

**EFFECTIVENESS OF VIDEO ASSISTED TEACHING MODULE  
ON KNOWLEDGE, ATTITUDE AND PRACTICE AMONG THE  
PATIENTS UNDERGOING TOTAL KNEE REPLACEMENT.**

By

**T.Mugeshwari**

**A DISSERTATION SUBMITTED TO THE TAMILNADU DR.M.G.R.  
MEDICAL UNIVERSITY, CHENNAI, IN PARTIAL FULFILMENT OF THE  
REQUIREMENTS FOR DEGREE OF MASTER OF  
SCIENCE IN NURSING  
MARCH 2011**

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UNDERGOING TOTAL KNEE REPLACEMENT**

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MARCH 2011**

## **DECLARATION**

I hereby declare that the present dissertation entitled “**EFFECTIVENESS OF VIDEO-ASSISTED TEACHING MODULE ON KNOWLEDGE, ATTITUDE AND PRACTICE AMONG THE PATIENTS UNDERGOING TOTAL KNEE REPLACEMENT** “ is the outcome of the original research work carried out by me under the guidance of Prof. S. Ani Grace kalaimathi M.Sc.(N), PGDNA, DQA, Ph.D, Principal and Prof. N. Jayasri M.Sc.(N), M.Phil, Ph.D, Vice principal, HOD, Medical surgical nursing, MIOT college of nursing, Chennai. I also declare that the material of this has not been formed in anyway, the basis for the award of any degree or diploma in this university or other universities.

Mugeshwari.T

II Year M.SC. (N)

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## **ABSTRACT**

A study to assess the effectiveness of Video Assisted Teaching Module on Knowledge, Attitude and Practice among the patients undergoing Total Knee Replacement at MIOT Hospitals, Chennai.

The conceptual framework was developed on the basis of Orem's General theory of nursing model. An experimental research approach with pre-experimental one group pre-test post-test design was used to achieve the objectives of the study. The present study was conducted at MIOT hospitals, Chennai, with a sample size of 45 patients. They were selected through non-probability convenient sampling technique. The investigator used a demographic variable proforma, 30 structured questionnaire on knowledge, 10 attitude questionnaire & practice observation check list on total knee replacement to collect the data. After the pre-test, video assisted teaching module on total knee replacement was administered to the patients with total knee replacement. The post-test was done on 7<sup>th</sup> day. The collected data were tabulated and analyzed using descriptive and inferential statistics.

The significant findings of the demographic variable of the participants were that the majority of them were females (86.7%) in the age group of 61-70years (51.1%) , 60% of the participants were studied up to higher secondary and 75.6% participants did not have the previous exposure of information on total knee replacement. The researcher found that the majority of the participants needed education on total knee replacement. The level of knowledge among the patients undergoing total knee replacement in the pre-test was noted that 37(82.2%) of the participants had

inadequate knowledge, whereas in the post-test majority of them (88.9%) had gained adequate knowledge.

It was also noted that there was a significant improvement in the post-test mean score (M=86.96, SD =8.09) in comparison with the pre-test scores (M=44.15, SD =10.99) with the 't' value of 23.143. It was statistically significant at  $P < 0.001$  level.

There was a significant association between the demographic variables and the pre-test level of knowledge and attitude. But in the post-test there was no significant association found. It was noted that there was an association between the practice with selected demographic variable only in the age group was significant at  $P < 0.05$  level.

Hence the research hypothesis was accepted. The result of the study shows that video-assisted teaching module was an effective tool to impart knowledge and develop positive attitude and practice among the patients on total knee replacement.

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# CHAPTER I

## INTRODUCTION

**Life is a movement; a champion gets up, even when he cannot...**

“Human body has the capacity to produce nearly an infinite variety of postures and movements that require the tissues of the body to both generate and respond to forces that produce and control movement at the body’s joints”.

“Knee osteoarthritis isn’t life threatening, but it makes life miserable”

- Dr. Losina

Therefore the aim of the treatment is not to add years to life but to improve its quality.

Arthritis of the knees is extremely common in India. In arthritis all the movements of the joints are restricted by pain. Beyond certain stage, pain killers, injections, massage or any other form of healing may not be adequate. So there becomes need for total knee replacement. Total knee replacement is the gold – standard operation for knee arthritis. Total knee replacement is a wonder of modern surgery, and it is most commonly performed orthopedic procedure. Agency for Health Care Research and Quality’s Health Care Cost and Utilization Project (HCUP): reported that the number of total knee replacements (TKRs) performed in the United States almost doubled between 1995 (2, 93,086) and 2005 (5, 49,867). According to Indian joint replacement statistics, worldwide 5, 00,000 replacement surgeries have been performed each year. A total of 45,000 TKR were performed last year in India. This may lead to more than 3, 50,000 TKRs per year by the end of the decade.

The first hinged knee prosthesis, made up of ivory was inserted in the year 1891 by German Surgeon “**Themistocles Gluck**” to replace a tubercular joint. The introduction of the “total condylar prosthesis” by Insall and Colleagues in 1972 is

generally agreed to mark the era of “Modern” knee replacements. This prosthesis was the first to replace all the compartment of the knee. According to the HCUP, acute care discharge disposition for TKR in 2005 was 41% in rehabilitation center, in the nursing home it was 32% and 26% was in the home health care setting.

In collaboration with the Office of Medical Applications of Research (OMAR), National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS), TKR planning committee and the Agency for Health Care Research and Quality (AHRQ) suggest that Total knee arthroplasty improves the functional status and relieves pain resulting in relatively low perioperative morbidity.

**Seth S. Leopold, M.D. (2008)** says that total knee replacements are performed over three decades, generally with excellent results. Most of the reports showed 90 percent success rate after surgery. Broadly speaking there are two types of knee replacements that they are total knee replacement and minimally invasive partial knee replacement. Both have long “track records” and good clinical results in India. In 2003, the National Institutes of Health held the Consensus Development Conference on Total Knee Replacement, where they discussed about the patient’s decision about surgery and the factors affecting the outcome of surgery. They identified four overarching themes in patients’ experience of TKR which was named as follows,

**“Putting up and putting off”,**

**“Waiting and Worrying”,**

**“Letting go and Letting in”**

**“Hurting and Hoping”.**

These four overarching themes have been explained that **first**, many peoples delayed surgery for months to years, despite of increasing pain and limitation. **Second**, once

patient decided to proceed with surgery, they entered a period of waiting and worrying about what would happen during and after surgery. **Third**, both pre and post-operative patients struggled with the need for independence, as well as learning to accept the new knee. **Fourth**, patients experienced post-operative pain associated with surgery and rehabilitation, yet reported having hope that they had regained the function. Most of the health professionals like doctors, nurses, physiotherapist, and dietician say that the solution is theoretically simple to improve the quality and frequency of medical care and education about the total knee replacement to the patients. The researcher has undertaken the study to educate the client about total knee replacement in order to improve their knowledge and to develop a positive attitude on total knee replacement.

### **NEED FOR THE STUDY**

Total Knee Replacement (TKR) is one of the most common orthopedic operations in India, but few researchers have examined patient's experience of the procedure. One orthopedic surgeon who has written on this topic "**Peter Bonutti**", stated in this way "May be we don't understand what our patients care about". He cited two study findings that one – third of patients were dissatisfied with TKR, and he identified the need to undergo the procedure from the patient's view rather than the surgeons' point of view. The difference in perspective was highlighted in another study of 108 patients who underwent 120 TKRs, patients subjective and physician's objective assessments of outcomes correlated poorly. The researcher concluded that "Surgeons are more satisfied than patients". "Nurses have distinct role to play not only in treatment and care of ailment but also in the prevention of sickness and promotion of health. She makes tremendous contribution in the attainment of total



health of an individual, family and the community at large” (Malhotra, 1988). Video assisted teaching Module on total knee replacement provides knowledge and to develop positive attitude and how to follow practice of exercises in hospital as well as at home of the client. Imparting knowledge about the total knee replacement to the client will improve their quality of life.

**Tracey O’ Neill (2009)** says that the decision making process regarding TKR surgery is extremely complex. Patients have to weigh up numerous considerations before they can make a decision about surgery. By synthesizing ten qualitative studies, they have illuminated the importance of the health care professional during this process. Nurses’ role is more in educating the client and creates awareness about total knee replacement. Providing video assisted teaching module to the client will improve their knowledge about total knee replacement.

Patient says often,” Don’t let me just read it in a book or in a pamphlet or whatever. That’s all well and good, but I want to talk to some body”. Most of the clients are having so many questions and doubts about total knee replacement. Once patients decided to proceed with surgery, they anticipate it with anxiety. The common sources of anxiety are general fear about anesthesia, surgery and complications. Video assisted teaching module regarding anatomy & physiology of knee joint, signs & symptoms of knee osteoarthritis, anesthesia, surgery, exercises, diet and complications after surgery will help the client to avoid fear and anxiety.

Patient says often,” I’m telling myself, and I’ll tell somebody else, “Don’t give up until you get full mobility back”. Most of the patients are not practicing the exercises as early as possible after the surgery that will lead to stiffness of the knee. Video assisted teaching module regarding exercises before and after the surgery and

activities at hospital as well as at home will improve the client's knowledge on rehabilitative measures. This study was being undertaken to assess the pre-existing knowledge & attitude of the client on total knee replacement and to assess the effectiveness of video assisted teaching module on total knee replacement among the patients undergoing total knee replacement.

### **Statement of the problem**

A study to assess the effectiveness of video assisted teaching module on knowledge, attitude and practice among the patients undergoing total knee replacement at MIOT Hospitals, Chennai.

### **Objectives**

- To assess the existing knowledge and attitude of patient on total knee replacement.
- To assess the effectiveness of video assisted teaching module on knowledge, attitude on total knee replacement.
- To assess the existing practice of patient after surgery.
- To correlate between knowledge, attitude and practice on total knee replacement among the patient undergoing total knee replacement.
- To associate the knowledge, attitude and practice of patient on total knee replacement with selected demographic variables like age, sex, occupation, educational status, place of residence etc.

### **Operational definition**

#### **Effectiveness**

It refers to the outcome of the study in terms of knowledge gained & developing positive attitude.

### **Knowledge**

It refers to client's range of information and level of understanding on total knee replacement as measured by a questionnaire on knowledge.

### **Attitude**

It refers to the expressed beliefs and perspectives of respondents regarding total knee replacement as measured by an attitude scale.

### **Practice**

It refers to the client's performance or activities after total knee replacement as measured by practice observation check list.

### **Video-assisted teaching module**

It refers to video used as a teaching aid with developed instructions and teaching programme for patients undergoing total knee replacement. It includes anatomy of knee joint, surgical procedure of TKR, diet, exercise, etc

### **Total Knee Replacement**

It refers to the surgery in the knee joint where the diseased joint is replaced with artificial material. It will be hereafter referred to as TKR.

### **Hypothesis**

H<sub>1</sub>: There is a significant difference in the knowledge & attitude of patient regarding total knee replacement before and after administration of Video-assisted teaching module..

H<sub>2</sub>: There is a significant association between the knowledge& attitude of patient regarding total knee replacement with selected demographic variables in the pretest.

### **Assumption**

- Administering the Video-assisted teaching module may help in improving the knowledge level of patients regarding total knee replacement.
- Video-assisted teaching module may develop positive attitude and practice of patients towards total knee replacement.
- Patient's knowledge may vary with the selected demographic variables.

### **Delimitation**

- The study is limited to patients undergoing total knee replacement.
- The study is limited to patients in In-patient department.
- The study is limited to patients in C<sub>1</sub> and C<sub>2</sub> ward at MIOT Hospital, Chennai.
- Period of data collection is limited to 6 weeks.
- Convenient sampling technique was selected due to inadequacy of sample.

### **Projected outcome**

- An increase in the knowledge level of client regarding total knee replacement after giving Video-assisted teaching module.
- Patient will develop positive attitude and practice towards total knee replacement.
- Based upon the results of the study, the investigator can make appropriate recommendations to improve the level of knowledge of clients regarding total knee replacement by giving Video-assisted teaching module.

## **CHAPTER II**

### **REVIEW OF LITERATURE**

#### **Introduction**

“Knowledge is of two kinds, we know a subject ourselves or we know where we can find information upon it”.

**-Samuel Johnson**

This chapter deals with the literature relevant to the topic of study. This review of literature was done in the following sections.

#### **Review of literature is divided into**

**Section I: Review of literature related to Total Knee Replacement**

**Section II: Review of literature related to Video-Assisted Teaching Module.**

#### **SECTION-I**

##### **Review of literature related to Total Knee Replacement**

Nilen shah (2009) conducted a prospective randomized trial on uni-compartmental knee replacement (UKR) & total knee replacement with the sample of 100 patients. Two well-matched groups were obtained with an average age of 69 years. The same surgical team carried out UKR & TKR according to the randomization. Fifty patients were received the UKR and 52 patients were received the TKR. The patients had an identical post-operative regimen and mobilization with the help of physiotherapists. The patients were evaluated in a standard fashion clinically, radio graphically, pre and post-operatively. The patients were followed up for a minimum period of 5 years. The 5 year results were revealed that the unicompartmental knee replacement (UKR) group had a lesser perioperative morbidity with early regain of the range of movement of the knee. After 5 years review, the UKR and the TKR were equally effective in relieving pain.

Scopaz et al (2009) conducted a study to assess the effect of quadriceps strengthening exercise after total knee replacement with the sample of 50 patients. The results revealed that the patient who received quadriceps strengthening exercises improved the movement of knee after total knee replacement.

Biasca N et al (2009) conducted a study on Minimally invasive computer-navigated total knee arthroplasty. Modern computerized knee navigation systems aid surgeons both in the conventional and in the minimally invasive approach to optimize mechanical and rotational alignments of the components in all three planes to avoid any malrotation and/or any errors in coronal, sagittal and axial alignments. The advantages of minimally invasive total knee arthroplasty can be achieved without loss of accuracy. There is an increasing evidence of a positive correlation between accurate mechanical alignment after total knee replacement and the quality –of –life of patient outcomes.

Gillian et al (2009) conducted a study on health related quality of life after knee replacement. The findings of the present study suggested that age and obesity did not have a negative impact on patient – relevant outcomes (pain and physical function). Dissemination of these findings had the potential to increase appropriate referrals for knee replacement and thereby reduced the pain and functional disability due to osteoarthritis of the knee.

