of health status on clients with fracture tibia and fibula.

**SECTION-C:** Comparison between assessment and evaluation score mean and standard deviation on clients with fracture tibia and fibula.

**SECTION-D:** Mean and standard deviation of improvement score on clients with fracture tibia and fibula.

**SECTION-E:** Correlation between selected demographic variables and effectiveness of nursing care on clients with fracture tibia and fibula.

## SECTION - A

**TABLE - 4.1 FREQUENCY AND PERCENTAGE DISTRIBUTION OF DEMOGRAPHIC VARIABLES ON CLIENTS WITH FRACTURE TIBIA AND FIBULA**

**N = 30**

<b>S.No</b>	<b>Demographic Data</b>	<b>No</b>	<b>Percentage</b>
<b>1.</b>	<b>Age in yrs</b>		
	a. 13-22	4	13.3
	b. 23-32	2	6.6
	c. 33-42	6	20.0
	d. 43-52	10	33.3
	e. above52	8	26.8
<b>2.</b>	<b>Gender</b>		
	a. Male	18	60.0
	b. Female	12	40.0
<b>3.</b>	<b>Religion</b>		
	a. Hindu	25	83.4
	b. Christian	1	3.3
	c. Muslim	4	13.3
<b>4.</b>	<b>Educational status</b>		
	a. Illiterate	6	20.0
	b. Primary	7	23.3
	c. High school	9	30.0
	d. Graduate & Postgraduate	8	26.7
<b>5.</b>	<b>Occupation</b>		
	a. Unemployed	8	26.6
	b. Daily wages	8	26.6
	c. Business	9	30.0
	d. Professional	5	16.8
<b>6.</b>	<b>Family income per month</b>		
	a. Below Rs. 2000	2	6.6
	b. Rs. 2001 to 3000	6	20.0
	c. Rs. 3001 to 4000	10	33.4
	d. above 4000	12	40.0

<b>S.No</b>	<b>Demographic Data</b>	<b>No</b>	<b>Percentage</b>
<b>7.</b>	<b>Marital status</b> a. Unmarried b. Married c. Widow /Widower b. Divorced	6 18 4 2	20.0 60.0 13.4 6.6
<b>8.</b>	<b>Personal habits.</b> a. Tobacco chewing b. Smoking c. Drinking alcohol d. No personal habits	4 6 8 12	13.4 20 26.6 40
<b>9.</b>	<b>Residential area</b> a. Rural b. Urban	11 19	36.7 63.3
<b>10.</b>	<b>Type of fracture</b> a. Simple fracture b. Compound fracture c. Complex fracture d. Other types of fracture	12 7 7 4	40.0 23.4 23.3 13.3
<b>11.</b>	<b>Causes of fracture</b> a. Road traffic accident b. Fall injury c. Pathological disease.	16 10 4	53.3 33.4 13.3
<b>12.</b>	<b>Any first aid given</b> a. Yes b. No	15 15	50.0 50.0
<b>13.</b>	<b>Co-morbid disease</b> a. Hypertension b. Diabetic mellitus c. Asthma d. Others	8 9 - 13	26.6 30.0 - 43.4

S.No	Demographic Data	No	Percentage
14.	<b>Types of family</b>		
	a. Nuclear family	18	60.0
	b. joint family	12	40.0
15.	<b>Source of information about fracture</b>		
	a. Health personnel	10	33.4
	b. Relative & friends	8	26.6
	c. Mass media	12	40.0
	d.Others	-	-

**Table 4.1** Implies the distribution of respondents according to demographic data like Age, gender, religion, educational status, occupation, family income per month, marital status, personal habits, residential area, type of fracture, causes of fracture, any first aid given, co-morbid diseases, types of family and source of information.

Among 30 clients 4(13-21 percent) were in the age group of 13 to 22years, 2(6.6 percent) clients were in the age group of 23-32, 6(20 percent) clients were in the age group of 33-42, 10(33.3 percent) clients were in the age group of 43-52 and 8(26.8 percent) clients were in the age group of above 52. In the 30 clients the average of 10(33.3 percent) were fall in the age group of 43-52.

Regarding gender, 18(60 percent) clients were male and 12(40 percent) clients were female. Among 30 clients maximum of 18 (60 percent) were male.

Regarding religion, 25(83.4 percent) clients were Hindu, one client (3.3 percent) was Christian and four (13.3 percent) were Muslim. In 30 clients, the highest maximum of 25(83 percent) were Hindu.

With regard to the educational status, six (20 percent) clients were illiterate; nine (30 percent) clients were High school, seven (23.3 percent) were primary, eight (26.7 percent) clients were graduate and post graduate. Among 30 clients maximum of nine (30 percent) clients had undergone high school education.

With regard to occupation eight (26.6 percent) clients were employed, eight (26.6 percent) clients were daily wages, nine (30.3 percent) clients were business and five (16.8 percent) clients were professional. Among thirty clients maximum of nine (30.3 percent) clients were business.



In case of family income per month below 2000 was drawn by two (6.65 percent) clients, six (20 percent) Rs.2000 to Rs.3000, ten clients were in the income group of Rs.3000/- Rs.4000 and 12(40 percent) clients had a monthly income of above 400, out of thirty clients a highest maximum of 12 (40 percent) clients were in the income group of above Rs.4000/-.

Regarding the marital status six (20 percent) clients were unmarried, 18(60 percent) clients were married, four (13.4 percent) clients were widow/widower, two (6.6 percent) clients were divorced. Among 30 clients, maximum of 18 (60 percent) clients were married.

With regard to personal habits four (13.4 percent) clients were in tobacco chewing and six (20 percent) clients were in smoking, eight (26.6 percent) clients were in drinking alcohol and 12 (40 percent) clients were no any personal habits. Among 30 clients maximum of 12 (40 percent) clients were not having any personal habits.

Regarding Residential area 11 (36.7 percent) clients were lived in rural area and maximum of 19 (63.3 percent) clients were lived in urban areas.

In type of fracture 12 (40 percent) clients had open fracture, seven (23.4 percent) clients were had other type of fractures. About causes of fracture 16 (53.3 percent) clients were had fracture due to road traffic accidents and 10 (33.4 percent) clients were had fracture due to fall injury and four (13.3 percent) clients were had fractures due to pathological diseases.

Among 30 clients 16 (53.3 percent) clients were had fracture due to road traffic accident, 10(33.4 percent) clients were had fracture due to fall injury and 4(13.3 percent) clients were had fracture due to pathological diseases. With regard to first aid 15(50 percent) clients were got first aid and 15 (50 percent) clients were not got first aid.

## SECTION- B

**TABLE-4.2 FREQUENCY AND PERCENTAGE DISTRIBUTION OF HEALTH STATUS ON CLIENTS WITH FRACTURE TIBIA AND FIBULA**

S. No	Health Status	Assessment		Evaluation	
		No	Percentage	No	Percentage
1.	Mild Health deterioration	0	0	26	86.6
2.	Moderate Health deterioration	8	26.6	4	13.4
3.	Severe Health deterioration	22	73.4	0	0
	<b>TOTAL</b>	30	100	30	100

**Table 4.2** shows that in assessment among 30 clients. 22(73.4 percent) were in severe health status, 7(23.3 percent) clients were in moderate health status and 1(3.3 percent) were in mild health status. During evaluation phase 26(86.6 percent) clients were in mild health status and 4(13.3 percent) were in moderate health status.

## SECTION - C

**TABLE - 4.3 COMPARISONS BETWEEN ASSESSMENT AND EVALUATION SCORE OF MEAN AND STANDARD DEVIATION ON CLIENTS WITH FRACTURE TIBIA AND FIBULA.**

**N = 30**

<b>S.No</b>	<b>Health status</b>	<b>Mean</b>	<b>S.D</b>	<b>Confidence interval</b>
<b>1.</b>	Assessment	44.7	6.2	42.26-47.2
<b>2.</b>	Evaluation	23.4	5.9	21.02-25.77

**Table 4.3** shows assessment mean was 44.7 with standard deviation of 6.2 and on evaluation the mean was 23.4 with standard deviation of 5.9. The final conclusion about above table reveals that in the evaluation mean score was reduced then in assessment level, similarly the standard deviation values also reduced in the evaluation score when comparing with the assessment level. So there was a significant improvement in the health status on clients with fracture tibia and fibula. Thus the nursing care on clients with fracture tibia and fibula was very effective.

## SECTION - D

**TABLE- 4.4 MEAN AND STANDARD DEVIATION OF IMPROVEMENT SCORE ON CLIENTS WITH FRACTURE TIBIA AND FIBULA**

**N=30**

S. No	Health status	Mean	S.D	Sign value	K value	C.I
1.	Improvement score	21.4	5	7	9.13	19.4-23.4

**\*p<0.01 level of significance**

**Table 4.4** The table reveals the assessment of health status by the value of mean, standard deviation and sign value of improvement score for effectiveness of nursing care on clients with fracture tibia and fibula. The improvement score of mean value was 21.4 and standard deviation of 5. The sign value is 7, K value is 9.13. The sign value was compared with tabulated value and  $s < k$  at  $p < 0.01$  level of significance. So, it was concluded that the nursing care was more effective on clients with fracture tibia and fibula.

## SECTION - E

**TABLE-4.5 CORRELATION BETWEEN SELECTED DEMOGRAPHIC VARIABLES AND EFFECTIVENESS OF NURSING CARE ON CLIENTS WITH FRACTURE TIBIA AND FIBULA.**

N=30

S.no	Demographic variables	Assessment				Evaluation				r
		Severe >75%		Moderate 51%-75%		Moderate 51%-75%		Mild 0%- 50%		
		No.	%	No.	%	No.	%	No.	%	
1.	<b>Age group in years</b>									0.81*
	a) 13 – 22	3	10	1	3.4	4	13.3	0	0	
	b) 23 – 32	1	3.4	1	3.4	2	6.6	0	0	
	c) 33 – 42	5	16.6	3	10	5	16.6	1	3.4	
	d) 43 -52	5	16.6	4	13.3	9	30	1	3.4	
e) Above 52 years	5	16.6	2	6.6	7	23.3	1	3.4		
2.	<b>Gender</b>									0.76*
	a) Male	14	46.6	4	13.4	16	53.4	2	6.6	
	b) Female	9	30	3	10	10	33.4	2	6.6	
3.	<b>Religion</b>									0.42*
	a) Hindu	15	50	5	16.7	22	73.3	3	10	
	b) Muslim	0	0	3	10	1	3.3	0	0	
	c) Christian	4	13.3	3	10	3	10	1	3.4	
4.	<b>Educational Status</b>									0.18*
	a) Illiterate	4	13.4	3	10	5	16.6	1	3.4	
	b) Primary level	6	20	0	0	5	16.6	2	6.6	
	c) High school level	5	16.6	3	10	9	30	0	0	
	d) Graduate and Post graduate	7	23.4	2	6.6	7	23.4	1	3.4	
5.	<b>Occupation</b>									0.99
	a) Unemployed	5	16.6	3	10	6	20	2	6.7	
	b) Daily wages	4	13.4	4	13.3	8	26.6	0	0	
	c) Business	9	30	0	0	17	23.4	2	6.7	
	d) Professional	4	13.4	1	3.3	5	16.6	0	0	

S.no	Demographic variables	Assessment				Evaluation				r
		Severe >75%		Moderate 51%-75%		Moderate 51%-75%		Mild 0%- 50%		
		No.	%	No.	%	No.	%	No.	%	
<b>6.</b>	<b>Family income per month</b>									
	a)Below Rs 2000	2	6.6	0	0	2	6.6	0	0	0.99
	b)Rs2001 – Rs3000	4	13.4	2	6.6	5	16.7	1	3.3	
	c)Rs3001 – Rs4000	7	23.4	3	10	9	30	1	3.4	
	d)Above Rs4000	9	30	3	10	10	33.4	2	6.6	
<b>7.</b>	<b>Marital status</b>									
	a) Unmarried	6	20	2	6.6	7	23.3	0	0	0.2
	b)Married	13	43.4	4	13.4	13	43.3	3	10	
	c)Window / Widower	1	3.4	2	6.6	4	13.4	1	3.3	
	d)Divorced	2	6.6	0	0	1	3.3	1	3.4	
<b>8.</b>	<b>Personal habits</b>									
	a)Tobacco chewing	2	6.6	0	0	4	13.3	2	6.7	0.76*
	b)Cigarette smoking	4	13.4	2	6.7	2	6.6	1	3.4	
	c)Drinking alcohol	5	16.6	1	3.4	2	6.6	1	3.4	
	d)No personal habits	9	30	7	23.3	16	53	2	6.7	
<b>9.</b>	<b>Residential area</b>									
	a) Rural	6	20.4	8	26.6	11	36.7	1	3.3	0.99
	b) Urban	16	53	0	0	15	50	3	10	
<b>10.</b>	<b>Types of fracture</b>									
	a)Simple fracture	10	33.4	2	6.6	10	33.3	2	6.7	0.84*
	b)Compound fracture	3	10	4	11.4	7	23.4	0	0	
	c)Complex fracture	5	16.6	2	6.6	5	16.6	2	6.7	
	d)Other type of fracture	4	13.4	0	0	4	13.4	0	0	
<b>11.</b>	<b>Causes of fracture</b>									
	a)Road traffic accident	10	33.3	5	16.6	15	50	1	3.3	0.88*
	b)Fall injury	8	26.7	3	10	7	23.3	3	10	
	c)Pathological diseases	4	13.4	0	0	4	13.4	0	0	
<b>12.</b>	<b>Any First aid given</b>									
	a) Yes	9	26.6	8	26.7	15	50	0	0	0.84*
	b) No	13	46.7	0	0	11	36.6	4	13.4	

S.no	Demographic variables	Assessment				Evaluation				r
		Severe >75%		Moderate 51%-75%		Moderate 51%-75%		Mild 0%- 50%		
		No.	%	No.	%	No.	%	No.	%	
<b>13.</b>	<b>Co-morbid disease</b> a)Hypertension b)Diabetic mellitus c)Asthma d)Others	3	10	5	16.6	8	26.6	1	3.3	0.91
		7	23.4	2	6.6	7	23.4	2	6.6	
		0	0	0	0	0	0	0	0	
		12	40	1	14	10	33.4	2	6.7	
<b>14.</b>	<b>Types of family</b> a)Nuclear family b)joint family	16	53.3	2	6.7	15	50	30	10	0.99
		6	20	6	20	12	40		0	
<b>15.</b>	<b>Source of information about fracture</b> a)Health personnel b) Relative & friend c)Mass media d)Others	9	24.7	2	6.6	9	29.7	0	0	0.65*
		5	16.6	2	6.6	7	23.3	1	3.3	
		8	26.4	4	13.3	12	40.4	1	3.3	
		0	0	0	0	0	0	0	0	

**\*p< 0.01 level of Significance**

**Table - 4.5** Reveals the correlation between selected demographic variables such as age, gender, religion, educational status, personal habits, types of fracture, causes of fracture, any first aid given, sources of information and nursing care on clients with fracture tibia and fibula.

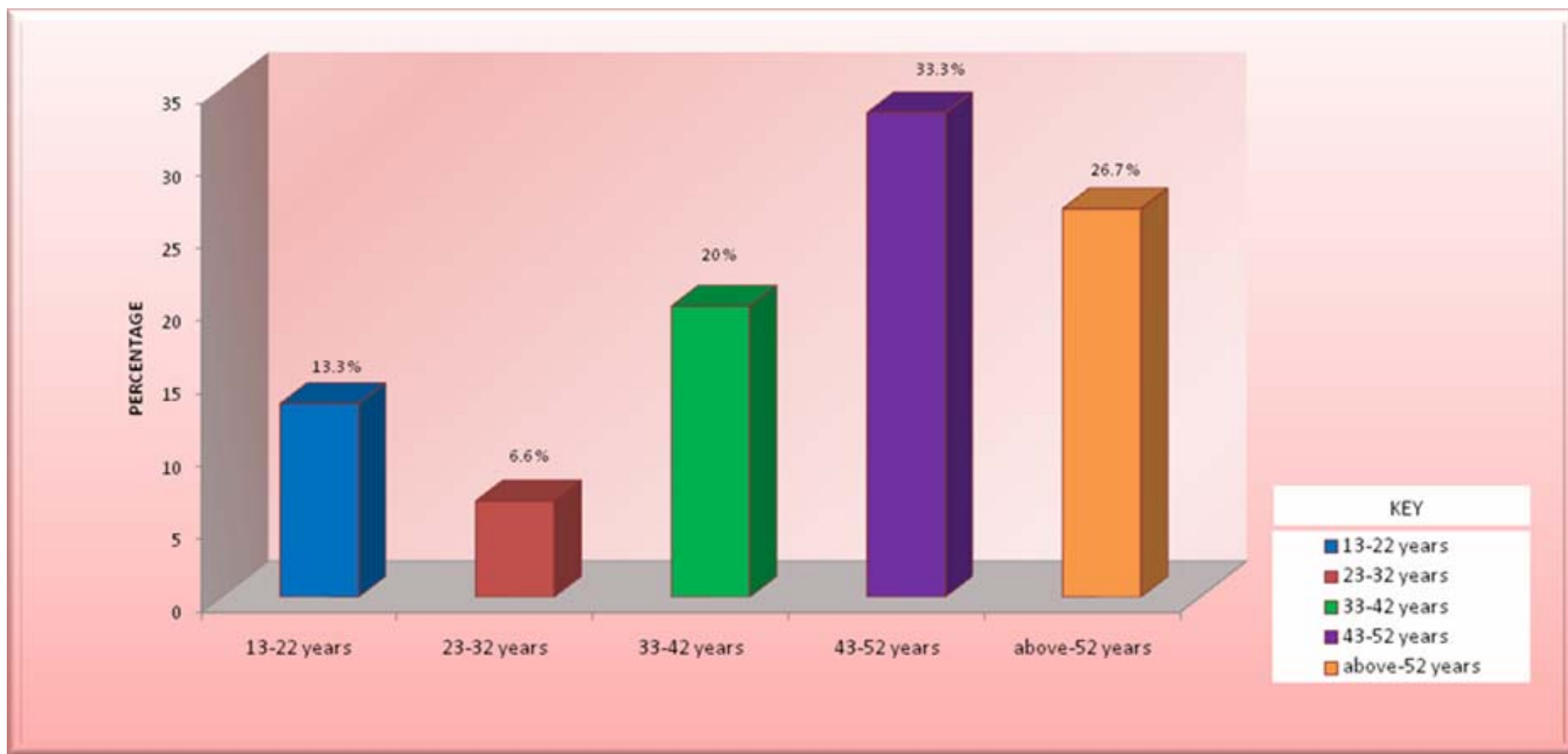


## **FINDINGS OF STUDY**

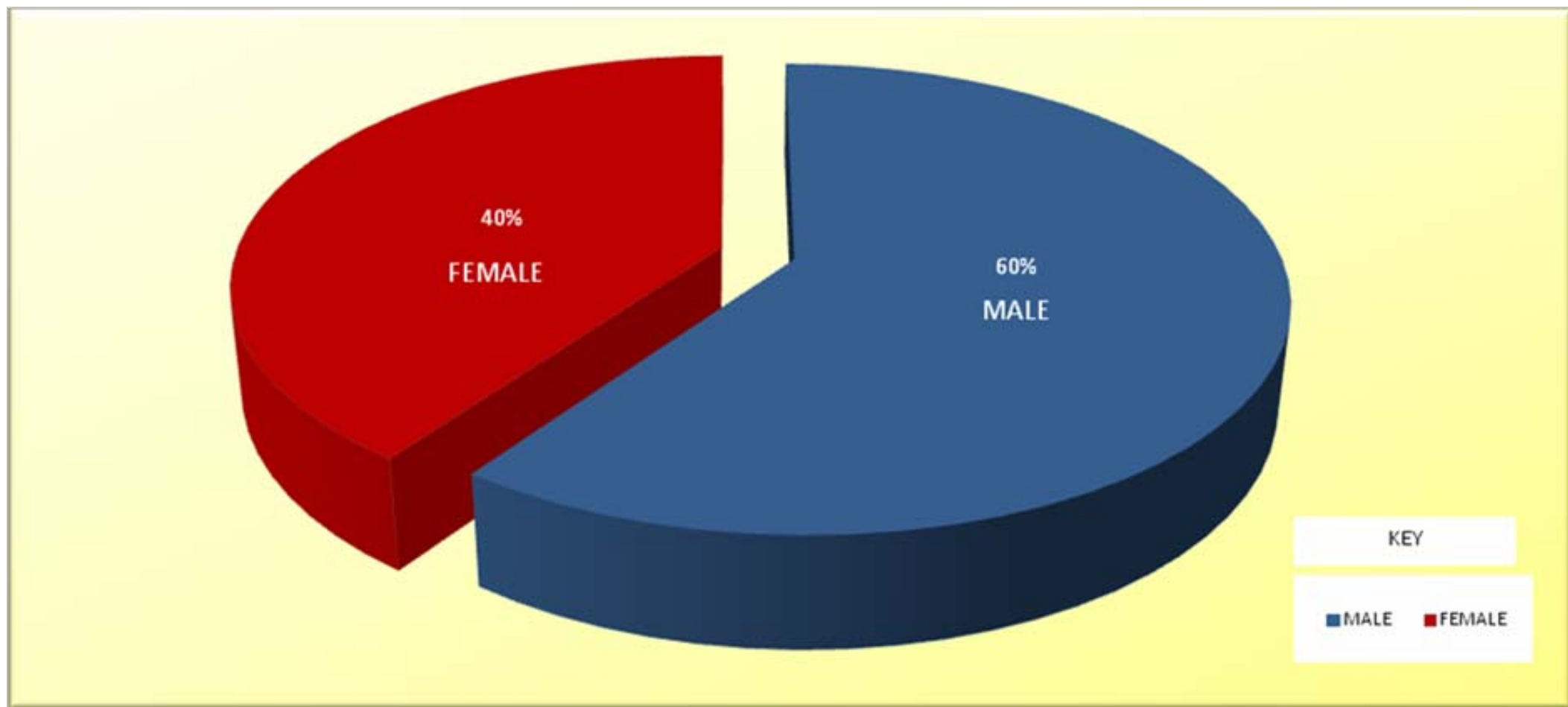
The statistical analysis was showed that during the initial assessment the mean was 44.7 with standard deviation of 6.2 and on evaluation day mean was 23.4 and standard deviation of 5.9 this results show that the evaluation mean and standard deviation score was reduced when comparing with the assessment level. So, it was concluded that a significant improvement in the health status on clients with fracture tibia and fibula.