Tracey O' Neill (2009) conducted a study to assess the decision making on TKR. A meta-synthesis was undertaken and the results revealed that the decision making process regarding TKR surgery was extremely complex as patients had to weigh up numerous considerations before they could make a decision about surgery. By

synthesizing ten qualitative studies, they have illuminated the importance of the health care professional during this process.

Nunez et al (2009) conducted a study to health related quality of life and the factors influencing long term outcomes. To evaluate health-related quality of life (HRQOL) in patients with osteoarthritis undergoing total knee replacement (TKR) identified the influence of socio-demographic, clinical, intra-operative, and postoperative variables on HRQOL; and determined the patient's perceptions for 7 years. They conducted a prospective study with 7 years of follow up. HRQOL measures (Western Ontario and McMaster Universities Osteoarthritis Index [WOMAC] and Short Form 36 [SF-36]); socio-demographic, clinical, intra-operative, inpatient, and postoperative data; patient perceptions of TKR outcomes; and physical activity for 7 years were determined. The results revealed that among 146 eligible patients, 112 (86 women, mean age 67.3 years) completed follow up data. There were significant differences between pre and post-operative WOMAC pain, stiffness, and function scores ( $P < 0.001$ ).

Seth. S. Leopold, M.D. (2008) conducted a study on functional outcome of total knee replacement. The results revealed that the total knee replacements are done well, and the implant serves the patient well for many years. 90-95% of TKR are still functioning well for 10 years after the surgery. Most of the patients walked with a cane, most could do stairs and arise from chairs normally and most of them resumed their desired level of recreational activity.

Ghani et al (2005) conducted a study to assess the difference between right and left side in total knee replacement and unicondylar knee replacement. An observational study revealed that the unicondylar knee replacement was performed

more commonly on the left side 66% as compared to only 34% on right side. They concluded that the total knee replacement was more common on the right side (64%) as compared to (36%) on left side.

Robert L. Kane MD et al (2005) conducted a study to assess the functional outcome of total knee arthroplasty. The results revealed that Sixty-two studies met the criteria and the researchers were reviewed. Total knee arthroplasty was found to be associated with substantial functional improvement, with the effect sizes varying with the measure that was used. Physician-derived measures showed effect sizes of 2.35 and 3.91, whereas patient-derived measures showed smaller effect sizes (1.27 and 1.62). Few investigators used multivariate models to identify associations between outcomes and patient characteristics. They concluded that the total knee arthroplasty is a generally effective procedure.

Albert A (2003) conducted a study to assess the outcome of total knee replacement. The outcome of research on TKR emphasized before and after studies, there are variations on case series of various techniques and prosthesis with little attention to the role of other factors or to attrition. There is an evidence of improved function after TKR.

Allyson Jones et al (2003) conducted a study to assess the determinants of function after total knee arthroplasty. The results proved that 6 months after surgery, the average WOMAC physical function score was 70.5 (SD=18.2) and the average SF-36 physical function score was 44.8 (SD=25.3). Using multiple regression analysis, baseline function, walking device, walking distance, and co-morbid conditions predicted 6-month function (WOMAC:  $R^2=.20$ ; SF-36 physical function:  $R^2=.27$ ). Patients who have lower preoperative function may require more intensive



physical therapy intervention because they are less likely to achieve functional outcomes similar to those of patients having less pre-operative dysfunction.

## **SECTION - II**

### **Review of literature related to Video-Assisted Teaching Module**

Dansethakul P et al (2010) conducted a study of solving the barriers to diabetes education through the use of multimedia. This study examined the knowledge capacity of villagers in the Klongmai community of Nakhon Pathom, Thailand, regarding diabetes by way of action research. A health status assessment and a survey of the community were carried out and used as the basis for designing an educational video on diabetes that is accessible regardless of age and educational background. Evaluations of the pre- and post study questionnaires were carried out using statistical analysis. The results indicated that the devised educational materials were effective in encouraging the communities' self-awareness and perception of diabetes at the significance level of 0.05. Most importantly, the participants demonstrated that the proficiency in adapting the knowledge was gained from the workshop to their own lifestyle.

Bierens JJ et al (2010) conducted a study of Comparison of instructor-led automated external defibrillation training and three alternative DVD-based training methods. This prospective randomized study with a non-inferiority design compared traditional instructor-led training with three DVD-based AED-training methods (2.5min DVD without practice; 4.5min DVD with manikin practice; 9min DVD with manikin practice and scenario training). After DVD BLS-training, 396 participants were assigned to one of the four AED-training methods by randomization stratified for age. Participants were tested immediately after the training (post-test) and 2

months later (retention-test) using modified Cardiff criteria. The primary endpoint was the percentage of providers scoring 70% or higher on testing. The performances of participants in all DVD-based training groups were significantly higher on the retention-test than on the post-test. Those who received scenario training scored higher on the post-test was compared to the other DVD-training groups ( $p < 0.001$ ). Scenario training is a useful addition, but instructor-facilitated training remains the best method.

Matsui M. (2010) conducted a study to assess the effectiveness of end-of-life education among community-dwelling older adults through video. A quasi-experimental design was used. A total of 121 older adults, aged 65 years consented to participate. Data from 55 intervention and 57 control participants were used for the analysis. The intervention consisted of an education program comprising a video, a lecture using a handout, and discussion among participants. The control group received only the handout. Both groups were followed up after one month. The intervention groups attitude became more favorable towards advance directives, especially living wills ( $P = 0.024$ ). In addition to their expression of preference for life-sustaining treatment by means of artificial nutrition was less at follow up, demonstrating that these older adults had become more autonomous ( $P = 0.008$ ). There was a greater acceptance of the intervention as a whole by the intervention group compared with the control group ( $P = 0.011$ ). Although few participants completed living wills, at follow up twice as many in the intervention group had discussed end-of-life matters with family members.

Banda et al (2010) conducted a study of video modeling interventions to teach spontaneous requesting using AAC devices to individuals with autism: a preliminary

investigation. His multiple baseline study investigated to what extent individuals with autism would learn to operate a speech generating device (SGD) to request a preferred object by observing a video model. The intervention consisted of each participant viewing a 10 to 15 video model that demonstrated the requesting of a preferred object using a SGD. After viewing the video model, two participants displayed the ability to request preferred items using the SGD without prompting cues. The study proved that the video modeling could be used to teach individuals with autism.

Nagurka R et al (2010) conducted a study on Effectiveness of stroke education in the emergency department's waiting room through video. In this, pilot randomized controlled trial, research team enrolled patients and visitors in the fast-track waiting area of the ED. The intervention group received an educational video program, one-on-one counseling, and stroke education materials, and completed a 13-question test after receiving the education. The control group completed the same test without receiving any education. Both groups completed the same test again for 1 and 3 months to assess stroke knowledge retention. There were a total of 329 participants: 151 in the control group and 178 in the intervention group. ED stroke education, which includes video program, one-on-one counseling, and written educational materials, is able to significantly increase knowledge on stroke. Modification and reinforcement of education is needed to achieve better knowledge retention and favorable lifestyle modifications.

Babu (2003) conducted a study to assess the effectiveness of video assisted teaching on knowledge, attitude and practice of self insulin injection procedure. Quasi-experimental studies with the sample size of 50 patients were selected. They

concluded that the experimental group had significantly improved the knowledge, attitude and practice. The result was more significant ( $P < 0.001$ ).

Wong I.V (2003) conducted a study stated that culturally sensitive educational video material using familiar metaphors could be shown to have a statistically significant effect on patients knowledge of medication taking concepts. The success of the video had resulted in its wide spread use in ARV roll out in South Africa.

Cindy et al (2002) conducted a study to compare the outcomes of preoperative education provided in a non-interactive versus an interactive DVD programme. Experimental Design was used. Convenience sample of 58 elective joint replacement patients were selected. Subjects were randomly assigned to the video or DVD group. Measurements included post education test of knowledge, patient satisfaction questionnaire, and post discharge collection of data on physical therapy participation, complications, pain behaviors, and length of stay. Participants in the DVD group had statistically higher knowledge scores and significantly more physical therapy visits.

Bowering et al (2000) conducted a study to assess the video tape preparation of patients before hip replacement surgery with the aim of reducing stress and anxiety. The use of video-tape decreased anxiety and stress. It was measured in terms of urinary cortisol excretion and intra-operative systemic blood pressure in patients undergoing hip replacement surgery and prepared them to cope better with the post-operative pain.

Giocoma et al (1999) investigated the effect of video teaching on renal transplant recipient outcomes among 59 adults under going renal transplantation. The

Quasi-experimental study concluded that the experimental group who received the video teaching had significantly greater improvement in knowledge scores in post teaching.

Sanguinetti and catanzaros (1998) conducted a study to assess the discharge teaching video tape on cognitive dysfunction. The study results indicated that patient and family caregivers who received a discharge teaching video tape on cognitive dysfunction were more informed and better prepared to help loved ones compensate for cognitive dysfunction.

Well et al (1998) conducted a study with sample of 128 women newly referred for breast cancer risk counseling when randomized to receive the video before counseling, observations of misunderstanding and distress emphasize the video should be seen as an aid for communication at the clinic.

Weston et al (1997) conducted a study with 90 prenatal mothers. The results proved that a patients information video combined with an information sheet may result in greater participation in a research trails and may increase women knowledge of a specific health problem and related research trail.

Lin PC et al (1997) conducted a study to compare the effectiveness of different educational programs for patients with total knee arthroplasty. Researcher compared the effects of pre-admission and post-admission educational programs for patients with total knee arthroplasty. Quasi-experimental study with the sample of 60 total knee arthroplasty patients was selected. Subjects in the experimental group received pre-admission pre-operative teaching with an instruction booklet during a pre-operative outpatient clinic visit. The control group received only post-admission pre-operative teaching with the same instruction booklet and no video. The results

revealed that the experimental group had a significantly higher knowledge level than the control group, the experimental group performed exercise more regularly and correctly than those in the control group and the experimental group had greater flexion of the operative knee joint than the control group. Pre-admission teachings with a videotape program and a health manual for patients with total knee arthroplasty were recommended.

Wood's et al (1996) conducted a research explored that the efficacy of using video self instruction kits to increase breast self examination proficiency and knowledge about breast cancer among a sample of 62 mothers. The results indicated that the self instruction program had significant and positive impacts on the two BSE proficiency measures skill demonstration ( $P=0.0001$ ) and lump detection using a simulation model. The results revealed that the knowledge about breast cancer scores also improved from pre-test to post test.

ISKO (1995) reemphasized the need for development and use of pre-operated video taped patient education over self care deficit theory. They used a nursing theory framework; the intervention was piloted on four subjects. They expressed positive evaluation of the alternative educational strategy.

## **CONCEPTUAL FRAMEWORK**

The conceptual framework for this study was derived from Orem's general theory of nursing (1959). It is based on the concepts of self-care, self care agency, self-care requisites and therapeutic self-care demand.

### **Self -care deficit theory**

Nursing care is necessary to meet the self care requisites through guiding, teaching, supporting, acting or doing for, and providing an environment for the patient. Here the researcher educates the patient about the anatomy and physiology of knee joint, preparing for surgery, surgical procedure, exercises, diet, complication and general information on TKR which helps to gain knowledge and to develop positive attitude.

### **Self-care**

It comprises those activities performed independently by an individual to promote and maintain personal well-being throughout life. The patient who underwent total knee replacement is unable to perform self care activities especially their mobility is affected.

### **Self-care agency**

It refers to the individual's ability to perform self-care activities. It has two agents:

- Self-care agent (person who provides self care)
- Dependent care agent(patient who underwent total knee replacement need care from the nurse).

### **Self-care requisites**

- Universal (maintaining air, water & food intake)

-Developmental (adjusting the change in body image). Here the patient's diseased joint is replaced with artificial material and they have to accept the new joint in order to improve their mobility.

-Health deviation (includes action such as seeking medical assistance). Here the patient is deviated from their normal life during the initial stage of surgery and they need a health care assistance to get their mobility back.

### **Therapeutic self care demand**

The clients who underwent total knee replacement needs education regarding the surgical procedure, exercises and diet after surgery.

### **Nursing agency**

The researcher aimed to provide video-assisted teaching on total knee replacement.