The improvement score of mean value was 21.4 and standard Deviation of 5, sign value was 7 which showed that the nursing care was highly significant at  $<0.01$  level

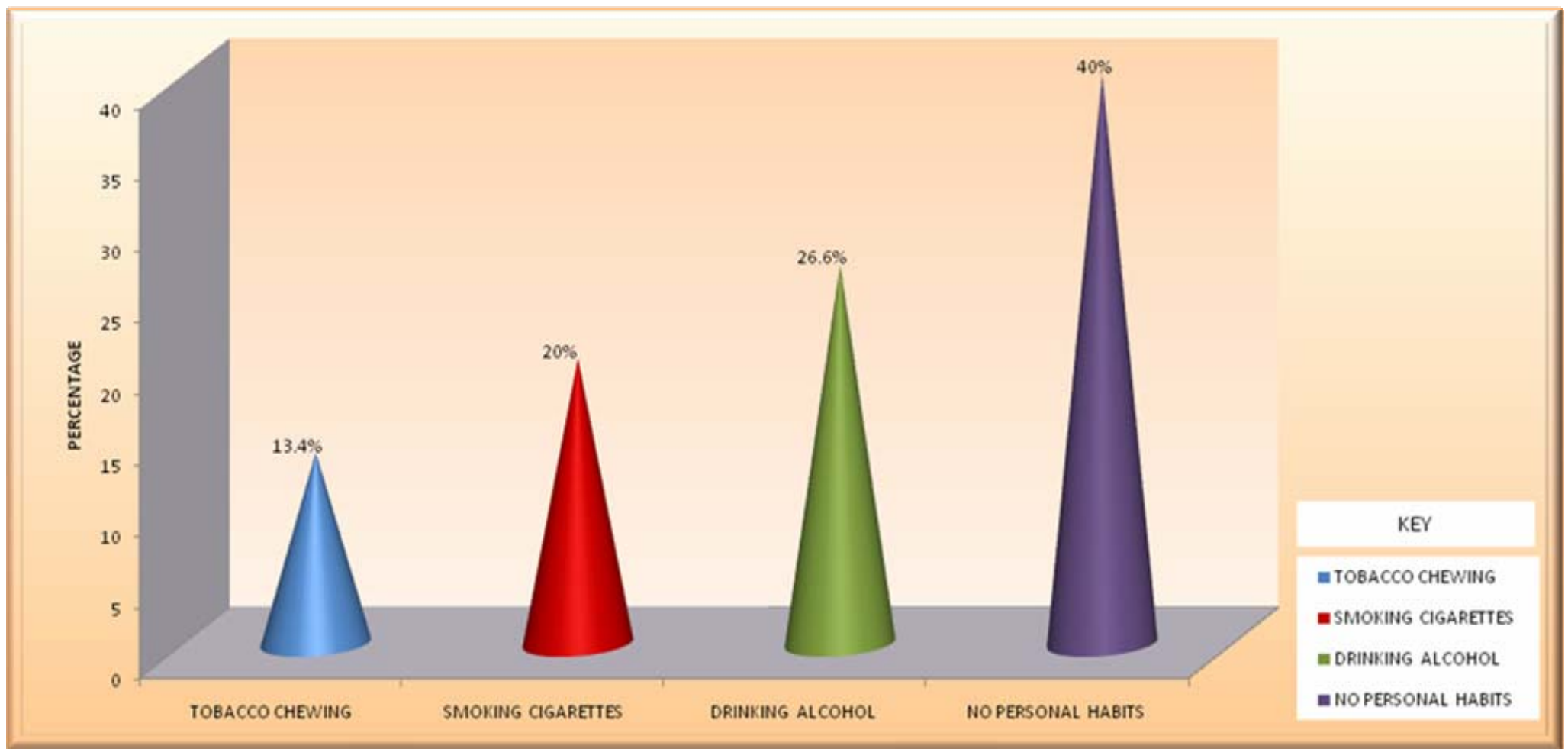
In the end of study the client showed improvement in health status such as maintaining normal body temperature, nutritional status, wound healing, fluid and electrolyte balance, free from complications and improving the coping abilities of clients and family members.



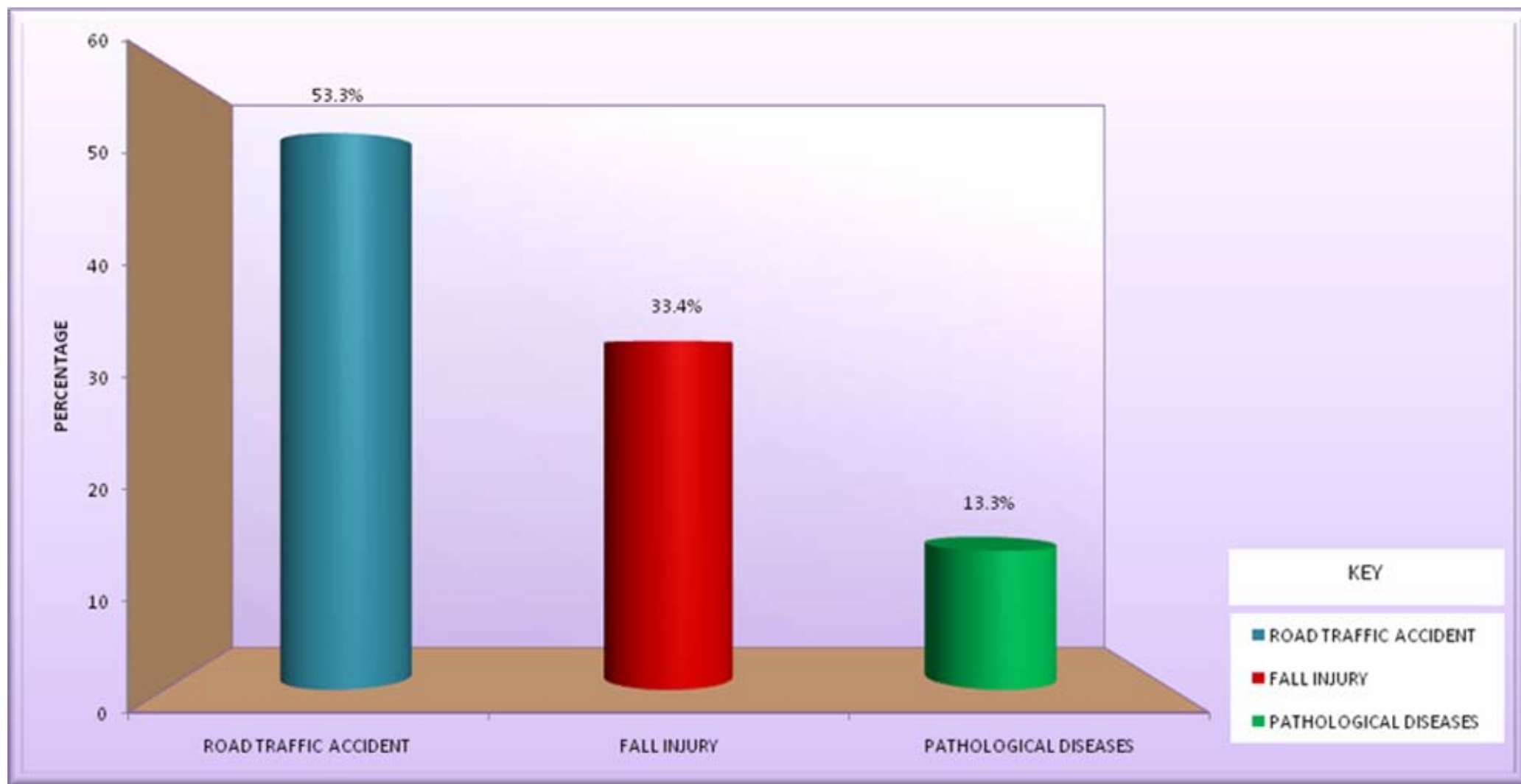
**Figure 4.1 – Percentage distribution on clients with fracture tibia and fibula based on age**



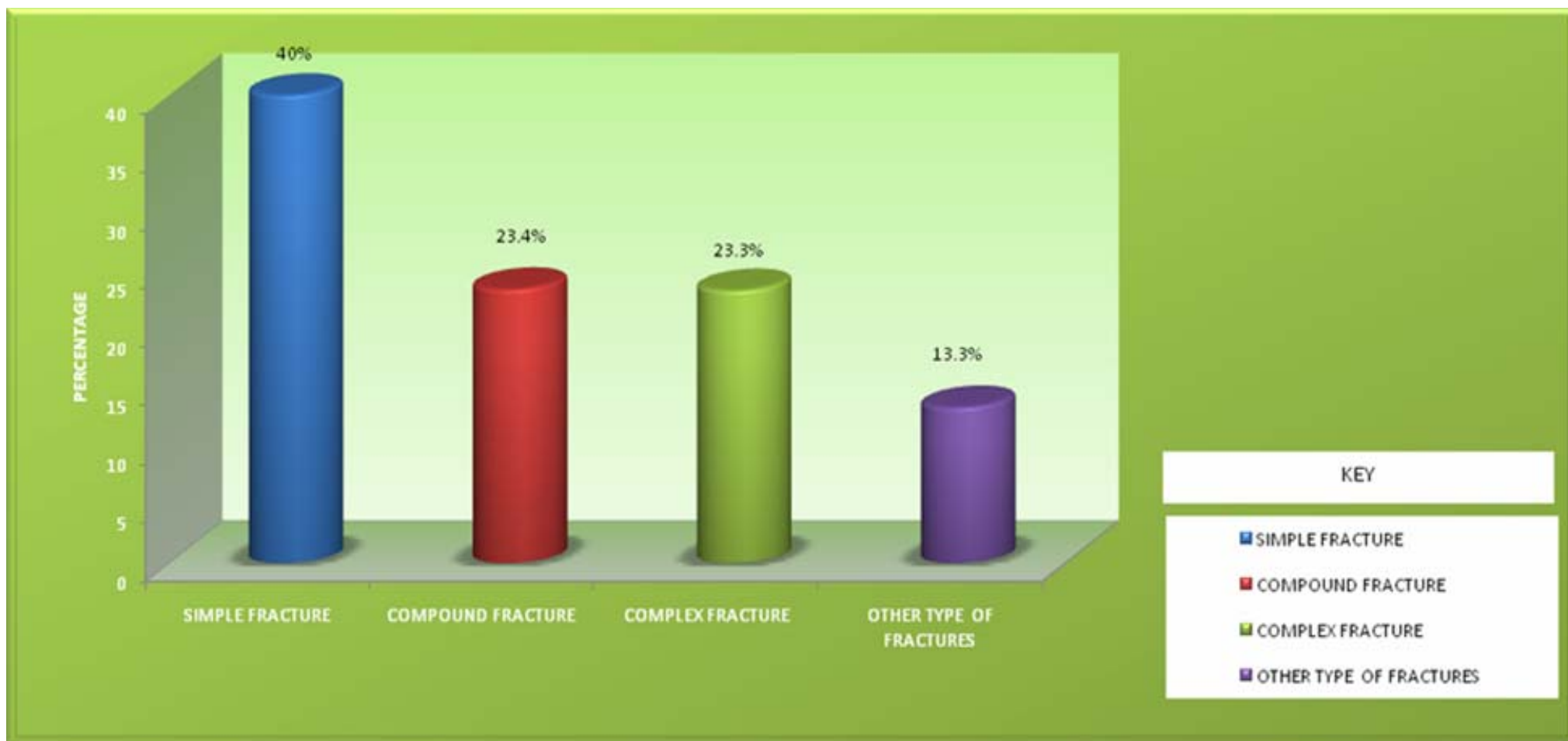
**Figure 4.2 – Percentage distribution on clients with fracture tibia and fibula based on gender**



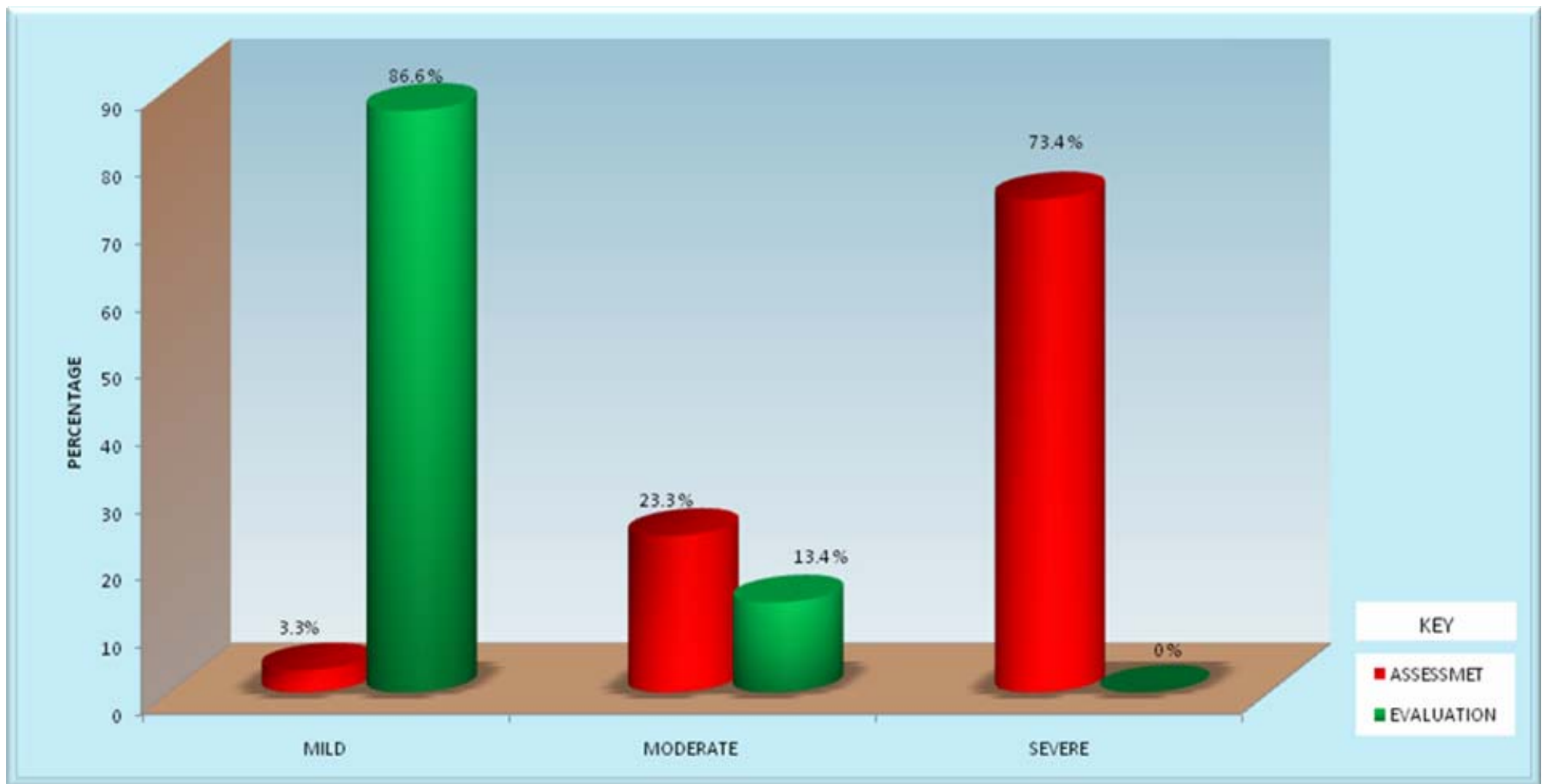
**Figure 4.3 – Percentage distribution on clients with fracture tibia and fibula based on personal habits**



**Figure 4.4 – Percentage distribution on clients with fracture tibia and fibula based on causes of fracture.**



**Figure 4.5 – Percentage distribution on clients with fracture tibia and fibula based on types of fracture**



**Figure 4.6 – Frequency and percentage distribution of health status on clients with fracture tibia and fibula**

## **CHAPTER - V**

### **RESULTS AND DISCUSSION**

The aim of the presents study was to evaluate the effectiveness of nursing care on clients with fracture tibia and fibula. A total number of 30 samples were selected for the main study. On the first day assessment was done by using rating scale and at evaluative day, the evaluation was done by using the rating scale. The results of the study had been discussed according to the objectives of the study, conceptual framework and on related literature.

The pilot study was conducted at Melmaruvathur Adhiparasakthi Institution of Medical Sciences and Research, Melmaruvathur for a period of two weeks. The tool was prepared by the investigator under the guidance of experts and on the basis of objectives which assessed and evaluated, accepted by experts of research committee and which was used for the main study.



## **DISCUSSION OF THE RESULTS WITH OBJECTIVE**

**The first objective was to assess the health status on clients with fracture tibia and fibula**

This study was conducted in ortho ward at Melmaruvathur Adhiparasakthi institute of Medical sciences and Research at Melmaruvathur. 30 clients with fracture tibia and fibula who met the inclusion criteria were included in the study. Each client was assessed with questionnaire for demographic variables, Rating scale with Observational checklist for vital parametric and protocol for nursing interventions.

Each client was related by using with rating scale at the time of evaluation. In assessment 22 (73.4 percent) clients were in poor health and 7 (23.3 percent) clients were in fair health status with mean 44.7 and standard deviation of 6.2.

**The second objective was to evaluate the effectiveness of nursing care on clients with fracture tibia and fibula**

The nursing care as per the protocol provided to each client was observed by using rating scale. Comparison of assessment mean level of 44.7, standard deviation of 6.2 and evaluation mean 23.4, standard deviation of 5.9. The improvement score of sign value is 7 with k value is 9.13. The sign values are compared with k value,  $S < K$ , so it was concluded that nursing care was effective for client with fracture tibia and fibula.

**The third objective was to find out the correlation between selected demographic variables and effectiveness of nursing care on clients with fracture tibia and fibula**

The correlation proved that there was significant correlation between the demographic variables such as age, gender, marital status, educational and occupational status, religion, family income, residential area, health information and effectiveness of nursing care and improvement of health status of clients with fracture tibia and fibula.

The overall findings of the study shows that the nursing care was highly effective in improving health status of clients with fracture tibia and fibula such as maintaining normal body temperature, nutritional status, wound healing, fluid and electrolyte balance, free from complications and improving the coping abilities of clients and family members.

## **CHAPTER - VI**

### **SUMMARY AND CONCLUSION**

The present study was conducted to find out the effectiveness of nursing care on clients with fracture tibia and fibula. The study was descriptive case study design. A total of thirty clients with fracture tibia and fibula who met the inclusion criteria were selected from the inpatients by using the convenient sampling technique.

The objectives of the study was, to assess the health status of clients with fracture tibia and fibula, to evaluate the effectiveness of nursing care on clients with fracture tibia and fibula, to find out the association between demographic variables with the effectiveness of nursing care on clients with fracture tibia and fibula.

The investigator first introduced herself to the clients with developed a rapport with them. After the selection of sample, the nursing care was given. Demographic variables, vital parameters and health status were assessed. The nursing care was given from

the immediate admission to discharge of clients with fracture tibia and fibula.

Assessment out of 30 samples, most of clients had pain, edema, tenderness, paresthesia and as contractures while majority of the clients were male, belong to the age group of 33-42 years.

A well planned nursing interventions are provided such as monitoring of vital parameters, pain management including rest and sleep, comfort devices, relaxation therapy, administration of medication, personal hygiene, maintenance of nutrition, fluid and electrolyte balance, prevention of infection, skin care, wound dressing, care of clients with traction, external fixation and internal fixation, active and passive exercises, early ambulation, maintenance of normal bowel and urinary elimination, change of position and prevention of bed sores and health education.

In end of the study the client showed improvement in health status were maintaining normal body temperature, nutritional status, wound healing, fluid and electrolyte balance, free from

complications and improving the coping abilities of clients and family members.

## **NURSING IMPLICATIONS**

### **NURSING PRACTICE**

This study will promote insight among the nurses to detect certain problems like pain, discomfort, tenderness, swelling, muscles spasms, and full assessment, which will guide them to detect life support measures approximately to prevent further complications, in order to save the life of clients with tibia and fibula fracture. It also meets the challenges among nurses for growing autonomy in decision making capacity to render priority based to the clients at a gives movement

The study protocol can apply the knowledge while rendering care to the clients in collaborative manner. The protocol also provides a standard of care or clinical guidelines which can still be individualized for a specific client, depending on how an institution recommends protocol implementation.

The study implies that the nurse helps the client to regain health through the healing process. Recovery from tibia and fibula fracture is more than just curing specific diseases. Although the treatment skills that promote physical healing are important to care givers, psychological aspect of care also important for the clients. It implies the need for change that has to be introduced by the nursing professionals.

## **NURSING EDUCATION**

Interpretation of theory and practice are vital needs and they are important for nursing education. This study will emphasize among learners to develop observational skills and develop systematic assessment while help to detect the problem and motivate them to render care to the client at acute stage.

Nurses who were working in ortho-ward were expected to have through knowledge in management of clients with fracture, emerging management. Identifications of existing problems need quick assessment skills. Nursing students have to assess the tibia and fibula fracture, client problems and to provide effective experience based care.

Nurse educators, when plan to instruct the students should provide adequate to develop skills in handling the client with fracture tibia and fibula and should demonstrate how to tackle such clients in community and clinical settings.

The study findings suggest that the content of subject should include the views of client with fracture tibia and fibula and its management and prevention of complication.

The present trends in the health care delivery system emphasize that nurse does not select interventions randomly. During deliberations the educator may review available resources such as standardized care plans, critical pathways, procedure manuals and nursing literature.

## **NURSING ADMINISTRATION**

The nursing administration should manage the patient care and the delivery of specific nursing services within the health care agency. The nursing leaders in nursing care come forwarded to undertake health needs of the most vulnerable effective organizations and management. The nursing administrator should



take active part in health policy making, developing protocol, procedures and standing orders related to patients education.

The nursing administration should give attention on the proper selection, placement and effective utilization of the nurse in all areas within the available resources giving importance to their creativity, interest, ability in education of nurses to provide care to the patients.

The nursing administrators on educative role of the nurses should have adequate supervision of nursing services and provide adequate in service education programme on newer management strategies in fracture and handling of advanced technologies should motivate nurses to carry out nursing interventions and improve the standard of nursing care.

## **NURSING RESEARCH**

Nursing today is involved every tissues due to changes in health care delivery system, advancement of technology, development of new discipline in medicine. Nursing need to be developed to study in specific areas of problem encountered by

the patients with fracture tibia and fibula. This study directs the nursing personnel to broaden their horizons, knowledge and skills to elicit problem and to conduct many more research to raise their power to implement prompt care activities.

This study will imply the nurse educator to conduct and motivate learner to select relevant study with all dissemination namely physical, emotional, mental, social, and spiritual changes encountered by patients with tibia and fibula fracture. Utilizations of findings and deviation of knowledge which help to detect ongoing assessment care and technology that made in health care delivery system. By conducting much research, disseminating knowledge will be given a vision for growing in nursing discipline.