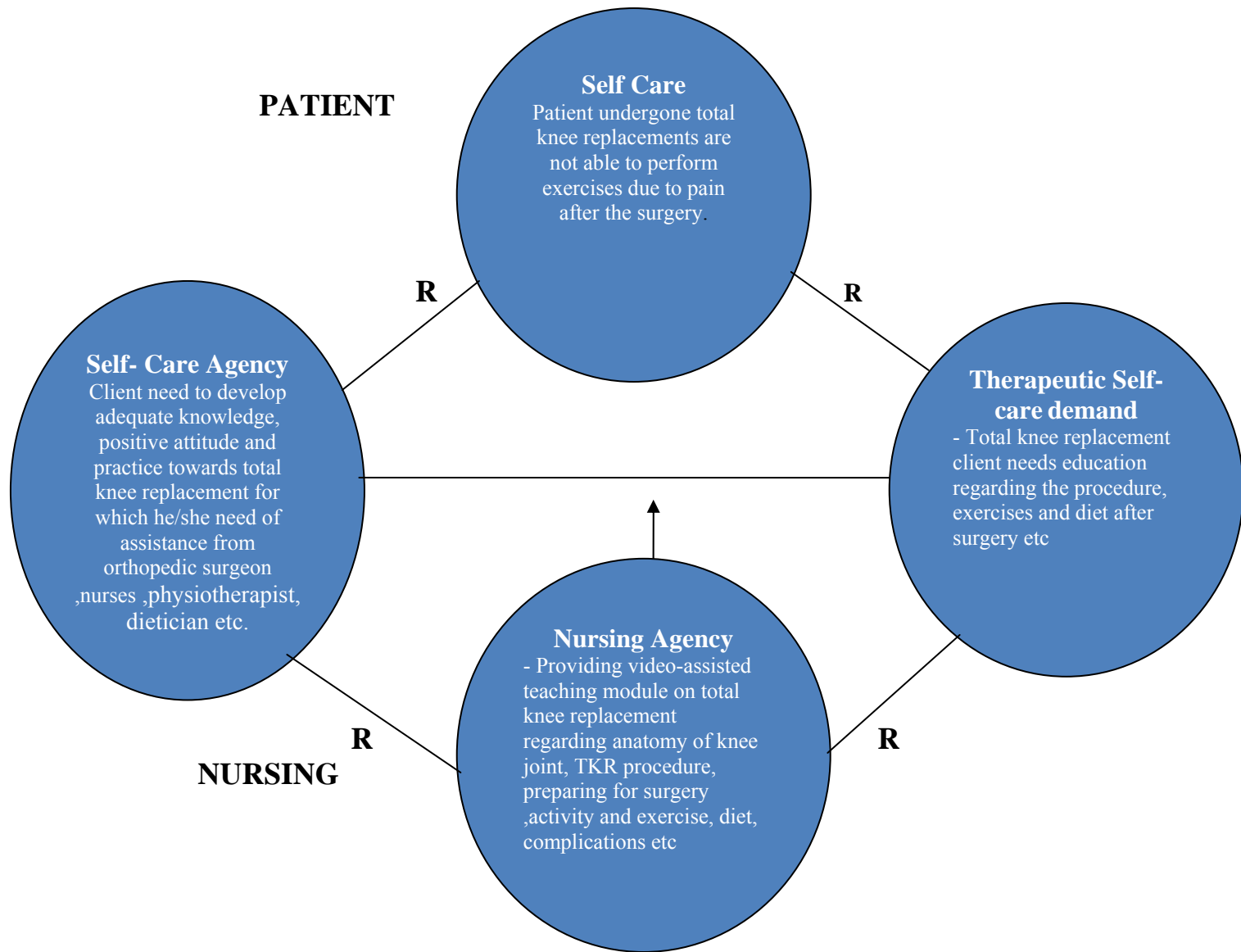
### **Nursing systems theory**

It is composed of three systems. It includes,

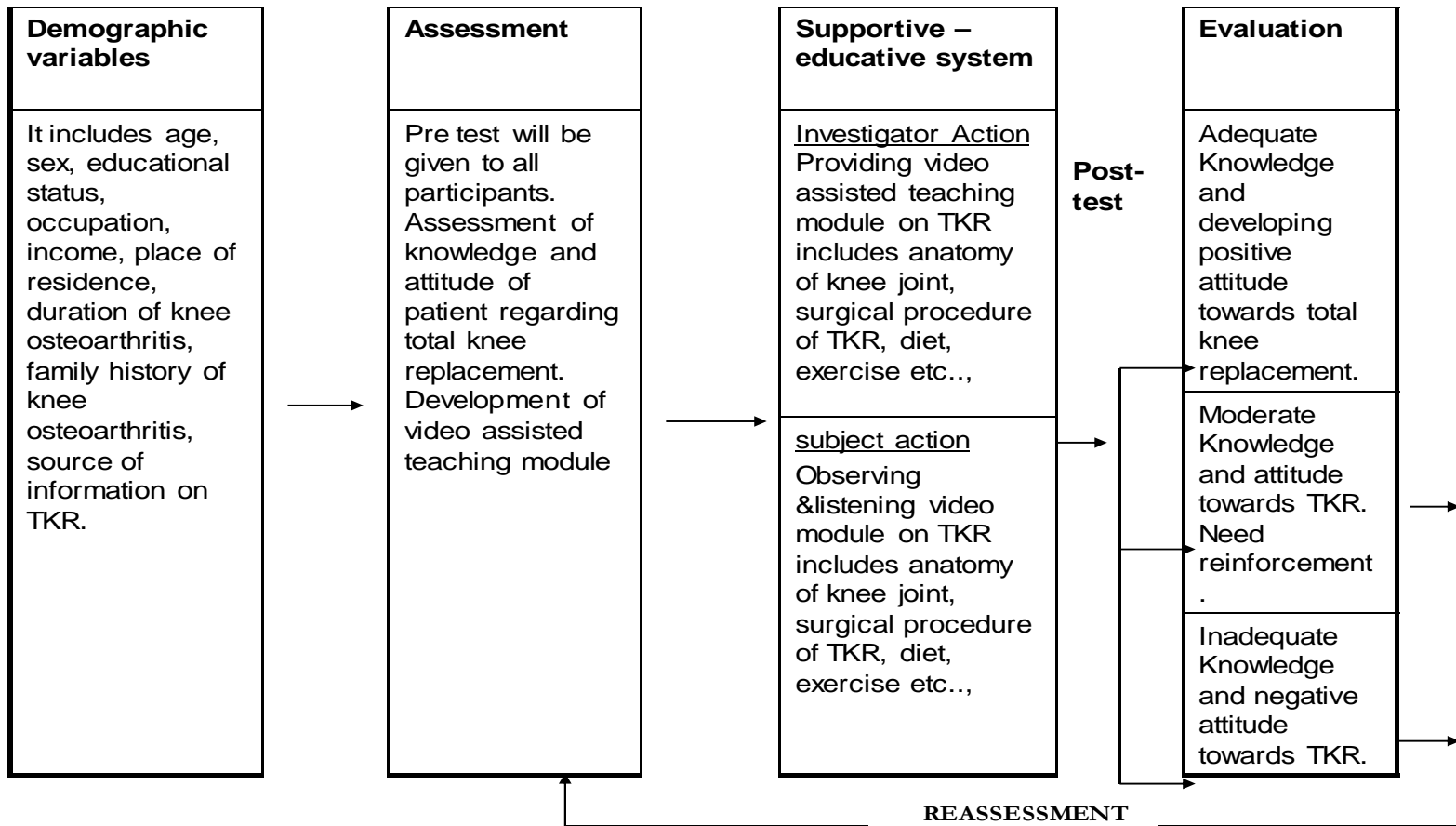
- Wholly compensatory system
- Partly compensatory system
- Supportive educative system

Patient who had undergone total knee replacement required information regarding the total knee replacement procedure, preparation for surgery, activities and exercises after surgery. Patient who had undergone total knee replacement needed supportive educative system.





**Conceptual frame work based on Orem's Self-Care Deficit Theory (1959)**



**Conceptual Frame Work Based On Orem's General Theory Of Nursing ( 1959)**

## CHAPTER III

### METHODOLOGY

Research methodology is a systematic way to solve the research problem.

*Pearson (1992)* stated that, there is no shortcut to truth. There is no way to gain the knowledge of the universe except through the gateway of scientific method. Methodology is one which enables the researches to project a blue print of the research undertaken.

#### Approach

The approach employed for this study was quantitative approach.

#### Design

A pre- experimental design was adopted in this study.

One group pre-test and post-test design

$O1 \rightarrow X \rightarrow O2$

Where, O1 --- pretest, O2 --- post test, X --- intervention (video assisted teaching module)

#### Setting

This study was conducted at C1 & C2 wards of MIOT Hospitals, Chennai. MIOT has performed more than 2,500 Total Knee Replacement successfully over the last 5 years without infection or major complications, making it the preferred destination for knee replacement surgery. They were using variety of knee prostheses, including the latest Hiflex Knee offering 150 degree flexion. MIOT is also a pioneer in “**Computer Navigated Total Knee Replacement**” which helps in ligament balancing and placement of prosthesis with zero error. This surgery should be vastly improving the longevity of the joint. . Here Total Knee Replacement is performed with just a small 8-10cm incision and the patients can

recover completely within 3 weeks time. After surgery patients are immediately put on a CPM (Continuous Passive Motion) machine and encouraged to walk the next day, which decreases the incidence of Deep vein thrombosis. They are claiming staircase by the 5<sup>th</sup> day and are discharged on the 7<sup>th</sup> post – operative day.

### **Population**

Population selected for this study was patients who were undergoing total knee replacement.

### **Sample**

Patients who were admitted in C1 & C2 Wards of MIOT Hospitals, Chennai.

### **Sampling Technique**

The sample was selected by using a non probability convenient sampling technique.

### **Sample size**

Sample size selected for this study was 45.

### **Inclusion criteria**

- Patients who were undergoing total knee replacement.
- Patients who were willing to participate in this study.
- Patients who could speak and read Tamil and English.

### **Exclusion criteria**

- Clients who were attending out patient department.
- Clients who were critically ill.

## Data collection tool

The tool used for data collection was structured questionnaire. It has **four parts**.

**Part I** of the tool, the demographic and baseline data. It consists of 12 items related to demographic and other baseline data of the patients undergoing TKR.

**Part II** of the tool contains knowledge questionnaire. It has 30 questions each right answers scores one mark and wrong answer does not score mark, the maximum score is 30. The scoring were Adequate Knowledge 75 – 100%, Moderate Knowledge 51 – 74%, Inadequate Knowledge < 50%

### Blue print of the tool

Content	Knowledge	No.of items	Compre-hension	No.of items	Skills	No.of items	Total
Anatomy & physiology	1,2	2	-	-	-	-	2
Surgical condition	3,4,8,9	4	5,6,7,10,11	5	-	-	9
Pain management	19	1	-	-	-	-	1
Diet	21,22,23,24,25	5	-	-	-	-	5
Exercise	12,15,16	3	17,18	2	13,14	2	7
Complication	26,27	2	-	-	-	-	2

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General	28,30	2	20,29	2	-	-	4
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information

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**Part III** of the tool contains attitude questionnaire. It has 10 statements (5 positive & 5 negative statements) related to patient's attitude on TKR which are responded as strongly agree, agree, disagree, strongly disagree and don't know.

**Positive Question Score**

Strongly Agree -4 marks  
 Agree -3 marks  
 Disagree -2marks  
 Strongly Disagree -1 mark  
 Don't Know -0 marks

**Negative Question Score**

Strongly Agree - 1 mark  
 Agree -2 marks  
 Disagree -3 marks  
 Strongly Disagree -4 marks  
 Don't Know -0 marks

The maximum score is 40 marks

- Good attitude 75-100%
- Fair attitude 51-74%
- Poor attitude <50%.

**Part IV** of the tool contains Practice Observation check list for observing practice of client undergoing total knee replacement. It consists of 15 questions regarding practices followed by the client after TKR. Maximum score was 15.

**Scoring and interpretation:**

- Adequate practice 75-100%
- Moderate practice 51-74%

Inadequate practice <50%

**Part V-** Video assisted teaching module on TKR.

It consists of Anatomy of knee joint, surgical procedure of TKR, signs and symptoms of knee joint infection, preparing for surgery, diet, exercise guidelines for TKR, complications and general information on TKR.

**Validity**

The tool was developed through an extensive review of literature. The tool was reviewed by experts in the field of nursing and orthopedics for validation.

**Reliability**

The reliability of a tool was established by conducting pilot study. The knowledge reliability of the tool was established by test – retest method, score was  $r = 0.895$ . The attitude reliability was established by split half method, the score was  $r = 0.85$  and the practice reliability was established by split half method, the score was  $r = 1$ .

**Pilot study**

The pilot study was conducted on a sample of 5 patients with total knee replacement. The results proved that the instruments were valid and reliable.

**Data collection procedure**

A formal permission was obtained from the department of knee replacement to conduct the main study. Data collection was carried out for six weeks. The total forty five samples were selected by the method of non -probability convenient sampling technique. After getting informed consent from the participants, the structured questionnaire on the knowledge, attitude of total knee replacement was given. After that video assisted teaching

module was given on the day of admission and then practice of exercises was observed by using check list by the investigator from the day of surgery to 7<sup>th</sup> post operative day. The post test was given at the day of discharge. The knowledge, attitude and practice of the patient on total knee replacement were assessed.

### **Human rights protection**

The pilot and main study were conducted only after approval of the research proposal by the College of Nursing and the institutional ethical committee. Permission was obtained from the concern head of the department to conduct the study. The written consent was obtained from all the patients who participated in the study.



## **CHAPTER IV**

### **DATA ANALYSIS AND INTERPRETATION**

This chapter deals with analysis and interpretation which includes both descriptive and inferential statistics. Analysis is defined as the method of organizing data in such a way that the research question can be answered. Interpretation is the process of making a sense of the result and of examine the simplification of the finding within a broader context ( polit and beck, 2004).

#### **Organization of finding**

The finding of the study were organized and presented under the following headings.

- Section–I** Description of demographic variables in frequency and percentage.
- Section–II** Distribution of existing knowledge and attitude score in the pre-test.
- Section–III** Distribution of knowledge and attitude score in the post-test.
- Section–IV** Distribution of effective knowledge & attitude score on TKR.
- Section–V** Distribution of existing level of practice of patients after TKR.
- Section–VI** Correlation between the knowledge, attitude and practice of patient
- Section–VII** Association between selected demographic variables and pretest knowledge, attitude score of patient
- Section–VIII** Association between selected demographic variable & post-test knowledge, attitude and practice score of patient.

## SECTION – I

This section deals with the description of demographic variables in frequency and percentage.

**Table – 1 Distribution of demographic variables of the patients undergoing total knee replacement.**

Demographic Variables	N.	%
n =45		
<b>1. Age in years</b>		
a) < 50 yrs	4	8.9
b) 51 – 60 yrs	12	26.7
c) 61 – 70 yrs	23	51.1
d) > 70 yrs	6	13.3
<b>2. Gender</b>		
a) Male	6	13.3
b) Female	39	86.7
<b>3. Education</b>		
a) Illiterate	0	0.0
b) Primary	1	2.2
c) High school	17	37.8
d) Hr. Sec.	27	60.0
e) Degree / Diploma / Professional	0	0.0
<b>4. Occupation</b>		
a) Unemployed	0	0.0
b) Government	5	11.1
c) Private	3	6.7
d) Self employed	2	4.4
e) House wife	35	77.8
<b>5. Family income</b>		
a) < Rs.10000	10	22.2
b) Rs.10001 – 15000	32	71.1
c) Rs.15001 – 20000	2	4.4
d) > Rs.20000	1	2.2
<b>6. Place of Residence</b>		
a) Urban	26	57.8
b) Rural	19	42.2
<b>7. Type of Family</b>		
a) Joint	5	11.1
b) Nuclear	40	88.9

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<b>8. Marital Status</b>		
a) Married	44	97.8
b) Unmarried	1	2.2
c) Divorce	0	0.0
d) Widow / Widower	0	0.0
<b>9. Religion</b>		
a) Hindu	40	88.9
b) Christian	4	8.9
c) Muslim	1	2.2
d) Others	0	0.0
<b>10. No of Years Suffering</b>		
a) < 3 yrs	5	11.1
b) 3 – 6 yrs	24	53.3
c) 6 – 9 yrs	11	24.4
d) > 9 yrs	5	11.1
<b>11. Family History</b>		
a) Yes	3	6.7
b) No	42	93.3
<b>12. If yes</b>		
a) Parents	2	4.4
d) Other relations	1	2.2
e) No family history	42	93.3
<b>13. Previous Exposure</b>		
a) Yes	11	24.4
b) No	34	75.6
<b>14. If yes</b>		
a) Health Professionals	11	24.4
b) No Exposure	34	75.6

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Table – 1 reveals that more number of the participants were in the age group of 61-70 years(51.1%), majority were female participants (86.7%), (60%) of the participants were educated up to higher secondary. Most of the participants were suffering from 3-6 years with osteoarthritis of Knee (53.3%), 75.6% of the participants did not have previous exposure of information on TKR. This shows that majority of the participants need education about total knee replacement.