## **RECOMMENDATIONS FOR FURTHER STUDY**

Based on the research findings the following recommendations are made,

- Similar study can be conducted with large samples.
- A study can be done to assess the knowledge, attitude and skills of the nurse regarding rehabilitation programmes on patient with fracture tibia and fibula.

- A study can be undertaken to evaluate the knowledge after a planned teaching programme.
- This study can be conducted to assess the effectiveness of nursing care on head injury.
- This study can be conducted to assess the effectiveness of nursing care on modifiable risks factors tibia and fibula among clients with osteoporosis.

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# APPENDIX - I

## SECTION - A

### DEMOGRAPHIC VARIABLES

#### 1. Age in years

- a. 20-30
- b. 31-40
- c. 41-50
- d. above 51

#### 2. Gender

- a. Male
- b. Female

#### 3. Religion

- a. Hindu
- b. Christian
- c. Muslim
- d. Others

#### 4. Educational status

- a. Illiterate
- b. Primary
- c. Secondary
- d. Graduate
- e. Post graduate

#### 5. Occupation

- a. Unemployed
- b. Daily wages
- c. Business
- d. Professional

**6. Family income per month**

- a. Below Rs. 2000
- b. Rs. 2001 to 2500
- c. Rs. 2501 to 3000
- d. Rs. 3001 and above

**7. Marital status**

- a. Unmarried
- b. Married
- c. Widow / Widower
- b. Divorced

**8. Personal habits**

- a. Tobacco chewing
- b. Smoking cigarettes
- c. Drinking alcohol
- d. No personal habits

**9. Residential area**

- a. Rural
- b. Urban

**10. Type of fracture**

- a. Simple fracture
- b. Compound fracture
- c. Complex fracture
- d. Other type of fractures

**11. Causes of fracture**

- a. Road traffic accident
- b. Fall injury
- c. Pathological diseases

**12. Any First aid given**

- a. Yes
- b. No

**13. Co-morbid diseases**

- a. Hypertension
- b. Diabetic mellitus
- c. Asthma
- d. Others

**14. Types of family**

- a. Nuclear family
- b. joint family

**15. Source of information about fracture**

- a. Health personnel
- b. Radio / Television
- c. News Papers / Magazine
- d. Neighbor hood
- e. Others

## APPENDIX – II

### SECTION – B

#### OBSERVATIONAL CHECK LIST ON CLIENTS WITH FRACTURE TIBIA AND FIBULA

S. No	ASSESSMENT	NORMAL	ABNORMAL
1	Temperature	Normal 97°F – 99°F	Abnormal < 97°F > 99°F
2	Pulse	Normal 60 – 100 beats/min	Abnormal < 60 beats/min > 100 beats/min
3	Respiration	Normal 18 – 26 breaths/min	Abnormal > 30 breaths/min
4	Blood pressure	Normal Systolic : 100 – 140 mmHg Diastolic : 60 – 90 mmHg	Abnormal Systolic : <100 – > 140 mmHg Diastolic : <60 – > 90 mmHg
5	Urinary elimination	Normal urine output	Decrease or increase then the normal
6	Bowel pattern	Normal	Diarrhea or constipation

## APPENDIX – III

### SECTION - C

#### STRUCTURED ASSESSMENT RATING SCALE ON CLIENTS WITH FRACTURE TIBIA AND FIBULA.

S. NO	CRITERIA	NO. OF DAYS							
		SCORE	1	2	3	4	5	6	7
1.	<b>Pain</b> a. Mild b. Moderate c. Severe	1 2 3							
2.	<b>Skin colour</b> a. Normal b. Red in colour c. Dark in colour	1 2 3							
3.	<b>Peripheral pulse</b> a. Palpable b. Diminished c. Absence	1 2 3							
4.	<b>Temperature</b> a. Normal b. Warmth c. Chillness	1 2 3							

S.NO	CRITERIA	NO. OF DAYS							
		SCORE	1	2	3	4	5	6	7
5.	<b>Capillary refilling time</b>								
	a. Within seconds	1							
	b. 4 to 6 seconds	2							
	c. 7 seconds	3							
6.	<b>Peripheral blood</b>								
	a. Pink in colour	1							
	b. Pale	2							
	c. Cyanosis	3							
7.	<b>Edema</b>								
	a. No edema	1							
	b. Mild pitting	2							
	c. Deep pitting	3							
8.	<b>Tenderness</b>								
	a. No pain	1							
	b. Pain while touching	2							
	c. Untolerable pain	3							
9.	<b>Crepitus sound</b>								
	a. Absent	1							
	b. Dull sound	2							
	c. Present	3							
10.	<b>Paresthesia</b>								
	a. Absent	1							
	b. Decreased motor and sensory sensation	2							
	c. Loss of motor and sensory sensation	3							

S.NO	CRITERIA	NO. OF DAYS							
		SCORE	1	2	3	4	5	6	7
11.	<b>Muscle strength</b> a. Maximal resistance b. Against c. No contraction	1 2 3							
12.	<b>Range of motion</b> a. Normal b. Restricted c. No movement	1 2 3							
13.	<b>Frequency of Changing position</b> a. < 1 hours b. 1-2 hours c. 2-4 hours	1 2 3							
14.	<b>Hydration</b> a. Mild dehydration b. Moderate dehydration c. Severe dehydration	1 2 3							
15.	<b>Voiding</b> a. Normal b. Dripping c. Voided by catheter	1 2 3							
16.	<b>Shortening of limb</b> a. < 0.5 cm b. 0.6-1 cm c. >1 cm	1 2 3							

S.NO	CRITERIA	NO. OF DAYS							
		SCORE	1	2	3	4	5	6	7
17.	<b>Defomity</b> a. Mild b. Moderate c. Severe	1 2 3							
18.	<b>Skin texture</b> a. Normal b. Dry skin c. Macerated	1 2 3							
19.	<b>Soft tissue contracture</b> a. Normal b. Impaired tone c. Stiffening	1 2 3							
20.	<b>Pressure sores</b> a. Mild b. Moderate c. Severe	1 2 3							



## APPENDIX- IV

### SECTION - D

#### PROTOCOL FOR NURSING CARE ON CLIENTS WITH FRACTURE TIBIA AND FIBULA

S. No	Criteria	Days						
		1	2	3	4	5	6	7
1.	Monitor vital signs							
2.	Pain relieving measures							
3.	Promote rest and comfort							
4.	Meeting hygienic needs							
5.	Maintenance of nutrition							
6.	Maintenance of hydration							
7.	Prevention of infection							
8.	Skin care							
9.	Wound dressing							
10.	Managing the patient in traction							
11.	Managing the patient in external and internal fixation							
12.	Range of motion exercises							
13.	Early ambulation							
14.	Maintenance of normal bowel and bladder pattern							
15.	Prevention of bed sores							
16.	Health education							

## NURSING PROTOCOL ON CLIENTS WITH FRACTURE TIBIA AND FIBULA

S.No	NURSING INTERVENTIONS	RATIONALE
1.	<p><b>Relieves pain:</b></p> <p><b>a)</b> Assess the characteristics of pain.</p> <p><b>b)</b> Elevate and support the affected extremity with extra pillows.</p> <p><b>c)</b> Assess sites for constriction or pressure caused by immobilization.</p> <p><b>d)</b> Use pain modifying strategies like relaxation therapy and administration of analgesics.</p>	<p>Helps to plan for appropriate intervention.</p> <p>Helps to minimize pain and prevent bone displacement and promotes comfort.</p> <p>Helps to prevent skin or neurovascular injury.</p> <p>Helps to relieve pain and promote muscle relaxation.</p>
2.	<p><b>Increased physical mobility</b></p> <p><b>a)</b> Support the affected body part while moving.</p> <p><b>b)</b> Move the injured extremity as little as possible.</p> <p><b>c)</b> Increase activity as tolerated</p> <p><b>d)</b> Teach and assist in exercise program include resistive strengthening exercises</p> <p><b>e)</b> Assist in standing at side of bed using non weight bearing support on affected leg.</p>	<p>Helps to avoid fracture displacement and soft tissue injury.</p> <p>Helps to avoid additional injury.</p> <p>Helps to gradually increase strength</p> <p>Develops strength in all extremities.</p> <p>Helps to increase mobility.</p>

<b>S.No</b>	<b>NURSING INTERVENTIONS</b>	<b>RATIONALE</b>
	f) Instructs to clients about ambulatory training programme	Helps to promote effective re-habilitation
<b>3.</b>	<p><b>Asses for stage of wound healing</b></p> <p>a) Monitor vital signs.</p> <p>b) Perform aseptic dressing changes</p> <p>c) Assess wound apperance and character of drainage.</p> <p>d) Assess and report of pain.</p>	<p>Helps to identify the normal health status.</p> <p>Avoids introducing infectious organisms.</p> <p>Red, swollen, draining incision is indicative of infection.</p> <p>Pain may be due to wound hematoma, a possible focus of infection.</p>
<b>4.</b>	<p><b>Maintain normal nutritional pattern</b></p> <p>a) Asses the nutritional status of the client.</p> <p>b) Provide oral care before meals as needed.</p> <p>c) Assist clients with eating or feed them, as appropriate.</p> <p>d) give easily digested and high fiber diet.</p> <p>e) Provide the client with a high caloric, high protein and nutritious food.</p>	<p>Helps to identify base line data.</p> <p>A clean mouth improves taste sensation.</p> <p>Clients who are unable to feed themselves should be feed to maintain adequate nutrition</p> <p>Helps to maintain normal regularity.</p> <p>Monotony with a diminished appetite need reminds and encouragement to consume adequate nutrition.</p>

S.No	NURSING INTERVENTIONS	RATIONALE
5.	<p><b>Maintain normal urinary elimination pattern.</b></p> <p>a) Monitor intake and output.</p> <p>b) Avoid/ minimize use of indwelling catheter.</p> <p>c) Provide privacy for elimination.</p>	<p>Adequate fluid intake ensures hydration.</p> <p>Adequate fluid intake ensures hydration source of bladder infection.</p> <p>Avoid voiding resistance</p>
6.	<p><b>Prevention of pressure ulcers</b></p> <p>a) Monitor condition of skin at pressure points. Inspect heels at least twice a day.</p> <p>b) Reposition the client at least every 2 hours.</p> <p>c) Skin care especially to pressure points.</p> <p>d) Use special care mattress and other protective devices support heel of the matters.</p>	<p>Avoid prolonged pressure and trauma to the skin</p> <p>Immobility causes, pressure at bony prominence position, changes relieves pressure.</p> <p>Devices minimize pressure on skin at bony prominences.</p>
7.	<p><b>Managing the patient in effective traction.</b></p> <p>a) Ensues that weight hand freely from pulleys.</p> <p>b) Ensures that knots in the rope do not catch in the pulleys.</p> <p>c) Add and remove weight slowly with physicians order.</p> <p>d) Assess skin at pin site daily or bid for signs of infection.</p>	<p>If weight rest on the bed or floor, traction is not effective.</p> <p>Traction is not effective when knots catch in pulleys.</p> <p>Slow steady pull reduce muscle spasm.</p> <p>Infection can develop in sites.</p>

## **APPENDIX – V**

### **NURSING PROCESS**

#### **NURSING DIAGNOSIS**

1. Acute pain related to tissue trauma secondary to movement of bone fragments, muscle spasm as evidenced by behavior indication of pain, pain descriptors, such as restlessness, autonomic response, and decreased activity.
2. Impaired physical mobility related to decreased muscle strength secondary to fracture as evidence by inability to move.
3. Imbalanced nutrition less than body requirement related to immobility secondary to fracture as evidence by less in take of food, weight loss.
4. Self care deficit related to activity restriction secondary to immobility as evidence by poor personal hygiene.
5. Sleep pattern disturbance insomnia related to presence of pain and hospitalization secondary to immobilization as evidence by irritability and restlessness.
6. Impaired bowel pattern constipation related to immobility secondary to fracture as evidence by abdominal distension.