## SECTION – II

**This section deals with the distribution of existing knowledge and attitude of patient**

**Table–2 Mean & standard deviation of knowledge score on Total Knee Replacement in the Pre Test**

Knowledge Aspects	Descriptive Statistics		Ranges	
	Mean	S.D.	Minimum Score	Maximum Score
Anatomy & physiology	98.89	7.45	50.0	100.0
Signs & symptoms	100.0	0.0	100.0	100.0
Surgical procedure	40.44	27.79	0.0	100.0
Preparing Surgery	17.78	26.21	0.0	66.67
Activity & Exercise	44.44	11.17	25.0	75.0
Pain Management	97.78	14.91	0.0	100.0
Diet	51.55	15.66	20.0	100.0
Complication	1.1	7.45	0.0	50.0
General Information	19.26	26.10	0.0	100.0
Overall Knowledge	44.15	10.99	30.0	76.67

Table – 2 shows that in knowledge aspects all the participants know signs & symptoms of knee osteoarthritis (100%), (50%) in anatomy & physiology, Diet 20%, 25% were known about activity and exercise. The overall mean knowledge was 44.15 and SD was 10.99. This shows that the participants need education about surgical procedure, diet and exercise after TKR.

**Table – 3 Distribution of Level of Knowledge on Total Knee Replacement in Pre Test**

Knowledge Aspects	n =45					
	Inadequate Knowledge		Moderate Knowledge		Adequate Knowledge	
	No.	%	No.	%	No.	%
Anatomy & physiology	1	2.2	0	0.0	44	97.8
Signs & symptoms	0	0.0	0	0.0	45	100.0
Surgical procedure	33	73.3	3	6.7	9	20.0
Preparing Surgery	37	82.2	8	17.8	0	0.0
Activity & Exercise	40	88.9	5	11.1	0	0.0
Pain Management	1	2.2	0	0.0	44	97.8
Diet	18	40.0	25	55.6	2	4.4
Complication	45	100.0	0	0.0	0	0.0
General Information	39	86.7	5	11.1	1	2.2
Overall Knowledge	37	82.2	7	15.6	1	2.2

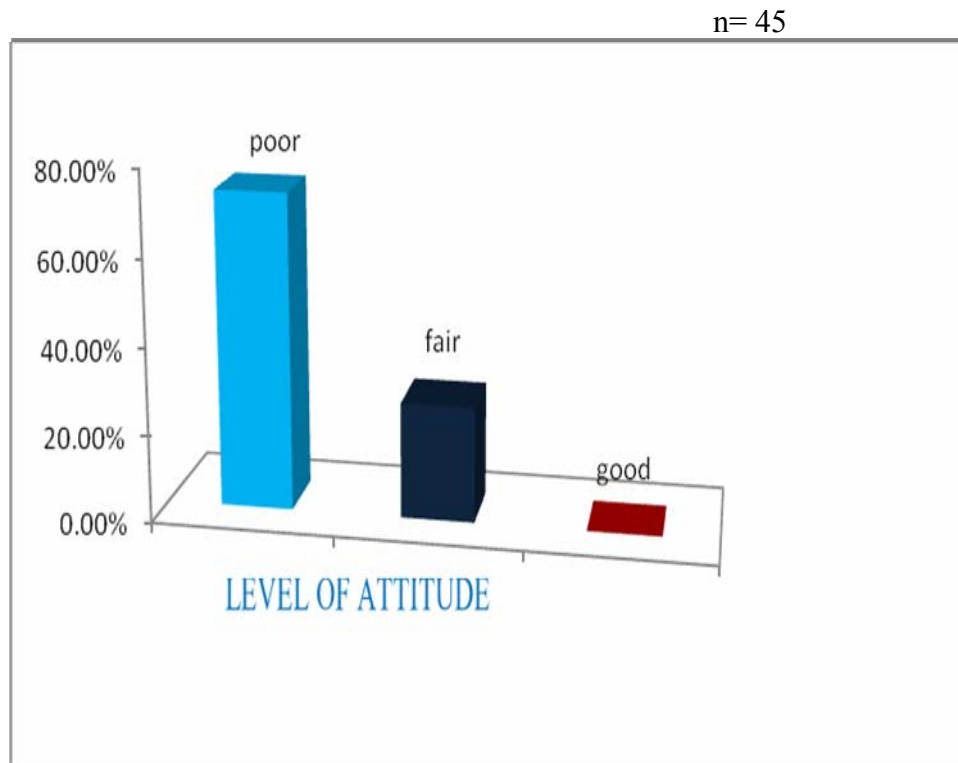
Table – 3 reveals that most of the participants (82.2%) were having inadequate knowledge. All the participants (100%) were having adequate knowledge on signs & symptoms of knee osteoarthritis because pain is an important sign for the most of the diseases condition. This shows that majority of the participants need education on TKR.

**Table – 4 Mean & standard deviation of Attitude Score on Total Knee Replacement in Pre-test**

<b>Attitude Score</b>	<b>Descriptive Statistics</b>		<b>Ranges</b>	
	<b>Mean</b>	<b>S.D.</b>	<b>Minimum Score</b>	<b>Maximum Score</b>
Pre Test	47.22	7.27	35.0	70.0

Table – 4 shows that the pre-test mean attitude score of the participants was 47.22 and standard deviation was 7.27.

**Figure– 1 Percentage distribution of existing Level of Attitude on Total Knee Replacement in the Pre-test**



Figure– 1 shows that majority of the participants were having poor attitude 33(73.3%) in the pretest. This shows that majority of the participants need education on TKR.

### SECTION – III

**This section deals with the Distribution of knowledge and attitude score in the post-test.**

**Table–5 Mean & standard deviation of knowledge score on Total Knee Replacement in the Post test.**

Knowledge Aspects	Descriptive Statistics		Ranges	
	Mean	S.D.	Minimum Score	Maximum Score
Anatomy & physiology	100.0	0.0	100.0	100.0
Signs & symptoms	100.0	0.0	100.0	100.0
Surgical procedure	94.67	9.91	60.0	100.0
Preparing Surgery	82.96	23.16	0.0	100.0
Activity & Exercise	87.50	13.85	50.0	100.0
Pain Management	100.0	0.0	100.0	100.0
Diet	83.11	19.05	40.0	100.0
Complication	60.0	31.26	0.0	100.0
General Information	83.70	16.85	66.67	100.0
Overall Knowledge	86.96	8.07	66.67	100.0

Table –5 shows that the overall mean knowledge was 86.96 and SD was 8.07 in the post test.



**Table-6 Distribution of Level of Knowledge on Total Knee Replacement in the Post-test**

n =45

<b>Knowledge Aspects</b>	<b>Inadequate Knowledge</b>		<b>Moderate Knowledge</b>		<b>Adequate Knowledge</b>	
	<b>N.</b>	<b>%</b>	<b>N.</b>	<b>%</b>	<b>N.</b>	<b>%</b>
Anatomy & physiology	0	0.0	0	0.0	45	100.0
Signs & symptoms	0	0.0	0	0.0	45	100.0
Surgical procedure	0	0.0	1	2.2	44	97.8
Preparing Surgery	3	6.7	16	35.6	26	57.8
Activity & Exercise	1	2.2	11	24.4	33	73.3
Pain Management	0	0.0	0	0.0	45	100.0
Diet	2	4.4	11	24.4	32	71.1
Complication	31	68.9	0	0.0	14	31.1
General Information	0	0.0	22	48.9	23	51.1
Overall Knowledge	0	0.0	5	11.1	40	88.9

Table-6 reveals that most of the participants (89.9%) were having adequate knowledge. All the participants (100%) were having adequate knowledge on anatomy & physiology, signs & symptoms and pain management of knee osteoarthritis. This shows that the video-assisted teaching is an effective tool to improve the knowledge of the participants.

**Table-7 Mean & standard deviation of Attitude Score on Total Knee Replacement in Post test**

<b>Attitude Score</b>	<b>Descriptive Statistics</b>		<b>Ranges</b>	
	<b>Mean</b>	<b>S.D.</b>	<b>Minimum Score</b>	<b>Maximum Score</b>
Post Test	83.61	7.93	62.50	92.50

Table-7 shows that the post test mean attitude score of the participants was 83.61 and standard deviation was 7.93.

**Figure –2 Percentage distribution of Level of Attitude on Total Knee Replacement in the Post-test**

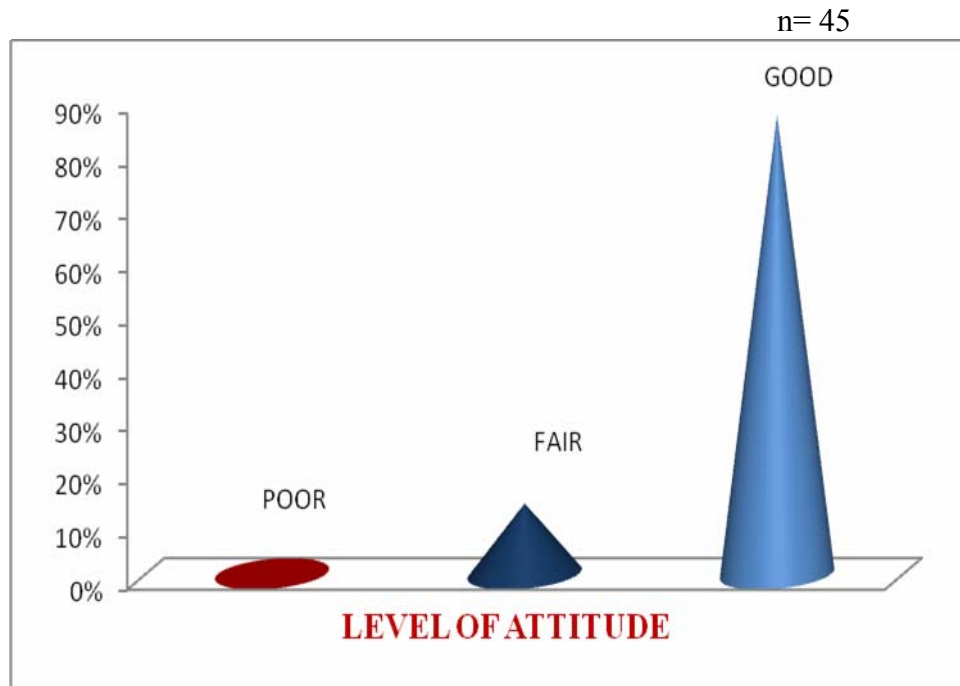


Figure-2 shows that the majority of the participants (86.7%) were having good attitude in the post-test.

## SECTION – IV

**This section deals with the Distribution of effective knowledge & attitude score on TKR.**

**Table – 8 Effective Knowledge score on Total Knee Replacement.**

Knowledge Aspects	Improvement Knowledge (n=50)		Paired t test and P value
	Mean	S.D	
Anatomy & physiology	1.11	7.45	t = 1.00, P = 0.323 (N.S)
Signs & symptoms	0.0	0.0	t = 0.0, P = 1.00 (N.S)
Surgical procedure	54.22	28.16	t = 12.915, P = 0.000 ***
Preparing Surgery	65.18	37.57	t = 11.637, P = 0.000 ***
Activity & Exercise	43.06	16.33	t = 17.685, P = 0.000 ***
Pain Management	2.22	14.91	t = 1.00, P = 0.323 (N.S)
Diet	31.56	24.67	t = 8.579, P = 0.000 ***
Complication	58.89	32.49	t = 12.159, P = 0.000 ***
General Information	64.44	27.89	t = 15.501, P = 0.000 ***
Overall Knowledge	42.81	12.41	t = 23.143, P = 0.000 ***

Note: \*\*\*- P <0.001 level of significant

Table-8 reveals that the effectiveness of knowledge score of participants on TKR (mean =42.81, SD=12.41) was significant at P<0.001 level. Hence the research hypothesis H<sub>1</sub> was accepted.

**Table – 9 Effective Attitude Score on Total Knee Replacement**

<b>Effective Attitude Score</b>	<b>Descriptive Statistics</b>
Effective Mean	36.39
Standard Deviation	9.69
Paired t value	t = 25.190
Significant P value	P = 0.000 Significant at P<0.001)

Table-9 shows that the effectiveness of attitude score of participants on TKR

(M = 36.39, SD=9.69) was significant at  $P < 0.001$ . Hence the research hypothesis  $H_1$  was accepted.

## SECTION – V

**This section deals with the distribution of existing level of practice of patients after TKR**

**Table -10 Mean & standard deviation of practice of patient after TKR**

<b>Practice Score</b>	<b>Descriptive Statistics</b>
Mean	85.48
Standard Deviation	5.91
Minimum score	66.67
Maximum score	93.33

Table-10 shows that the mean practice score was 85.48 and the Standard deviation was 5.91.

**Figure -3 Level of existing practice among the participants undergoing total knee replacement.**

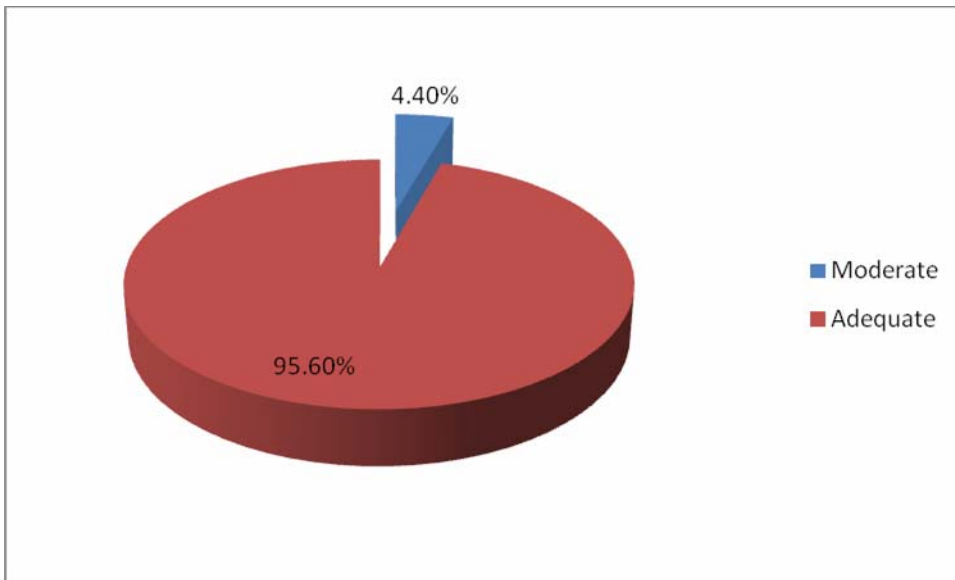


Figure -3 shows that majority of the participants 43 (95.6%) were having good practice after total knee replacement. This shows that the visual education of exercises enhanced the practice of patients after TKR.

## SECTION – VI

**This section deals with the correlation between the knowledge, attitude and practice of patient**

**Table – 11 Correlations between Knowledge, Attitude and Practice on Total Knee Replacement.**

<b>Attitude</b>	<b>Knowledge Pre Test</b>	<b>Knowledge Post Test</b>	<b>Practice</b>
	<b>r-value &amp; P-value</b>	<b>r-value &amp; P-value</b>	<b>r-value &amp; P-value</b>
Attitude Pre Test	r =0.868 P = 0.000 ***		
Attitude Post Test		r = 0.773 P = 0.000 ***	r = 0.166 P = 0.274 (N.S)
Practice		r = 0.166 P = 0.274 (N.S)	r = 0.223 P = 0.142 (N.S)

Note: \*\*\* -P<0.001 level of significant.

Table – 11 shows that there is a correlation between knowledge and attitude both in the pre-test & post test. It was significant at P<0.001 level.



## SECTION – VII

**This section deals with the association between selected demographic variables and pretest knowledge & attitude score of patient**

**Table – 12 Associations between Level of Knowledge on Total Knee Replacement and Demographic Variables in Pre Test**

Demographic Variables	n =45				Chi-Square value& P value
	Inadequate Knowledge (0-50%)		Moderate Knowledge (51-75%)		
	N.	%	N.	%	
<b>1. Age in years</b>					
a) < 50 yrs	4	100.0	0	0.0	$\chi^2 = 1.300$ , d.f = 3 P=0.729 (N.S)
b) 51 – 60 yrs	9	75.0	3	25.0	
c) 61 – 70 yrs	19	82.6	4	17.4	
d) > 70 yrs	5	83.3	1	16.7	
<b>2. Gender</b>					$\chi^2 = 1.497$ , d.f = 1 P=0.221 (N.S)
a) Male	6	100.0	0	0.0	
b) Female	31	79.5	8	20.5	
<b>3. Education</b>					$\chi^2 = 0.763$ , d.f = 2 P=0.683 (N.S)
b) Primary	1	100.0	0	0.0	
c) High school	13	76.5	4	23.5	
d) Hr. Sec.	23	85.2	4	14.8	
<b>4. Occupation</b>					$\chi^2 = 2.096$ , d.f = 3 P=0.553 (N.S)
b) Government	4	80.0	1	20.0	
c) Private	3	100.0	0	0.0	
d) Self employed	1	50.0	1	50.0	
e) House wife	29	82.9	6	17.1	
<b>5. Family income</b>					$\chi^2 = 4.637$ , d.f = 3 P=0.200 (N.S)
a) < Rs.10000	6	60.0	4	40.0	
b) Rs.10001 – 15000	28	87.5	4	12.5	
c) Rs. 15001 – 20000	2	100.0	0	0.0	
d) > Rs.20000	1	100.0	0	0.0	
<b>6. Place of Residence</b>					$\chi^2 = 0.241$ , d.f = 1 P=0.623 (N.S)
a) Urban	22	84.6	4	15.4	
b) Rural	15	78.9	4	21.1	
<b>7. Type of Family</b>					$\chi^2 = 1.216$ , d.f = 1
a) Joint	5	100.0	0	0.0	
b) Nuclear	32	80.0	8	20.0	

					P=0.270 (N.S)
<b>8. Marital Status</b>					
a) Married	36	81.8	8	18.2	$\chi^2 = 0.221,$
d) Widow / Widower	1	100.0	0	0.0	d.f = 1 P=0.638 (N.S)
<b>9. Religion</b>					
a) Hindu	32	80.0	8	20.0	$\chi^2 = 1.216,$
b) Christian	4	100.0	0	0.0	d.f = 2
c) Muslim	1	100.0	0	0.0	P=0.544 (N.S)
<b>10. No of Years Suffering</b>					
a) < 3 yrs	5	100.0	0	0.0	$\chi^2 = 15.350,$
b) 3 – 6 yrs	21	87.5	3	12.5	d.f = 3
c) 6 – 9 yrs	10	90.9	1	9.1	P=0.002 **
d) > 9 yrs	1	20.0	4	80.0	
<b>11. Family History</b>					
a) Yes	3	100.0	0	0.0	$\chi^2 = 0.695,$
b) No	34	81.0	8	19.0	d.f = 1 P=0.404 (N.S)
<b>12. If yes</b>					
a) Parents	2	100.0	0	0.0	$\chi^2 = 0.695,$
d) Other relations	1	100.0	0	0.0	d.f = 2
e) No family history	34	81.0	8	19.0	P=0.706 (N.S)
<b>13. Previous Exposure</b>					
a) Yes	4	36.4	7	63.6	$\chi^2 = 20.946,$
b) No	33	97.1	1	2.9	d.f=1 P=0.000 ***
<b>14.If yes</b>					
a) Health Professionals	4	36.4	7	63.6	$\chi^2 = 20.946,$
b) No Exposure	33	97.1	1	2.9	d.f=1 P=0.000 ***

Note: \* - P<0.05, \*\*\* - P<0.001 Level of Significant, N.S. – Not Significant

Table-12 reveals that there was an association between the level of knowledge and selected demographic variables like duration of knee osteoarthritis & previous exposure of information on TKR in pre-test. It was significant at P<0.01 and P<0.001 level. Hence the research hypothesis H<sub>2</sub> was accepted.

**Table – 13 Associations between Level of Attitude on Total Knee Replacement and Demographic Variables in Pre Test**

n =45

Demographic Variables	Low Attitude (0 -50%)		Moderate Attitude (51-75%)		Chi-Square value& P value
	N.	%	N.	%	
<b>1. Age in years</b>					
a) < 50 yrs	4	100.0	0	0.0	$\chi^2 = 3.146,$ d.f = 3 P=0.370 (N.S)
b) 51 – 60 yrs	9	75.0	3	25.0	
c) 61 – 70 yrs	17	73.9	6	26.1	
d) > 70 yrs	3	50.0	3	50.0	
<b>2. Gender</b>					$\chi^2 = 0.157,$
a) Male	4	66.7	2	33.3	d.f = 1
b) Female	29	74.4	10	25.6	P=0.692 (N.S)
<b>3. Education</b>					
b) Primary	1	100.0	0	0.0	$\chi^2 = 0.437,$ d.f = 2 P=0.804 (N.S)
c) High school	12	70.6	5	29.4	
d) Hr. Sec.	20	74.1	7	25.9	
<b>4. Occupation</b>					
b) Government	3	60.0	2	40.0	$\chi^2 = 6.818,$ d.f = 3 P=0.078 (N.S)
c) Private	2	66.7	1	33.3	
d) Self employed	0	0.0	2	100.0	
e) House wife	28	80.0	7	20.0	
<b>5. Family income</b>					
a) < Rs.10000	4	40.0	6	60.0	$\chi^2 = 8.597,$ d.f = 3 P=0.035 (N.S)
b) Rs.10001 – 15000	27	84.4	5	15.6	
c) Rs.15001 – 20000	1	50.0	1	50.0	
d) > Rs.20000	1	100.0	0	0.0	
<b>6. Place of Residence</b>					$\chi^2 = 0.406,$
a) Urban	20	76.9	6	23.1	d.f = 1
b) Rural	13	68.4	6	31.6	P=0.524 (N.S)
<b>7. Type of Family</b>					$\chi^2 = 2.045,$
a) Joint	5	100.0	0	0.0	d.f = 1
b) Nuclear	28	70.0	12	30.0	P=0.153 (N.S)
<b>8. Marital Status</b>					$\chi^2 = 0.372,$
a) Married	32	72.7	12	27.3	d.f = 1
d) Widow / Widower	1	100.0	0	0.0	P=0.542 (N.S)

<b>9. Religion</b>					
a) Hindu	30	75.0	10	25.0	$\chi^2 = 2.812,$ d.f = 2 P=0.245 (N.S)
b) Christian	3	75.0	1	25.0	
c) Muslim	0	0.0	1	100.0	
<b>10. No of Years Suffering</b>					
a) < 3 yrs	4	80.0	1	20.0	$\chi^2 = 8.209,$ d.f = 3 P=0.042 *
b) 3 – 6 yrs	19	79.2	5	20.8	
c) 6 – 9 yrs	9	81.8	2	18.2	
d) > 9 yrs	1	20.0	4	80.0	
<b>11. Family History</b>					
a) Yes	3	100.0	0	0.0	$\chi^2 = 1.169,$ d.f = 1 P=0.280 (N.S)
b) No	30	71.4	12	28.6	
<b>12. If yes</b>					
a) Parents	2	100.0	0	0.0	$\chi^2 = 1.169,$ d.f = 2 P=0.557 (N.S)
d) Other relations	1	100.0	0	0.0	
e) No family history	30	71.4	12	28.6	
<b>13. Previous Exposure</b>					
a) Yes	4	36.4	7	63.6	$\chi^2 = 10.175,$ d.f = 1 P=0.001 ***
b) No	29	85.3	5	14.7	
<b>14. If yes</b>					
a) Health Professionals	4	36.4	7	63.6	$\chi^2 = 10.175,$ d.f = 1 P=0.001 ***
b) No Exposure	29	85.3	5	14.7	

Note: \* - P<0.05, \*\*\* - P<0.001 Level of Significant, N.S. – Not Significant

Table – 13 shows that there was an association between level of attitude and selected demographic variable like duration of knee osteoarthritis & previous exposure of information on TKR in pre-test. It was significant at P<0.001 level. Hence the research hypothesis H<sub>2</sub> was accepted.

## SECTION – VIII

This section deals with the association between selected demographic variable with post-test knowledge, attitude and practice of patient.

**Table – 14 Associations between Level of Knowledge on Total Knee Replacement and Demographic Variables in Post Test.**

Demographic Variables	n =45				Chi-Square value& P value
	Moderate Knowledge (51-75%)		Adequate Knowledge (75-100%)		
	N.	%	N.	%	
<b>1. Age in years</b>					
a) < 50 yrs	1	25.0	3	75.0	$\chi^2 = 1.712,$ d.f= 3 P=0.634 (N.S)
b) 51 – 60 yrs	1	8.3	11	91.7	
c) 61 – 70 yrs	3	13.0	20	87.0	
d) > 70 yrs	0	0.0	6	100.0	
<b>2. Gender</b>					
a) Male	0	0.0	6	100.0	$\chi^2 = 0.865,$ d.f= 1 P=0.352 (N.S)
b) Female	5	12.8	34	87.2	
<b>3. Education</b>					
b) Primary	0	0.0	1	100.0	$\chi^2 = 3.750,$ d.f= 2 P=0.153 (N.S)
c) High school	0	0.0	17	100.0	
d) Hr. Sec.	5	18.5	22	81.5	
<b>4. Occupation</b>					
b) Government	1	20.0	4	80.0	$\chi^2 = 1.029,$ d.f= 3 P=0.794 (N.S)
c) Private	0	0.0	3	100.0	
d) Self employed	0	0.0	2	100.0	
e) House wife	4	11.4	31	88.6	
<b>5. Family income</b>					
a) < Rs.10000	1	10.0	9	90.0	$\chi^2 = 0.450,$ d.f= 3 P=0.930 (N.S)
b) Rs.10001 – 15000	4	12.5	28	87.5	
c) Rs.15001 – 20000	0	0.0	2	100.0	
d) >Rs.20000	0	0.0	1	100.0	
<b>6. Place of Residence</b>					
a) Urban	3	11.5	23	88.5	$\chi^2 = 0.11,$ d.f= 1 P=0.915 (N.S)
b) Rural	2	10.5	17	89.5	

<b>7. Type of Family</b>					$\chi^2 = 0.703,$
a) Joint	0	0.0	5	100.0	d.f = 1
b) Nuclear	5	12.5	35	87.5	P=0.402 (N.S)
<b>8. Marital Status</b>					$\chi^2 = 0.128,$
a) Married	5	11.4	39	88.6	d.f = 1
d) Widow / Widower	0	0.0	1	100.0	P=0.721(N.S)
<b>9. Religion</b>					
a) Hindu	4	10.0	36	90.0	$\chi^2 = 0.956,$
b) Christian	1	25.0	3	75.0	d.f = 2
c) Muslim	0	0.0	1	100.0	P=0.620 (N.S)
<b>10. No of Years Suffering</b>					
a) < 3 yrs	1	20.0	4	80.0	$\chi^2 = 1.769,$
b) 3 – 6 yrs	2	8.3	22	91.7	d.f = 3
c) 6 – 9 yrs	2	18.2	9	81.8	P=0.622 (N.S)
d) > 9 yrs	0	0.0	5	100.0	
<b>11. Family History</b>					$\chi^2 = 0.402,$
a) Yes	0	0.0	3	100.0	d.f = 1
b) No	5	11.9	37	88.1	P=0.526 (N.S)
<b>12. If yes</b>					
a) Parents	0	0.0	2	100.0	$\chi^2 = 0.402,$
d) Other relations	0	0.0	1	100.0	d.f = 2
e) No family history	5	11.9	37	88.1	P=0.818 (N.S)
<b>13. Previous Exposure</b>					$\chi^2 = 1.820,$
a) Yes	0	0.0	11	100.0	d.f=1
b) No	5	14.7	29	85.3	P=0.177 (N.S)
<b>14. If yes</b>					$\chi^2 = 1.820,$
a) Health Professionals	0	0.0	11	100.0	d.f = 1
b) No Exposure	5	14.7	29	85.3	P=0.177 (N.S)

Note: N.S. – Not Significant

Table – 14 reveals that there was no significant association between the demographic variable and the level of knowledge in post-test.