7. Risk for infection related to disruption of skin integrity and presence of environmental pathogens secondary to open fracture or external fixation pins as evidence by increased body temperature.
8. High risk for impaired skin integrity related to immobility and presence of traction or external fixation secondary to fracture as evidence by presence of edema.
9. Potential for complications such as fat embolism, hemorrhage and thrombo- embolism.

## NURSING PROCESS ON CLIENTS WITH FRACTURE TIBIA AND FIBILA

S.No	Assessment	Nursing diagnosis	Goal	Interventions	Implementation	Rational	Evaluation
1.	<p><b><u>Subjective data:</u></b> The clients complaint of severe pain.</p> <p><b><u>Objective data:</u></b> The client looks restless and increased pulse rate</p>	Acute pain related to tissue trauma secondary to movement of bone fragments, muscle spasm as evidenced by behavior indication of pain, pain descriptors, such as restlessness, autonomic response, decreased activity.	The client will report progressive reduction of pain	<ul style="list-style-type: none"> <li>➤ Monitor the character, location &amp; effectiveness of pain relief measures</li> <li>➤ Gently and correctly position fracture extremity</li> <li>➤ Assist site for construction or pressure caused by immobilization</li> <li>➤ Elevate and support affected extremity</li> <li>➤ Administer analgesics or muscle relaxant as per order.</li> </ul>	<p>Patient had severe pain</p> <p>Positioned the fracture extremity.</p> <p>Assessed site for construction and pressure.</p> <p>Elevated and supported affected extremity.</p> <p>Administered analgesics.</p>	<p>Helps to assess the level of pain</p> <p>Helps to minimize pain &amp; prevent bone displacement.</p> <p>Helps t to prevent the skin and vascular injury.</p> <p>Helps to reduce edema and promote comfort.</p> <p>Helps to relieve pain and promote muscle relaxation.</p>	The client satisfied with pain relief

S.No	Assessment	Nursing diagnosis	Goal	Interventions	Implementation	Rational	Evaluation
2.	<p><b><u>Subjective data:</u></b> The clients complaints of inability to move his extremities</p> <p><b><u>Objective data:</u></b> The client with external fixation. Restricted movement.</p>	Impaired physical mobility related to decreased muscle strength secondary to fracture as evidence by inability to move	The clients will maintain normal physical mobility.	<ul style="list-style-type: none"> <li>➤ Co-operate with physical therapist in muscle strengthening program.</li> <li>➤ Teach &amp; assist in exercise program include resistive strengthening exercise</li> <li>➤ Increase activities as tolerated</li> <li>➤ Assist client in standing at side of bed using non-weight bearing support on affected leg</li> <li>➤ Instruct client about ambulatory training program</li> </ul>	<p>Co-operated with physical therapist.</p> <p>Assisted in exercise program</p> <p>Increased activities.</p> <p>Assisted client in standing at side of bed.</p> <p>Instructed client about ambulatory training program</p>	<p>Helps to maximize patient's progress in rehabilitation.</p> <p>Develops strength in all extremities.</p> <p>Helps to gradually increase strength</p> <p>Helps to increase mobility.</p> <p>Helps to promote effective rehabilitation</p>	The client maintained normal physical mobility.



S.No	Assessment	Nursing diagnosis	Goal	Interventions	Implementation	Rational	Evaluation
3.	<p><b><u>Subjective data:</u></b> The clients complaints of loss of appetite</p> <p><b><u>Objective data:</u></b> The clients has reduced body weight fatigue.</p>	Imbalanced nutrition less than body requirement related to immobility secondary to fracture as evidence by less in take of food, weight loss.	The client's nutritional status will improve	<ul style="list-style-type: none"> <li>➤ Assess the nutritional status of the client</li> <li>➤ Keep nil per oral till tolerated</li> <li>➤ Plan menu according to the like and dislikes of the client</li> <li>➤ Provide diet rich in proteins and vitamin-c</li> <li>➤ Provide high fiber diet</li> <li>➤ Provide small and frequent interval</li> </ul>	<p>Loss of body weight, moderate body built.</p> <p>Kept nil per oral till tolerated</p> <p>Planed menu according to the like and dislikes</p> <p>Provided diet rich in proteins and vitamin-c</p> <p>Provided higher fiber diet</p> <p>Provided small and frequent interval</p>	<p>It helps to know the nutritional status of the client</p> <p>It improves the client's desire to eat</p> <p>It strength the client to fight against infections</p> <p>It improves the nutritional status &amp; wound healing</p> <p>It improve the bowel motility</p> <p>It improves the appetite</p>	The client's normal nutritional status was maintained.

S.No	Assessment	Nursing diagnosis	Goal	Interventions	Implementation	Rational	Evaluation
4.	<p><u>Subjective data:</u> The clients complaint of pain and not able to perform daily activities</p> <p><u>Objective data:</u> The client looks tired and weak.</p>	Self care deficit related to activity restriction secondary to immobility as evidence by poor personal hygiene activities	The client's self activity will improve	<ul style="list-style-type: none"> <li>➤ Provide all hygienic care to the client</li> <li>➤ Assist with clean in activities within limit</li> <li>➤ Encourage active exercise</li> <li>➤ Provides high nutritive diet as prescribed</li> <li>➤ Encouraging resuming daily activities within normal limit monitor basic care char</li> </ul>	<p>Provided all hygienic care to the client</p> <p>Assisted with cleaning activities</p> <p>Encouraged active exercise</p> <p>Provided high nutritive diet as prescribed</p> <p>Encouraged resuming daily activities</p>	<p>It improve sense of well being</p> <p>Improves confidence</p> <p>It promotes self care</p> <p>It provides needed energy</p> <p>It promotes self care</p>	The client satisfied with self care activity measures

S.No	Assessment	Nursing diagnosis	Goal	Interventions	Implementation	Rational	Evaluation
5.	<p><u>Subjective data:</u> The clients complaint of distributed sleep</p> <p><u>Objective data:</u> The client looks anxious and dark circle around eyes</p>	Sleep pattern disturbance insomnia related to presence of pain and hospitalization secondary to immobilization as evidence by irritability and restlessness.	The client's sleeping pattern will improved	<ul style="list-style-type: none"> <li>➤ Provide relaxation technique like meditation and warm water bath</li> <li>➤ Plan physical exercise during the day &amp; non stimulant activities in evening</li> <li>➤ Provide calm and quite environment</li> <li>➤ Administer drugs as per order</li> <li>➤ Provide psychological support to reduce anxiety &amp; fear</li> </ul>	<p>Provided relaxation technique</p> <p>Planned physical exercise</p> <p>Provided calm and quite environment</p> <p>Administered drugs as per order</p> <p>Provided psychological support</p>	<p>It helps to improve sleeping pattern</p> <p>Activity increases the need for sleep</p> <p>Improve sleeping pattern</p> <p>Reduce insomnia</p> <p>It helps to improve sleep</p>	The client's sleeping pattern was attain normal

S.No	Assessment	Nursing diagnosis	Goal	Interventions	Implementation	Rational	Evaluation
6.	<p><u>Subjective data:</u> The clients complaints of loss of appetite</p> <p><u>Objective data:</u> Decreased bowel sounds  Hard abdomen</p>	Impaired bowel pattern constipation related to immobility secondary to fracture as evidence by abdominal distension.	The client's bowel pattern will improve	<ul style="list-style-type: none"> <li>➤ Monitor diet pattern, its type and amount</li> <li>➤ Auscultate bowel sounds</li> <li>➤ Advise to take 3000ml of fluid per day</li> <li>➤ Teach about passive leg exercise</li> <li>➤ Administer stool softness as prescribed</li> <li>➤ Provide privacy &amp; adequate time for defecation</li> </ul>	<p>Monitored diet pattern, its type and amount</p> <p>Auscultated bowel sounds</p> <p>Advised to take 3000ml of fluid per day</p> <p>Teached about passive leg exercise</p> <p>Administered stool softness as prescribed</p> <p>Provided privacy &amp; adequate time for defecation</p>	<p>It enhance further planning</p> <p>It detect paralytic illness</p> <p>It softening the stool</p> <p>It promotes peristalsis</p> <p>It soften the hard stool</p> <p>It enhances complete emptying of bowel</p>	The client passed stool

S.No	Assessment	Nursing diagnosis	Goal	Interventions	Implementation	Rational	Evaluation
7.	<p><u>Subjective data:</u> Clients complaints of pain in the wound area</p> <p><u>Objective data:</u> Increased body temperature and Oozing from wound site</p>	Risk for infection related to disruption of skin integrity and presence of environmental pathogens secondary to open fracture or external fixation pins as evidence by increased body temperature.	Client will have no evidence of infection	<ul style="list-style-type: none"> <li>➤ Assess fracture points for blistering, discoloration, frothy drainage</li> <li>➤ Use sterile technique when providing wound care</li> <li>➤ Obtain culture of wound if infection is suspected</li> <li>➤ Administer antibiotics as ordered</li> <li>➤ Monitor temperature every second hourly</li> </ul>	<p>Assessed fracture points</p> <p>Used sterile technique</p> <p>Obtained culture for wound</p> <p>Administered antibiotics as ordered</p> <p>Monitor temperature every second hours</p>	<p>As indicators of infection</p> <p>Helps to prevent cross-infection</p> <p>Helps to identify infective organisms</p> <p>Helps to provide prophylaxis or treatment of diagnosed infection</p>	No signs of infection was observe

S.No	Assessment	Nursing diagnosis	Goal	Interventions	Implementation	Rational	Evaluation
8.	<p><u>Subjective data:</u> The clients complaints of pain</p> <p><u>Objective data:</u> The client gesture shows pain during mobilization</p>	High risk for impaired skin integrity related to immobility and presence of traction or external fixation secondary to fracture as evidence by presence of edema.	The client's skin integrity will improve	<ul style="list-style-type: none"> <li>➤ Examine potential pressure areas regularly</li> <li>➤ Turn patients every second hourly</li> <li>➤ Keep bed free of wrinkles</li> <li>➤ Assess exposed skin areas of traction sites for signs of infection or irritation</li> <li>➤ Seek medical attention if cast becomes loose to</li> <li>➤ Instruct clients not to insert items into cast such as hangers</li> </ul>	<p>Examined pressure areas</p> <p>Turning schedule was followed</p> <p>Kept bed free of wrinkles</p> <p>Assessed exposed skin areas of traction</p> <p>Observed cast in position</p> <p>Instructed clients about importance of cast.</p>	<p>Helps to provide data on conditions of skin.</p> <p>Helps to reduce pressure over honey prominences</p> <p>Helps to reduce risk of skin abrasions, tears irritation.</p> <p>Because of improper positioning of traction device can cause localized pain breakdown.</p> <p>Helps to prevent rotational, flexion or skin abrasion</p> <p>Because these may cause tissue injury</p>	The client compliance with early mobilization