**Table – 15 Associations between Level of Attitude on Total Knee Replacement and Demographic Variables in Post Test**

Demographic Variables	n =45				Chi-Square value& P value
	Moderate Attitude (51-75%)		High Attitude (75-100%)		
	N.	%	N.	%	
<b>1. Age in years</b>					
a) < 50 yrs	1	25.0	3	75.0	$\chi^2 = 1.982,$ d.f= 3 P=0.576 (N.S)
b) 51 – 60 yrs	1	8.3	11	91.7	
c) 61 – 70 yrs	4	17.4	19	82.6	
d) > 70 yrs	0	0.0	6	100.0	
<b>2. Gender</b>					$\chi^2 = 1.065,$
a) Male	0	0.0	6	100.0	d.f= 1
b) Female	6	15.4	33	84.6	P=0.302 (N.S)
<b>3. Education</b>					
b) Primary	0	0.0	1	100.0	$\chi^2 = 4.615,$ d.f= 2 P=0.099 (N.S)
c) High school	0	0.0	17	100.0	
d) Hr. Sec.	6	22.2	21	77.8	
<b>4. Occupation</b>					
b) Government	0	0.0	5	100.0	$\chi^2 = 1.978,$ d.f= 3 P=0.577 (N.S)
c) Private	0	0.0	3	100.0	
d) Self employed	0	0.0	2	100.0	
e) House wife	6	17.1	29	82.9	
<b>5. Family income</b>					
a) < Rs.10000	0	0.0	10	100.0	$\chi^2 = 2.812,$ d.f= 3 P=0.421 (N.S)
b) Rs.10001 – 15000	6	18.8	26	81.2	
c) Rs. 15001 – 20000	0	0.0	2	100.0	
d) > Rs.20000	0	0.0	1	100.0	
<b>6. Place of Residence</b>					$\chi^2 = 0.224,$
a) Urban	4	15.4	22	84.6	d.f= 1
b) Rural	2	10.5	17	89.5	P=0.636 (N.S)
<b>7. Type of Family</b>					$\chi^2 = 0.865,$
a) Joint	0	0.0	5	100.0	d.f= 1
b) Nuclear	6	15.0	34	85.0	P=0.352 (N.S)
<b>8. Marital Status</b>					$\chi^2 = 0.157,$
a) Married	6	13.6	38	86.4	d.f= 1
d) Widow / Widower	0	0.0	1	100.0	P=0.692 (N.S)

<b>9. Religion</b>					
a) Hindu	5	12.5	35	87.5	$\chi^2 = 0.649,$ d.f = 2 P=0.723 (N.S)
b) Christian	1	25.0	3	75.0	
c) Muslim	0	0.0	1	100.0	
<b>10. No of Years Suffering</b>					
a) < 3 yrs	1	20.0	4	80.0	$\chi^2 = 1.364,$ d.f = 3 P=0.714 (N.S)
b) 3 – 6 yrs	4	16.7	20	83.3	
c) 6 – 9 yrs	1	9.1	10	90.9	
d) > 9 yrs	0	0.0	5	100.0	
<b>11. Family History</b>					
a) Yes	0	0.0	3	100.0	$\chi^2 = 0.495,$ d.f = 1 P=0.482 (N.S)
b) No	6	14.3	36	85.7	
<b>12. If yes</b>					
a) Parents	0	0.0	2	100.0	$\chi^2 = 0.495,$ d.f = 2 P=0.781 (N.S)
d) Other relations	0	0.0	1	100.0	
e) No family history	6	14.3	36	85.7	
<b>13. Previous Exposure</b>					
a) Yes	0	0.0	11	100.0	$\chi^2 = 2.240,$ d.f = 1 P=0.134 (N.S)
b) No	6	17.6	28	82.4	
<b>14. If yes</b>					
a) Health Professionals	0	0.0	11	100.0	$\chi^2 = 2.240,$ d.f = 1 P=0.134 (N.S)
b) No Exposure	6	17.6	28	82.4	

Note: N.S. – Not Significant

Table – 15 reveals that there was no significant association between the demographic variable and the level of attitude in post – test.



**Table -16 Associations between Level of Practice on Total Knee Replacement and Demographic Variables.**

Demographic Variables	n =45				Chi-Square value& P value
	Moderate Practice (51-75%)		Good Practice (75-100%)		
	N.	%	N.	%	
<b>1. Age in years</b>					
a) < 50 yrs	1	25.0	3	75.0	$\chi^2 = 7.718,$ d.f = 3 P=0.050 *
b) 51 – 60 yrs	0	0.0	12	100.0	
c) 61 – 70 yrs	0	0.0	23	100.0	
d) > 70 yrs	1	16.7	5	83.3	
<b>2. Gender</b>					$\chi^2 = 0.322,$
a) Male	0	0.0	6	100.0	d.f = 1
b) Female	2	5.1	37	94.9	P=0.570 (N.S)
<b>3. Education</b>					
b) Primary	0	0.0	1	100.0	$\chi^2 = 1.395,$ d.f = 2 P=0.498 (N.S)
c) High school	0	0.0	17	100.0	
d) Hr. Sec.	2	7.4	25	92.6	
<b>4. Occupation</b>					
b) Government	0	0.0	5	100.0	$\chi^2 = 0.598,$ d.f = 3 P=0.897 (N.S)
c) Private	0	0.0	3	100.0	
d) Self employed	0	0.0	2	100.0	
e) House wife	2	5.7	33	94.3	
<b>5. Family income</b>					
a) < Rs.10000	1	10.0	9	90.0	$\chi^2 = 0.997,$ d.f = 3 P=0.802 (N.S)
b) Rs.10001 – 15000	1	3.1	31	96.9	
c) Rs. 15001 – 20000	0	0.0	2	100.0	
d)> Rs.20000	0	0.0	1	100.0	
<b>6. Place of Residence</b>					$\chi^2 = 1.530,$
a) Urban	2	7.7	24	92.3	d.f = 1
b) Rural	0	0.0	19	100.0	P=0.216 (N.S)
<b>7. Type of Family</b>					$\chi^2 = 3.205,$
a) Joint	1	20.0	4	80.0	d.f = 1
b) Nuclear	1	2.5	39	97.5	P=0.073 (N.S)
<b>8. Marital Status</b>					$\chi^2 = 0.048,$
a) Married	2	4.5	42	95.5	d.f = 1
d) Widow / Widower	0	0.0	1	100.0	P=0.827 (N.S)

<b>9. Religion</b>					
a) Hindu	2	5.0	38	95.0	$\chi^2 = 0.262,$ d.f = 2 P=0.877 (N.S)
b) Christian	0	0.0	4	100.0	
c) Muslim	0	0.0	1	100.0	
<b>10. No of Years Suffering</b>					
a) < 3 yrs	1	20.0	4	80.0	$\chi^2 = 4.757,$ d.f = 3 P=0.190 (N.S)
b) 3 – 6 yrs	0	0.0	24	100.0	
c) 6 – 9 yrs	1	9.1	10	90.9	
d) > 9 yrs	0	0.0	5	100.0	
<b>11. Family History</b>					
a) Yes	0	0.0	3	100.0	$\chi^2 = 0.150,$ d.f = 1 P=0.699 (N.S)
b) No	2	4.8	40	95.2	
<b>12. If yes</b>					
a) Parents	0	0.0	2	100.0	$\chi^2 = 0.150,$ d.f = 2 P=0.928 (N.S)
d) Other relations	0	0.0	1	100.0	
e) No family history	2	4.8	40	95.2	
<b>13. Previous Exposure</b>					
a) Yes	1	9.1	10	90.9	$\chi^2 = 0.740,$ d.f = 1 P=0.390 (N.S)
b) No	1	2.9	33	97.1	
<b>14. If yes</b>					
a) Health Professionals	1	9.1	10	90.9	$\chi^2 = 0.740,$ d.f = 1 P=0.390 (N.S)
b) No Exposure	1	2.9	33	97.1	

Note: \* - P<0.05 Level of Significant, N.S. – Not Significant

Table – 16 reveals that there was an association between the demographic variable and the level of practice after TKR only in the age group. It was significant at P<0.05 level.

## **CHAPTER V**

### **DISCUSSION**

The present study was designed to assess the effectiveness of video assisted teaching module on knowledge, attitude and practice among the patients undergoing total knee replacement at MIOT Hospitals, Chennai. This study was carried out on 45 patients who underwent total knee replacement at MIOT Hospitals, Chennai. The effectiveness of video assisted teaching module on total knee replacement was assessed by post-test on the day of discharge.

Table -1 reveals the significant findings of the demographic variable, majority of the participants were females (86.7%). It could be interpreted with the incidence of knee osteoarthritis because females were mainly affected due to this disease. Most of the participants were in the age group of 61-70years (51.1%), 60% of the participants were studied up to higher secondary, so it could be interpreted that the method of education could also be given through the handout, pamphlets or it can be mainly in the form of video assisted teaching module. Most of the participants have family income of Rs. 10,001 to Rs.15, 000 (71.1%), 57.8% of the participants were living in urban, type of family mainly nuclear (88.9%) and 88.9% belong to Hindu. Majority of the participants were married (97.8%), duration of knee osteoarthritis was 3-6 years (53.3%), 93.3% of the participants have no family history and 75.6% participants did not have the previous exposure of information on total knee replacement. This showed that the majority of the participants need the education about total knee replacement.

**The first objective of the study was to assess the existing knowledge and attitude of patient on total knee replacement.** Table -3 reveals that 37(82.2%) of the participants had inadequate knowledge, 7 (15.6%) had moderate knowledge and 1 (2.2%) had adequate knowledge in the pre-test.

Figure -3 shows that 33(73.3%) of the participants had poor attitude, 12 (26.7%) had fair attitude, none of them had good attitude. This showed that there was a need for education on total knee replacement to the people who is undergoing TKR.

**The second objective of the study was to assess the effectiveness of video assisted teaching module on knowledge and attitude of patient on total knee replacement.**

The research hypothesis, H<sub>1</sub>, stated that there is a significant difference in the knowledge & attitude of patient regarding total knee replacement before and after administration of Video-assisted teaching module.

The level of knowledge among the patients undergoing total knee replacement in the pre-test was noted that 82.2% of the participants had inadequate knowledge whereas in the post-test 88.9% of the participants had gained adequate knowledge level. The level of attitude among the patients undergoing total knee replacement in the pre-test was noted that 33(73.3%) had poor attitude, whereas in the post-test 86.7% of participants had good attitude level. Table -8 reveals that the level of knowledge was effective mainly in the aspects of surgical procedure, Preparing for surgery, Diet, complication and general information on total knee replacement was significant at P<0.001 level. Table -9 reveals that the attitude score of patients on total knee replacement was effective and highly significant at P<0.001

level. It could be interpreted that this was mainly due to the education given to the patients regarding total knee replacement. Hence the research hypothesis  $H_1$  was accepted.

Post-test revealed that majority of the participants had gained adequate knowledge and good attitude level. It could be interpreted that this was mainly due to education given to the participants about the total knee replacement through video assisted teaching module. The findings can also be supported by the study conducted by Lin PC et al (1997) to compare the effects of pre-admission and post-admission educational programme for patients with total knee arthroplasty. The research results found that the experimental group had a significantly higher knowledge level than the control group; the experimental group performed exercise more regularly and correctly than those in the control group; Pre-admission teaching with a videotape programme and a health manual for patients with total knee arthroplasty were recommended.

**The third objective of the study was to assess the existing practice of patient after total knee replacement.**

Figure -3 shows that 43(95.6%) of the participants had adequate practice. It could be compared with the Chinese proverb.

If I hear, I forget

If I see, I know

If I do, I remember

After the education on total knee replacement by video assisted teaching, the client has adequate practice of exercises after TKR. It could be supported by the study conducted by Scopaz et al (2009). He suggested that the patient who receives quadriceps strengthening

exercises would improve the movement of knee after total knee replacement and patient with osteoarthritis of knee.

**The fourth objective of the study was to correlate between the knowledge, attitude and practice on total knee replacement.** Table -11 reveals that there was a correlation between the knowledge and attitude both in pre-test & post test. It was significant at  $P < 0.001$  level. There was no correlation between the knowledge and practice of patient with total knee replacement. It could be interpreted that if the participants had an adequate knowledge they will develop a positive attitude towards the total knee replacement.

**The fifth objective of the study was to associate between the demographic variables and knowledge, attitude and practice of patient with total knee replacement.**

The research hypothesis,  $H_2$ , stated that there is a significant association between the knowledge & attitude of patient regarding total knee replacement with selected demographic variables in the pre-test.

The findings of the study showed that there was an association between the level of knowledge and attitude with selected demographic variable like duration of knee osteoarthritis and previous exposure of information on total knee replacement. It was significant at  $P < 0.05$  and  $P < 0.001$  level in the pre-test. Hence the research hypothesis  $H_2$  was accepted. In the post-test there was no association between the level of knowledge and attitude with selected demographic variables. There was an association between the levels of practice with selected demographic variables only in the age group. It was significant at  $P < 0.05$  level.

Knee osteoarthritis made the life miserable to cause heavy health and economic burden around the world. Researcher aimed at improving the knowledge and to develop positive attitude of participants towards total knee replacement by providing video assisted teaching. Based on the results of the study the researcher found that video assisted teaching was an effective teaching method.

**CHAPTER VI**

**SUMMARY, CONCLUSION, LIMITATIONS, NURSING**

**IMPLICATIONS AND RECOMMENDATION**

**Summary**

The present study was designed to assess the effectiveness of video assisted teaching module on knowledge, attitude and practice among the patients undergoing total knee replacement at MIOT Hospitals, Chennai.

The conceptual frame work of this study was developed on the basis of Orem's General theory of nursing model. An extensive review of literature on video assisted teaching & total knee replacement were made and the guidance by experts formed the foundation to the development of the study tools. An experimental research approach with pre-experimental one group pretest posttest design was used to achieve the objectives of the study. The present study was conducted at MIOT hospitals, Chennai, with a sample size of 45 patients. They were selected through non-probability convenient sampling technique. The investigator used a demographic variable proforma, 30 knowledge structured questionnaire, 10 attitude questions and practice observation check list on total knee replacement to collect the data. The data collection tools were validated and the reliability was established and the score was  $r = 0.895$ . After obtained formal permission the main study data collection was carried out for 6 weeks. After the pre-test, video assisted teaching module on total knee replacement was administered to the patients with total knee replacement. The post-test was done on 7<sup>th</sup> day. The collected data were tabulated and analyzed using descriptive and inferential statistics.



The significant findings of the demographic variable, majority of the participants were females (86.7%) in the age group of 61-70years (51.1%) and 60% of the participants studied up to higher secondary. Most of the participants had family income of Rs. 10,001 to Rs.15,000 (71.1%), 57.8% of the participants were living in urban, type of family mainly nuclear (88.9%) and 88.9% of the participants belong to Hindu. Majority of the participants (97.8%) were married, duration of knee osteoarthritis mainly 3-6 years (53.3%), 93.3% had no family history and 75.6% participants did not have the previous exposure of information on total knee replacement. The researcher found that majority of the participants needed education on TKR.

The level of knowledge among the patients undergoing total knee replacement in the pre-test was noted that 37(82.2%) of the participants had inadequate knowledge, 7 (15.6%) of the participants had moderate knowledge and 1 (2.2%) of the participants had adequate knowledge whereas in the post-test none of them had inadequate knowledge and majority of them (88.9%) had gained adequate knowledge. It was also noted that there was a significant improvement in the post-test mean score ( $M=86.96$ ,  $SD =8.09$ ) in comparison with the pre-test scores ( $M=44.15$ ,  $SD =10.99$ ) with the 't' value of 23.143. It was statistically significant at  $P<0.001$  level. There was a significant association between the demographic variables and the pre-test level of knowledge and attitude whereas in the post-test there was no significant association. It was noted that there was an association between the practice with selected demographic variable only in the age group was significant at  $P<0.05$  level. Hence the research hypothesis  $H_1$  and  $H_2$  was accepted.

## **Conclusion**

The major conclusion was drawn from this study is that the video assisted teaching module on total knee replacement had significantly improved the level of knowledge (88.9%) and attitude (86.7%) of patient with total knee replacement. This study also revealed that video assisted teaching module was an effective tool to impart the knowledge & developing positive attitude and practice on total replacement.

## **Limitations**

- The study was limited to patients undergoing total knee replacement at MIOT hospitals. So the findings cannot be generalized.
- The study was limited to patients in C1 and C2 ward at MIOT hospitals. So the findings cannot be generalized.
- The study was limited to patients in In-patient department.
- The period of data collection was limited to 6 weeks.
- Convenient sampling technique was selected due to inadequacy of sample.

## **Nursing implications**

The implications drawn from the study are vital concern for clinical nurse practitioner, nurse educators, administrator and researchers.

## **Nursing practice**

In clinical nursing practice, the video-assisted teaching module can be utilized for the clients who underwent total knee replacement in empowering them with knowledge and help to necessitate the clients assume greater responsibility on their operated knee and prevention of dislocation, stiffness of the knee etc. It is also necessary to equip the nursing personnel to

motivate and educate the clients on care for their operated knee which will reduce the postoperative complications among the patients underwent total knee replacement. In the hospital, the protocols can be prepared regarding pre-operative and post-operative care of the patient undergoing total knee replacement and it can be utilized after validation.

### **Nursing education**

The nursing curriculum has prescribed health education which was an integral part of the nursing care. Health education is more effective when the facts are expressed with visual cues and health care trends. Nursing education should be focused on the importance of video assisted teaching among the students. Hence the nurse educator should educate the students about total knee replacement and motivate the students to prepare video assisted teaching material for quality assured nursing care. Nurse educators should take initiatives to publish certain articles in journals related to the importance of video assisted teaching regarding total knee replacement.

### **Nursing administration**

With the technological advances and the ever-growing challenges of health care needs, the administrators have a responsibility to provide nurses with substantive continuing education opportunities by conducting in-service education. This will enable the nurses to update their knowledge, acquire special skills to demonstrate high quality care. Nurse administrator should take the initiative in organizing video-educational programs on total knee replacement. Nurse administrators should collaborate with governing bodies in formulating policies and protocols to emphasize nursing care of client who underwent total knee replacement.

## **Nursing research**

There is a need for extensive and intensive research regarding total knee replacement because a lot of people are affected with osteoarthritis of knee. It opens a big avenue for innovative methods of osteoarthritis management focus on patient's interest in quality and safety, so as to generate more scientific database in order to manage the client with total knee replacement. The nurse researchers have to realize the needs to be responsible for the changing health care needs of the consumer by developing and testing educational tools that facilitate effective learning particularly in the concept of total knee replacement. The nurse researchers should conduct various researches on total knee replacement and she should publish it in various journals that will help the future nurse researchers.

### **Recommendations**

- A similar study could be replicated by employing a large sample.
- A study can be done to compare the knowledge and practice among the patient undergoing total knee replacement.
- A study could be done to assess the risk factors for osteoarthritis.
- An observational study could be done to assess the effects of post operative exercises among the patients undergoing total knee replacement.
- A comparative study could be done to assess the effectiveness of lecture method versus video-assisted teaching among the patients undergoing total knee replacement.
- The study can be conducted in different settings with similar facilities.
- A similar study can be conducted by using true experimental design.

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## APPENDIX-A

### LETTER SEEKING PERMISSION TO CONDUCT THE STUDY

**MIOT COLLEGE OF NURSING**  
(CARE, COMPASSION, COMMITMENT)



From  
Prof. Mrs. Anigrace Kalaimathi,  
M.Sc., (N), PGDNA., DQA  
Principal.

To  
Dr. Barry D' Rosario ,  
Director of Department of Total Knee Replacement and Computer Navigation,  
MIOT Hospitals,  
Chennai

Dear Sir/ Madam,

Ms. T. Mugeshwari, M.Sc., (N) II year student is going to do a research on " A Study to assess the effectiveness of video-assisted teaching module on knowledge, attitude and practice among the patients undergoing total knee replacement at MIOT Hospitals Chennai" . So, I request you kindly allow her to do the project in your department.

Thanking you.

Sincerely,

Prof. Mrs. S. Ani Grace Kalaimathi.

Prof. Mrs. ANIGRACE KALAIMATHI  
M.Sc., (N), PGDNA., DQA, Ph.D.,  
Principal,  
MIOT COLLEGE OF NURSING  
No. 1/70, Mariamman Koil Street,  
Mugaliyakkam, Chennai - 600 116.

**MIOT MEDICAL & EDUCATIONAL TRUST**

1/70, Mariamman Koil Street, Mugaliyakkam, Chennai - 116.

Ph : 64547829 Fax : 91-44-22491188

E-mail : miot@vsnl.com www.miothospitals.com



April 16, 2010

Prof.Mrs.Anigrace Kalaimathi  
M.Sc., (N), PGDNA, DQA  
Principal.

Dear Madam,

Ms.T.Mugeshwari, M.Sc., (N) II year may most certainly do a research on " A study to assess the effectiveness of video-assisted teaching module on knowledge, attitude and practice among the patients undergoing total knee replacement" at MIOT Hospitals, Chennai.

With regards,

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Dr. Barry J M D'Rosario', written over a horizontal line.

**DR.BARRY D'ROSARIO**  
Director of Department of Total Knee Replacement  
And Computer Navigation.

**MIOT HOSPITALS**  
**DEPT. OF ORTHOPAEDIC SURGERY**  
Dr BARRY J M D' ROSARIO  
Reg. No. 28408

## **APPENDIX -B**

### **RESEARCH PARTICIPANT CONSENT FORM**

Dear participant,

I, Ms.T.Mugeshwari II year M.Sc Nursing student, MIOT College of nursing, Chennai.

As a part of my studies, I am interested to do “A study to assess the effectiveness of video-assisted teaching module on knowledge, attitude and practice among the patients undergoing total Knee replacement at MIOT Hospitals Chennai”. The information which you are giving will be kept confidential and will be used only for this study. I hereby seek your consent and co-operation to participate in this study by answering my questions honestly and state your willingness to participate in this study.

Thanking you,

Signature of the investigator

#### **CONSENT FROM THE PARTICIPANT**

I understand the purpose of this study and I am willing to participate in this study.

Signature of the Participant

Place:

Date:

**APPENDIX -C**  
**PART – I**  
**Tool for assessing knowledge, attitude and practice**  
**On total knee replacement**

**Instruction**

Please read every question carefully and put tick mark and indicate the response that you choose.

**Demographic variables**

**1. Age**

1. < 50 years
2. 51 – 60 yrs
3. 61 – 70yrs
4. > 71 yrs

**2. Sex**

1. Male
2. Female

**3. Educational Status**

1. Illiterate
2. Primary education(1<sup>st</sup> -5<sup>th</sup> )
3. high school (6<sup>th</sup> -10<sup>th</sup> )
- 4.higher secondary (11<sup>th</sup> &12<sup>th</sup> )
5. Degree / Diploma / Professionals

**4. Occupation**

1. Unemployed
2. Government
3. Private
4. Self employed
5. House wife

**5. Monthly Income**

1. < Rs.10000
2. Rs. 10000– 15000
3. Rs.15000 – 20000
4. > Rs.20000

**6. Place of residence**

1. Urban
2. Rural

**7. Type of family**

1. Joint
2. Nuclear

**8. Marital Status**

1. Married
2. Unmarried
3. Divorce
4. Widow / Widower

**9. Religion**

1. Hindu

2. Christian
3. Muslim
4. Other religion

**10. For how many years you have been suffering from arthritis of knee?**

1. < 3years
2. 3-6 years
3. 6-9 years
4. > 9yrs

**11. Do you have family history of arthritis of knee?**

1. Yes
2. No                    If yes

1. Parents
2. Siblings
3. Maternal / Paternal parents
4. Other blood relations

**12. Do you have previous exposure to information on TKR?**

1. Yes
2. No

If yes, from whom?

1. Doctor / Nurses / Other health Care professional /friends &relatives
2. Newspaper / Magazine / Journals / Television / Radio / Internet

**PART – II  
KNOWLEDGE**

**Anatomy &physiology**

1. What is knee joint?
  - a. Joint of humerus and radial bone
  - b. Joint of femur and tibia, patella bone
  - c. Joint of tibia and anklebone
  - d. None
2. What is the function of knee joint?
  - a. contractility
  - b. stability and mobility
  - c. productivity
  - d. sensitivity

**Signs and symptoms**

3. Which one is the common symptom of severe knee osteoarthritis?
  - a. swelling of the joint and knee pain
  - b. giddiness
  - c. fever
  - d. dyspnea.

**Surgical procedure**

4. What is total knee replacement?
  - a. Only femur replaced with artificial material
  - b. femur, tibia &patella replaced with artificial material
  - c. Only tibia replaced with artificial materials
  - d. None
5. Which type of patients should consider TKR?
  - a. Patient with severe knee osteoarthritis

- b. Patient with mild arthritis
  - c. Patient with angina
  - d. None
6. In which complaint the patient should not undergo TKR?
- a. nausea
  - b. chest pain
  - c. headache
  - d. loss of appetite
7. In which condition the patient should not undergo TKR?
- a. dental caries
  - b. constipation
  - c. diarrhea
  - d. gastritis
8. Artificial knee is made up of
- a. Plastic piece & metal stem
  - b. Rubber piece
  - c. Only plastic piece
  - d. None

**Preparing for surgery**

9. What type of drug should be avoided one week before the surgery?
- a. Ranitidine
  - b. aspirin&clopilet
  - c. paracetamol
  - d. co-trimaxzole
10. What type of investigation should be done before TKR?
- a. Troponin-T test
  - b. Liver & renal function test
  - c. Treadmill test
  - d. Widal test
11. What should be avoided before surgery?
- a. Herbal products for seven days before surgery.
  - b. drinking plenty of water
  - c. fasting for 12 hrs.
  - d. None

**Activity and exercise**

12. What type of activity you can have during 1<sup>st</sup> post operative day?
- a. Continuous passive motion
  - b. Leg raising exercises
  - c. Stair climbing
  - d. None
13. When you can walk after TKR?
- a. Immediately after the surgery
  - b. First 4-8 hours after the surgery
  - c. 1 week after the surgery
  - d. 2-3 weeks after the surgery
14. What movements should be avoided after TKR?
- a. Walking
  - b. Squatting

- c. sitting in the chair
  - d. Straight leg raising
15. What exercises can be performed one month after TKR?
- a. kegel exercise.
  - b. Quadriceps sets
  - c. jumping
  - d. Swimming
16. Which activity is suitable for first 3months after surgery?
- a. Walking & cycling
  - b. dancing
  - c. Golf
  - d. gardening
17. What type of activity is not recommended after TKR?
- a. gardening
  - b. Swimming
  - c. walking
  - d. Running
18. When do you use the knee immobilizer?
- a. Immediately after the surgery
  - b. Wear only when ambulating until straight leg raising can be done independently
  - c. 2-3 weeks after the surgery
  - d. None of the above
19. when can you resume your sexual activity after TKR?
- a. Immediately after the surgery
  - b. 2 weeks after the surgery
  - c. 4-6 weeks after the surgery
  - d. None

**Pain management**

20. How do you manage your pain after surgery?
- a. Taking analgesics
  - b. Drinking warm milk
  - c. Assessing pain scale
  - d. None of the above

**Diet**

21. What type of diet should be taken after TKR?
- a. vitamin A
  - b. vitamin K
  - c. vitamin C &Iron rich diet
  - d. vitamin B-complex
22. What type of diet should be taken for bone healing?
- a. Fibre rich diet
  - b. Iron rich diet
  - c. Calcium rich diet
  - d. Mineral diet
23. What type of diet should be taken for tissue healing &muscle strengthening?
- a. Rich calorie diet
  - b. Rich protein diet
  - c. Vitamin k diet

- d. Vitamin A diet
- 24. What type of diet you should take to build haemoglobin level in blood?
  - a. Fibre rich diet
  - b. Iron rich diet
  - c. Vitamin C diet
  - d. Rich calorie diet
- 25. What type of diet should be avoided after TKR?
  - a. Rich calorie diet
  - b. Rich fibre diet
  - c. Rich vitamin C and Iron
  - d. Vitamin K diet

**Complication**

- 26. Which one is the major complication of TKR?
  - a. Pulmonary embolism & Blood clots
  - b. Headache
  - c. fever
  - d. Nausea and vomiting
- 27. Which one is the late complication of TKR?
  - a. swelling of knee
  - b. Dislocation of artificial knee
  - c. Fever
  - d. Headache

**General information**

- 28. How much of weight you can lift after TKR?
  - a. More than 11 Kg
  - b. More than 20 Kg
  - c. less than 11 Kg
  - d. More than 25 Kg
- 29. Which condition lead to loosening or dislocation of artificial knee after TKR?
  - a. Hypertension
  - b. Diabetes
  - c. Obesity
  - d. Myocardial infarction
- 30. When to contact your doctor?
  - a. Pain in the chest
  - b. nausea
  - c. Headache
  - d. don't know.