S.No	Assessment	Nursing diagnosis	Goal	Interventions	Implementation	Rational	Evaluation
9.	<u>Subjective data:</u>  <u>Objective data:</u>	Potential for complications such as hemorrhage fat embolism and Hemorrhage/ Thrombo-embolism	The nurse will detect, manage and minimize complication of fracture	<ul style="list-style-type: none"> <li>➤ Monitor vital signs and symptoms of neuromuscular compromise, compartmental syndrome like, <ul style="list-style-type: none"> <li>• Diminished pulse rate</li> <li>• Capillary refill time exceeding 3 seconds</li> <li>• Pallor cold skin</li> </ul> </li> <li>➤ Instruct to report unusual new or different sensations , decreased ability to move toes</li> <li>➤ Minimize movement of a fractured extremity for the first 3 days after the injury</li> <li>➤ In leg fracture, encourage exercise of the unaffected leg.</li> </ul>	<p>Monitored vital signs</p> <p>Instructed to report unusual sensations</p> <p>Minimized movement of a fractured extremity</p> <p>Encouraged exercise of the unaffected leg.</p>	<p>Trauma causes tissue edema &amp; blood loss which reduce tissue perfusion</p> <p>Early deduction of compromise can prevent serious impairment</p> <p>Immobilization minimize further tissue trauma and reduce the risk of embolism dislodgment. Helps to prevent venous stasis</p>	Reduced complications such as hemorrhage and fat embolism

## **APPENDIX-VI CASE ANALYSIS**

### **SAMPLE: 1**

**Age:** 48 years

**gender:** Male

**Diagnosis;** Right side tibial fracture.

**Treatment:** External fixation.

#### **Nursing intervention:**

The client was admitted in ortho ward, all investigations were done. Vital signs were assessed and recorded. On the assessment day the score was 47/60. Injection tetanous toxoid was given. After explaining the nursing care procedures to the clients and relatives, the initial assessment was done with structured assessment tool and nursing interventions were started. The client was given with pain relieving measures, maintained hygienic, nutrition needs and hydration status, prevention of infection, skin care, wound dressing, range of motion exercises, early ambulation, maintained bowel and bladder patten and prevention of bed sores. Health education and counseling were provided. The client's health status was improved.



## **SAMPLE: 2**

**Age:** 30 years

**Gender:** Female

**Diagnosis:** Left side fibula fracture

**Treatment:** External fixation

### **Nursing intervention:**

The client was admitted in ortho ward, all investigations were done. Vital signs were assessed and recorded. On the assessment day the score was 47/60. Injection tetanous toxoid was given. After explaining the nursing care procedures to the clients and relatives, the initial assessment was done with structured assessment tool and nursing interventions were started. The client was given with pain relieving measures, maintained hygienic, nutrition needs and hydration status, prevention of infection, skin care, wound dressing, range of motion exercises, early ambulation, maintained bowel and bladder patten and prevention of bed sores. Health education and counseling were provided. The client's health status was improved.

### **SAMPLE: 3**

**Age:** 39 years

**Gender:** Male

**Diagnosis:** Left side tibia fracture

**Treatment:** External fixation

#### **Nursing intervention:**

The client was admitted in ortho ward, all investigations were done. Vital signs were assessed and recorded. On the assessment day the score was 47/60. Injection tetanous toxoid was given. After explaining the nursing care procedures to the clients and relatives, the initial assessment was done with structured assessment tool and nursing interventions were started. The client was given with pain relieving measures, maintained hygienic, nutrition needs and hydration status, prevention of infection, skin care, wound dressing, range of motion exercises, early ambulation, maintained bowel and bladder patten and prevention of bed sores. Health education and counseling were provided. The client's health status was improved.

## **SAMPLE: 4**

**Age:** 45 years

**Gender:** Male

**Diagnosis:** Right side tibial fracture

**Treatment:** External fixation

### **Nursing intervention:**

The client was admitted in ortho ward, all investigations were done. Vital signs were assessed and recorded. On the assessment day the score was 47/60. Injection tetanous toxoid was given. After explaining the nursing care procedures to the clients and relatives, the initial assessment was done with structured assessment tool and nursing interventions were started. The client was given with pain relieving measures, maintained hygienic, nutrition needs and hydration status, prevention of infection, skin care, wound dressing, range of motion exercises, early ambulation, maintained bowel and bladder patten and prevention of bed sores. Health education and counseling were provided. The client's health status was improved.

## **SAMPLE: 5**

**Age:** 29 years

**Gender:** Female

**Diagnosis:** Left side tibia fracture

**Treatment:** Internal fixation

### **Nursing intervention:**

The client was admitted in ortho ward, all investigations were done. Vital signs were assessed and recorded. On the assessment day the score was 47/60. Injection tetanous toxoid was given. After explaining the nursing care procedures to the clients and relatives, the initial assessment was done with structured assessment tool and nursing interventions were started. The client was given with pain relieving measures, maintained hygienic, nutrition needs and hydration status, prevention of infection, skin care, wound dressing, range of motion exercises, early ambulation, maintained bowel and bladder patten and prevention of bed sores. Health education and counseling were provided. The client's health status was improved.

## **SAMPLE: 6**

**Age:** 32 years

**Gender:** Female

**Diagnosis:** Right side tibia fracture

**Treatment:** Internal fixation

### **Nursing intervention:**

The client was admitted in ortho ward, all investigations were done. Vital signs were assessed and recorded. On the assessment day the score was 47/60. Injection tetanous toxoid was given. After explaining the nursing care procedures to the clients and relatives, the initial assessment was done with structured assessment tool and nursing interventions were started. The client was given with pain relieving measures, maintained hygienic, nutrition needs and hydration status, prevention of infection, skin care, wound dressing, range of motion exercises, early ambulation, maintained bowel and bladder patten and prevention of bed sores. Health education and counseling were provided. The client's health status was improved.

## **SAMPLE: 7**

**Age:** 27 years

**Gender:** Male

**Diagnosis:** Right side fibula fracture

**Treatment:** External fixation

### **Nursing intervention:**

The client was admitted in ortho ward, all investigations were done. Vital signs were assessed and recorded. On the assessment day the score was 47/60. Injection tetanous toxoid was given. After explaining the nursing care procedures to the clients and relatives, the initial assessment was done with structured assessment tool and nursing interventions were started. The client was given with pain relieving measures, maintained hygienic, nutrition needs and hydration status, prevention of infection, skin care, wound dressing, range of motion exercises, early ambulation, maintained bowel and bladder patten and prevention of bed sores. Health education and counseling were provided. The client's health status was improved.

## **SAMPLE: 8**

**Age:** 32 years

**Gender:** Male

**Diagnosis:** Left side fibula fracture

**Treatment:** Internal fixation

### **Nursing intervention:**

The client was admitted in ortho ward, all investigations were done. Vital signs were assessed and recorded. On the assessment day the score was 47/60. Injection tetanous toxoid was given. After explaining the nursing care procedures to the clients and relatives, the initial assessment was done with structured assessment tool and nursing interventions were started. The client was given with pain relieving measures, maintained hygienic, nutrition needs and hydration status, prevention of infection, skin care, wound dressing, range of motion exercises, early ambulation, maintained bowel and bladder patten and prevention of bed sores. Health education and counseling were provided. The client's health status was improved.

## **SAMPLE: 9**

**Age:** 34 years

**Gender:** Female

**Diagnosis:** Left side tibial fracture

**Treatment:** Internal fixation

### **Nursing intervention:**

The client was admitted in ortho ward, all investigations were done. Vital signs were assessed and recorded. On the assessment day the score was 47/60. Injection tetanous toxoid was given. After explaining the nursing care procedures to the clients and relatives, the initial assessment was done with structured assessment tool and nursing interventions were started. The client was given with pain relieving measures, maintained hygienic, nutrition needs and hydration status, prevention of infection, skin care, wound dressing, range of motion exercises, early ambulation, maintained bowel and bladder patten and prevention of bed sores. Health education and counseling were provided. The client's health status was improved.



## **SAMPLE: 10**

**Age:** 36 years

**Gender:** Male

**Diagnosis:** Left side fibula fracture

**Treatment:** Internal fixation

### **Nursing intervention:**

The client was admitted in ortho ward, all investigations were done. Vital signs were assessed and recorded. On the assessment day the score was 47/60. Injection tetanous toxoid was given. After explaining the nursing care procedures to the clients and relatives, the initial assessment was done with structured assessment tool and nursing interventions were started. The client was given with pain relieving measures, maintained hygienic, nutrition needs and hydration status, prevention of infection, skin care, wound dressing, range of motion exercises, early ambulation, maintained bowel and bladder patten and prevention of bed sores. Health education and counseling were provided. The client's health status was improved.

## **SAMPLE: 11**

**Age:** 42 years

**Gender:** Male

**Diagnosis:** Right side fibula fracture

**Treatment:** External fixation

### **Nursing intervention:**

The client was admitted in ortho ward, all investigations were done. Vital signs were assessed and recorded. On the assessment day the score was 47/60. Injection tetanous toxoid was given. After explaining the nursing care procedures to the clients and relatives, the initial assessment was done with structured assessment tool and nursing interventions were started. The client was given with pain relieving measures, maintained hygienic, nutrition needs and hydration status, prevention of infection, skin care, wound dressing, range of motion exercises, early ambulation, maintained bowel and bladder patten and prevention of bed sores. Health education and counseling were provided. The client's health status was improved.

## **SAMPLE: 12**

**Age:** 51 years

**Gender:** Male

**Diagnosis:** Right side tibial fracture

**Treatment:** Internal fixation

### **Nursing intervention:**

The client was admitted in ortho ward, all investigations were done. Vital signs were assessed and recorded. On the assessment day the score was 47/60. Injection tetanous toxoid was given. After explaining the nursing care procedures to the clients and relatives, the initial assessment was done with structured assessment tool and nursing interventions were started. The client was given with pain relieving measures, maintained hygienic, nutrition needs and hydration status, prevention of infection, skin care, wound dressing, range of motion exercises, early ambulation, maintained bowel and bladder patten and prevention of bed sores. Health education and counseling were provided. The client's health status was improved.

## **SAMPLE: 13**

**Age:** 29 years

**Gender:** Female

**Diagnosis:** Right side fibula fracture

**Treatment:** Internal fixation

### **Nursing intervention:**

The client was admitted in ortho ward, all investigations were done. Vital signs were assessed and recorded. On the assessment day the score was 47/60. Injection tetanous toxoid was given. After explaining the nursing care procedures to the clients and relatives, the initial assessment was done with structured assessment tool and nursing interventions were started. The client was given with pain relieving measures, maintained hygienic, nutrition needs and hydration status, prevention of infection, skin care, wound dressing, range of motion exercises, early ambulation, maintained bowel and bladder patten and prevention of bed sores. Health education and counseling were provided. The client's health status was improved.

## **SAMPLE: 14**

**Age:** 34 years

**Gender:** Female

**Diagnosis:** Left side fibula fracture

**Treatment:** External fixation

### **Nursing intervention:**

The client was admitted in ortho ward, all investigations were done. Vital signs were assessed and recorded. On the assessment day the score was 47/60. Injection tetanous toxoid was given. After explaining the nursing care procedures to the clients and relatives, the initial assessment was done with structured assessment tool and nursing interventions were started. The client was given with pain relieving measures, maintained hygienic, nutrition needs and hydration status, prevention of infection, skin care, wound dressing, range of motion exercises, early ambulation, maintained bowel and bladder patten and prevention of bed sores. Health education and counseling were provided. The client's health status was improved.

## **SAMPLE: 15**

**Age:** 38 years

**Gender:** Female

**Diagnosis:** Left side tibia fracture

**Treatment:** Internal fixation

### **Nursing intervention:**

The client was admitted in ortho ward, all investigations were done. Vital signs were assessed and recorded. On the assessment day the score was 47/60. Injection tetanous toxoid was given. After explaining the nursing care procedures to the clients and relatives, the initial assessment was done with structured assessment tool and nursing interventions were started. The client was given with pain relieving measures, maintained hygienic, nutrition needs and hydration status, prevention of infection, skin care, wound dressing, range of motion exercises, early ambulation, maintained bowel and bladder patten and prevention of bed sores. Health education and counseling were provided. The client's health status was improved.

## **SAMPLE: 16**

**Age:** 27 years

**Gender:** Male

**Diagnosis:** Right side tibia fracture

**Treatment:** External fixation

### **Nursing intervention:**

The client was admitted in ortho ward, all investigations were done. Vital signs were assessed and recorded. On the assessment day the score was 47/60. Injection tetanous toxoid was given. After explaining the nursing care procedures to the clients and relatives, the initial assessment was done with structured assessment tool and nursing interventions were started. The client was given with pain relieving measures, maintained hygienic, nutrition needs and hydration status, prevention of infection, skin care, wound dressing, range of motion exercises, early ambulation, maintained bowel and bladder patten and prevention of bed sores. Health education and counseling were provided. The client's health status was improved.

## **SAMPLE: 17**

**Age:** 49 years

**Gender:** Male

**Diagnosis:** Right side fibula fracture

**Treatment:** External fixation

### **Nursing intervention:**

The client was admitted in ortho ward, all investigations were done. Vital signs were assessed and recorded. On the assessment day the score was 47/60. Injection tetanous toxoid was given. After explaining the nursing care procedures to the clients and relatives, the initial assessment was done with structured assessment tool and nursing interventions were started. The client was given with pain relieving measures, maintained hygienic, nutrition needs and hydration status, prevention of infection, skin care, wound dressing, range of motion exercises, early ambulation, maintained bowel and bladder patten and prevention of bed sores. Health education and counseling were provided. The client's health status was improved.



## **SAMPLE: 18**

**Age:** 51 years

**Gender:** Female

**Diagnosis:** Right side fibula fracture

**Treatment:** Internal fixation

### **Nursing intervention:**

The client was admitted in ortho ward, all investigations were done. Vital signs were assessed and recorded. On the assessment day the score was 47/60. Injection tetanous toxoid was given. After explaining the nursing care procedures to the clients and relatives, the initial assessment was done with structured assessment tool and nursing interventions were started. The client was given with pain relieving measures, maintained hygienic, nutrition needs and hydration status, prevention of infection, skin care, wound dressing, range of motion exercises, early ambulation, maintained bowel and bladder patten and prevention of bed sores. Health education and counseling were provided. The client's health status was improved.

## **SAMPLE: 19**

**Age:** 49 years

**Gender:** Male

**Diagnosis:** Right side tibia fracture

**Treatment:** External fixation

### **Nursing intervention:**

The client was admitted in ortho ward, all investigations were done. Vital signs were assessed and recorded. On the assessment day the score was 47/60. Injection tetanous toxoid was given. After explaining the nursing care procedures to the clients and relatives, the initial assessment was done with structured assessment tool and nursing interventions were started. The client was given with pain relieving measures, maintained hygienic, nutrition needs and hydration status, prevention of infection, skin care, wound dressing, range of motion exercises, early ambulation, maintained bowel and bladder patten and prevention of bed sores. Health education and counseling were provided. The client's health status was improved.

## **SAMPLE: 20**

**Age:** 25 years

**Gender:** Female

**Diagnosis:** Left side tibia fracture

**Treatment:** Internal fixation

### **Nursing intervention:**

The client was admitted in ortho ward, all investigations were done. Vital signs were assessed and recorded. On the assessment day the score was 47/60. Injection tetanous toxoid was given. After explaining the nursing care procedures to the clients and relatives, the initial assessment was done with structured assessment tool and nursing interventions were started. The client was given with pain relieving measures, maintained hygienic, nutrition needs and hydration status, prevention of infection, skin care, wound dressing, range of motion exercises, early ambulation, maintained bowel and bladder patten and prevention of bed sores. Health education and counseling were provided. The client's health status was improved.

## **SAMPLE: 21**

**Age:** 36 years

**Gender:** Female

**Diagnosis:** Right side tibia fracture

**Treatment:** Internal fixation

### **Nursing intervention:**

The client was admitted in ortho ward, all investigations were done. Vital signs were assessed and recorded. On the assessment day the score was 47/60. Injection tetanous toxoid was given. After explaining the nursing care procedures to the clients and relatives, the initial assessment was done with structured assessment tool and nursing interventions were started. The client was given with pain relieving measures, maintained hygienic, nutrition needs and hydration status, prevention of infection, skin care, wound dressing, range of motion exercises, early ambulation, maintained bowel and bladder patten and prevention of bed sores. Health education and counseling were provided. The client's health status was improved.

## **SAMPLE: 22**

**Age:** 53 years

**Gender:** Male

**Diagnosis:** Right side fibula fracture

**Treatment:** External fixation

### **Nursing intervention:**

The client was admitted in ortho ward, all investigations were done. Vital signs were assessed and recorded. On the assessment day the score was 47/60. Injection tetanous toxoid was given. After explaining the nursing care procedures to the clients and relatives, the initial assessment was done with structured assessment tool and nursing interventions were started. The client was given with pain relieving measures, maintained hygienic, nutrition needs and hydration status, prevention of infection, skin care, wound dressing, range of motion exercises, early ambulation, maintained bowel and bladder patten and prevention of bed sores. Health education and counseling were provided. The client's health status was improved.

## **SAMPLE: 23**

**Age:** 31 years

**Gender:** Female

**Diagnosis:** Left side tibial fracture

**Treatment:** External fixation

### **Nursing intervention:**

The client was admitted in ortho ward, all investigations were done. Vital signs were assessed and recorded. On the assessment day the score was 47/60. Injection tetanous toxoid was given. After explaining the nursing care procedures to the clients and relatives, the initial assessment was done with structured assessment tool and nursing interventions were started. The client was given with pain relieving measures, maintained hygienic, nutrition needs and hydration status, prevention of infection, skin care, wound dressing, range of motion exercises, early ambulation, maintained bowel and bladder patten and prevention of bed sores. Health education and counseling were provided. The client's health status was improved.

## **SAMPLE: 24**

**Age:** 23 years

**Gender:** Female

**Diagnosis:** Right side tibial fracture

**Treatment:** Internal fixation

### **Nursing intervention:**

The client was admitted in ortho ward, all investigations were done. Vital signs were assessed and recorded. On the assessment day the score was 47/60. Injection tetanous toxoid was given. After explaining the nursing care procedures to the clients and relatives, the initial assessment was done with structured assessment tool and nursing interventions were started. The client was given with pain relieving measures, maintained hygienic, nutrition needs and hydration status, prevention of infection, skin care, wound dressing, range of motion exercises, early ambulation, maintained bowel and bladder patten and prevention of bed sores. Health education and counseling were provided. The client's health status was improved.

## **SAMPLE: 25**

**Age:** 32 years

**Gender:** Male

**Diagnosis:** Right side Fibula fracture

**Treatment:** External fixation

### **Nursing intervention:**

The client was admitted in ortho ward, all investigations were done. Vital signs were assessed and recorded. On the assessment day the score was 47/60. Injection tetanous toxoid was given. After explaining the nursing care procedures to the clients and relatives, the initial assessment was done with structured assessment tool and nursing interventions were started. The client was given with pain relieving measures, maintained hygienic, nutrition needs and hydration status, prevention of infection, skin care, wound dressing, range of motion exercises, early ambulation, maintained bowel and bladder patten and prevention of bed sores. Health education and counseling were provided. The client's health status was improved.



## **SAMPLE: 26**

**Age:** 39 years

**Gender:** Male

**Diagnosis:** Left side Fibula fracture

**Treatment:** External fixation

### **Nursing intervention:**

The client was admitted in ortho ward, all investigations were done. Vital signs were assessed and recorded. On the assessment day the score was 47/60. Injection tetanous toxoid was given. After explaining the nursing care procedures to the clients and relatives, the initial assessment was done with structured assessment tool and nursing interventions were started. The client was given with pain relieving measures, maintained hygienic, nutrition needs and hydration status, prevention of infection, skin care, wound dressing, range of motion exercises, early ambulation, maintained bowel and bladder patten and prevention of bed sores. Health education and counseling were provided. The client's health status was improved.

## **SAMPLE: 27**

**Age:** 42 years

**Gender:** Male

**Diagnosis:** Left side tibial fracture

**Treatment:** External fixation

### **Nursing intervention:**

The client was admitted in ortho ward, all investigations were done. Vital signs were assessed and recorded. On the assessment day the score was 47/60. Injection tetanous toxoid was given. After explaining the nursing care procedures to the clients and relatives, the initial assessment was done with structured assessment tool and nursing interventions were started. The client was given with pain relieving measures, maintained hygienic, nutrition needs and hydration status, prevention of infection, skin care, wound dressing, range of motion exercises, early ambulation, maintained bowel and bladder patten and prevention of bed sores. Health education and counseling were provided. The client's health status was improved.

## **SAMPLE: 28**

**Age:** 54 years

**Gender:** Female

**Diagnosis:** Right side tibial fracture

**Treatment:** External fixation

### **Nursing intervention:**

The client was admitted in ortho ward, all investigations were done. Vital signs were assessed and recorded. On the assessment day the score was 47/60. Injection tetanous toxoid was given. After explaining the nursing care procedures to the clients and relatives, the initial assessment was done with structured assessment tool and nursing interventions were started. The client was given with pain relieving measures, maintained hygienic, nutrition needs and hydration status, prevention of infection, skin care, wound dressing, range of motion exercises, early ambulation, maintained bowel and bladder patten and prevention of bed sores. Health education and counseling were provided. The client's health status was improved.

## **SAMPLE: 29**

**Age:** 24 years

**Gender:** Male

**Diagnosis:** Right side Fibula fracture

**Treatment:** External fixation

### **Nursing intervention:**

The client was admitted in ortho ward, all investigations were done. Vital signs were assessed and recorded. On the assessment day the score was 47/60. Injection tetanous toxoid was given. After explaining the nursing care procedures to the clients and relatives, the initial assessment was done with structured assessment tool and nursing interventions were started. The client was given with pain relieving measures, maintained hygienic, nutrition needs and hydration status, prevention of infection, skin care, wound dressing, range of motion exercises, early ambulation, maintained bowel and bladder patten and prevention of bed sores. Health education and counseling were provided. The client's health status was improved.

## **SAMPLE: 30**

**Age:** 38 years

**Gender:** Male

**Diagnosis:** Left side tibial fracture

**Treatment:** Internal fixation

### **Nursing intervention:**

The client was admitted in ortho ward, all investigations were done. Vital signs were assessed and recorded. On the assessment day the score was 47/60. Injection tetanous toxoid was given. After explaining the nursing care procedures to the clients and relatives, the initial assessment was done with structured assessment tool and nursing interventions were started. The client was given with pain relieving measures, maintained hygienic, nutrition needs and hydration status, prevention of infection, skin care, wound dressing, range of motion exercises, early ambulation, maintained bowel and bladder patten and prevention of bed sores. Health education and counseling were provided. The client's health status was improved.



**THE SCHOLAR COLLECTING HISTORY**



**THE SCHOLAR MONITORING VITAL PARAMETERS**



**THE SCHOLAR ADMINISTERING MEDICATIONS**



**THE SCHOLAR DOING SURGICAL DRESSING**