**KEY ANSWERS:**

1)B 2)B 3)A 4)B 5)A 6)B 7)A 8)A 9)B 10)B 11)A 12)A 13)B 14)B 15)B 16)A  
17)D 18)B 19)C 20)A 21)C 22)C 23)B 24)B 25)D 26)A 27)B 28)C 29)C 30)A



**PART-III**  
**ATTITUDE OF PATIENT ON TOTAL KNEE REPLACEMENT**

<b>S.No</b>	<b>Content</b>	<b>Strongly Agree</b>	<b>Agree</b>	<b>Disagree</b>	<b>Strongly disagree</b>	<b>Don't know</b>
1.	Severe osteoarthritis of knee will lead to total knee replacement					
2.	Trauma to the knee joint requires total knee replacement					
3.	Continuous passive motion exercise will help to mobilize your knee					
4.	Walking immediately 4 hours after surgery is good					
5.	Swimming and running 1 week after the surgery is good					
6.	Vitamin K diet is advisable after surgery					
7.	Stair climbing above 7 inches is recommended after surgery					
8.	Quadriceps sets and straight leg raising exercises are good for knee mobilization					
9.	Squatting position is advisable after surgery					
10.	Sexual activity is advisable after 1 week of surgery					

**PART-IV**  
**PRACTICE OBSERVATION CHECK LIST**

1. Patient in continuous passive motion on the day of surgery.  
a. yes   b. No
2. Patient is walking 6-8 hours after surgery.  
a. yes   b. No
3. Patient is sitting in the chair during first post-operative day.  
a. yes   b. No
4. Patient is performing quadriceps sets exercise on the day of surgery (10 times in 2 minutes).  
a. yes   b. No
5. Patient is performing ankle pumps exercise on the day of surgery (2-3 times in an hour).  
a. yes   b. No
6. Patient is walking with the help of parallel bar during 1<sup>st</sup> or 2<sup>nd</sup> post-operative day.  
a. yes   b. No
7. Patient is performing high sitting knee flexion on 3<sup>rd</sup> day after surgery.  
a. yes   b. No
8. Patient is bending knee on 3<sup>rd</sup> post-operative day.  
a. yes   b. No
9. Patient is doing bed supported knee bends on 3<sup>rd</sup> day after surgery.  
a. yes   b. No
10. Patient is performing sitting supported knee bends on 3<sup>rd</sup> day after surgery.  
a. yes   b. No
11. Patient is performing sitting unsupported knee bends on 3<sup>rd</sup> day after surgery.  
a. yes   b. No
12. Patient is performing straight leg raising exercise on 4<sup>th</sup> day after surgery.  
a. yes   b. No
13. Patient is performing knee strengthening exercise on 4<sup>th</sup> day after surgery  
a. yes   b. No
14. Patient is climbing stairs on 7<sup>th</sup> day after surgery.  
a. yes   b. No
15. Patient is climbing stairs with the help of hand rail.  
a. yes   b. No

## APPENDIX-D

**Koq;fhy; %l;L mWit rpfpr;ir mwpTj;jpwd; gw;wpa Nfs;tpfs;**

### **gFjp-I**

**fPo;fz;l xt;nthU \$w;WfSf;Fk; rhpahd gpiy FwpapLf:**

**Ra r%f Fwpg;Gfs;**

1. taJ  
m. 50f;F fPo;  
M. 51 - 50  
.. 61 - 70  
<. 70f;F Nky;
2. ghypdk;  
m. Mz;  
M. ngz;
3. fy;tpj; jFjp  
m. gbf;fhjth;  
M. Muk;g fy;tp  
.. cah;epiy fy;tp  
<. Nky;epiyf; fy;tp  
c. gl;lg; gbg;G / gl;lak; / njhopw;fy;tp
4. njhopy;  
m. Ntiy ,y;yhjth;  
M. murhq;f Ntiy  
.. jdpahh; Ntiy  
<. Ra Ntiy  
c. FLk;gj; jiytp
5. khj tUkhdk;  
m. &. 10>000 fPo;  
M. &. 10>000-15>000  
.. &.15>0000-20>000  
<. &. 20>000 f;F Nky;
6. trpf;Fk; ,lk;  
m. efh;Gwk;  
M. fpuhkg;Gwk;
7. FLk;g tif

- m. \$l;Lf; FLk;gk;  
M. jdpf;FLk;gk;
8. jpUkzj; jFjp  
m. jpUkzkhdth;  
M. jpUkzkhfhjth;  
,. tpthfuj;J ngw;wth;  
<. fztd; / kidtp ,oe;jth;
9. kjk;  
m. ,e;J  
M. fpwp];jth;  
,.K];yPk;  
<. gpwkjj;jtH
10. vj;jid tUlq;fshf cq;fSf;F Koq;fhy; %l;Ltyp cs;sJ?  
m. 3 tUlq;fSf;F fPo;  
M.3-6 tUlq;  
,.6-9 tUlq;  
<. 9 tUlq;fSf;F Nky;
11. cq;fs; guk;giuapy; ahUf;fhtJ Koq;fhy; %l;Ltyp cs;sjh?  
m. Mk;  
M. ,y;iy  
Mk; vdpy; ahUf;F vd;W Fwpg;gplTk;?  
m. ngw;Nwhh;  
M. cld; gpwe;Njhh;  
,. jha;top / je;ij top nghpNahh;fs;  
<. gpw ,uj;j cwtpdh;fs;
12. cq;fSf;F ,jw;F Kd;G Koq;fhy; %l;L mWit rpfp;ir gw;wpa tpguq;fs; njhpAkh?  
m. Mk;  
M. ,y;iy  
Mk; vdpy; ahh; %yk; vd;W Fwpg;gplTk;
1. kUj;Jth; / nrtpyah; / kw;w Rfhjhu ey gl;jhhpfs; / ez;gh; kw;Wk; cwtpdh;fs;  
2. nra;jpj;jhs; / gj;jphpf;if / [h;dy; / njhiyf; fh;rp / thndhyp / ,izajsk;.

**Koq;fhy; %l;L mWit rpfpr;ir mwpTj;jpwd; gw;wpa Nfs;tpfs;  
gFjp-II**

**mwpTj;jpwd;**

**clw;\$wpay; kw;Wk; cly; E}y; gw;wpa Nfs;tpfs;**

1. Koq;fhy; %l;L vd;why; vd;d?
  - m. if vYk;G kw;Wk; Koq;if %l;L Nrh;e;jJ
  - M. njhil vYk;G> fPo;fhy; vYk;G kw;Wk; Kl;bahy; MdJ
  - .. fPo;fhy; kw;Wk; fZf;fhy; vYk;G Nrh;e;jJ
  - <. xd;Wk; ,y;iy.
2. Koq;fhy; %l;bd; gad; vd;d?
  - m. RUq;Fk; jd;ikf;F cjTjy;
  - M. jplepiy kw;Wk; cly; mirtpw;F cjTjy;
  - .. Mf;f tsj;jpw;F cjTk;
  - <. \$h;e;jwpAk; jpwDf;F cjTk;

**Koq;fhy; typapd; mwpFwpfs;**

3. fPo;fz;ltw;wpy; kpfTk; ghjpf;fg;gl;l Koq;fhy; %l;L typapd; nghJthd mwpFwpfs; vd;d?
  - m. %l;L tPf;fk; kw;Wk; Koq;fhy; typ
  - M. jiy; Rw;wy;
  - .. fha;r;ry;
  - <. %r;Rj;jpdwy;

**%l;L mWit rpfpr;ir gw;wpa Nfs;tpfs;**

4. Koq;fhy; %l;L mWit rpfpr;ir vd;why; vd;d?
  - m. njhil vYk;gpy; kl;Lk; nraw;if %l;L mikj;jy;
  - M. njhil vYk;G> Kl;b kw;Wk; fPo;fhy; vYk;gpy; nra;if %l;L nghUs; mikj;jy;.
  - .. fPo;fhy; vYk;gpy; kl;Lk; nraw;if nghUs; mikj;jy;
  - <. xd;Wk; ,y;iy.
5. ve;j tifahd NehahspfSf;F Koq;fhy; %l;L mWit rpfpr;ir nra;a Ntz;Lk;?
  - m. kpfTk; ghjpf;fg;gl;l Koq;fhy; %l;L tPf;fk; cs;s NehahspfSf;
  - M. Fiwthf ghjpf;fg;gl;l Koq;fhy; %l;L tPf;fk; cs;sth;fs;
  - .. neQ;Rtyp cs;s NehahspfSf;
  - <. xd;Wk; ,y;iy.
6. ve;j mwpFwpfs; ,Ue;jhy; NehahspfSf; %l;L mWit rpfpr;ir Nkw;nfhS;sf; \$lhJ?
  - m. the;jp tUtjhf czh;jy;
  - M.neQ;Rtyp

- .. jiytyp
- <. grpapd;ik
- 7. ve;jtpjkhD Neha; ,Ue;jhy; Nehahspfs; %l;L mWit rpfpr;ir Nkw;nfhs;sf; \$lhJ?
- m. G+r;rg;gy; ,Ue;jhy;
- M. kyr;rpf;fy;
- .. tapw;Wg; Nghf;F
- <. tapw;Wg; Gz;
- 8. nraw;if Koq;fhy; %l;L vd;why; vd;d?
- m. gpsh];bf; kw;Wk; ,Uk;ghy; nra;j nraw;if %l;L
- M. ug;gh; %l;L
- .. gpsh];bf; %l;L
- <. xd;Wk; ,y;iy.

**Koq;fhy; %l;L mWit rpfpr;ir;F Kd; nra;a Ntz;bait**

- 9. ve;j tifahd kUe;Jfis Koq;fhy; %l;L mWit rpfpr;ir nra;tjw;F xU thuj;jpw;F Kd; jtph;f;f Ntz;Lk;?
- m. uhdpbBd;
- M. M];gphpd; kw;Wk; FNyhgpyl;
- .. ghu]pl;lkhy;
- <. Nfhl;hpkhf;rNrhy;
- 10. ve;j tifahd ghpNrhjidfs; %l;L mWit rpfpr;ir;F Kd; nra;a Ntz;Lk;?
- m. LNuhg;Nghdpd;-b ghpNrhjid
- M.fy;yPuy; kw;Wk; rpWePufg; ghpNrhjid
- .. bul;kpy; ghpNrhjid
- <. itlhy; ghpNrhjid
- 11. fPo; fz;ltw;wpy; Koq;fhy; %l;L mWit rpfpr;ir;F VO ehl;fSf;F Kd; vij jtph;f;f Ntz;Lk;?
- m. %ypif kUe;Jfis jtph;f;fTk;
- M. mjpfkhD jz;zPh; mUe;Jjy;
- .. czT cz;zhky; ,Uj;jy;
- <. xd;Wk; ,y;iy.

**nray;fs; kw;Wk; clw;gapw;rpfs;**

- 12. mWit rpfpr;ir;F gpd; Kjy; ehs; ve;j tifahd nray;fis ePq;fs; Nkw;nfhs;s Ntz;Lk;?

- m. njhlh; %l;L mirT fUtpapd; cjtpAld; gapw;rp  
M. fhy;fis NkNy J}f;Fk; gapw;rp  
.. gbf;fl;L VWjy;  
<. xd;Wk; ,y;iy.
13. Koq;fhy; %l;L mWit rpfpr;irf;F gpd; ePq;fs; vg;NghJ elf;f Ntz;Lk;?  
m. mWit rpfpr;ir nra;j clNd  
M. mWit rpfpr;irf;F gpd; ehd;F Kjy; vl;L kzp Neu;jpw;F gpd;  
.. mWit rpfpr;irf;F gpd; xU thuj;jpw;F gpwF  
<. xd;Wk; ,y;iy.
14. Koq;fhy; %l;L mWit rpfpr;irf;F gpd; ve;j nray;fis jtph;f;f Ntz;Lk;?  
m. elj;jy;  
M. Fe;jp cl;fhUjy;  
.. ehw;fhypapy; mkh;jy;  
<. Neuhf fhy;fis cah;j;Jk; gapw;rp
15. Koq;fhy; %l;L mWit rpfpr;irf;F gpd; xU khjj;jpw;F gpwF nra;a Ntz;ba clw;gapw;rp?  
m. ,Lg;G jirfis tYg;gLj;Jk; clw;gapw;rp  
M.njhil jirfis tYg;gLj;Jk; clw;gapw;rp  
.. Fjpj;jy;  
<. ePe;Jjy;
16. %l;L mWit rpfpr;irf;F gpd; %d;W khj;jpw;F gpwF nra;a Ntz;ba nghUj;jkhd nray; vd;d?  
m. elj;jy; kw;Wk; irf;fps; Xl;Ljy;  
M. eldkhLjy;  
.. Fopge;J tpisahLjy;  
<. Njhl;lk; guhkhpj;jy;
17. %l;L mWit rpfpr;irf;F gpd; ve;j tifahd nray;fis Nkw;nfhs;s \$lhJ?  
m. Njhl;lk; guhkhpj;jy;  
M. ePe;Jjy;  
.. elj;jy;  
<. XLjy;
18. Koq;fhy; %l;L mirahky; ,Uf;f jFe;j rhjidj;ij vg;NghJ cgNahfpg;gPh;fs;?  
m. mWit rpfpr;ir Kbe;j clNd  
M.Rje;jpukhf fhy;fis Neuhf cah;j;Jk; gapw;rp nra;j gpd;  
.. mWit rpfpr;irf;Fg;gpd; nuz;L Kjy; %d;W thuj;jpw;F gpwF  
<. xd;Wk; ,y;iy.
19. %l;L mWit rpfpr;irf;F gpd; vg;NghJ cly;cwT itj;Jf; nfhs;s Ntz;Lk;?  
m. mWit rpfpr;ir nra;j clNd  
M. mWit rpfpr;irf;F gpd; ,uz;L thuj;jpw;F gpwF

.. mWit rpfpr;irf;F gpd; ehd;F Kjy; MW thuj;jpw;F gpwF  
<. xd;Wk; ,y;iy.

**%l;L typia ePf;f nra;a Ntz;bait**

20. mWit rpfpr;irf;F gpd; tUk; typia Fiwf;f Nkw;nfhs;s Ntz;bait?  
m. typ ePf;Fk; kUe;ij cl;nfhs;Sjy;  
M. kpjkhd R+l;by; ghy; mUe;Jjy;  
.. typapd; msit Nrhjpp;jy;  
<. xd;Wk; ,y;iy.

**czT Kiwfs;**

21. %l;L mWit rpfpr;irf;F gpd; vLj;Jf; nfhs;s Ntz;ba czTfs; vit?  
m. itl;lkpd; - v  
M.itl;lkpd; - Nf  
.. itl;lkpd; - rp kw;Wk; ,Uk;G rj;J epiwe;j czT  
<. itl;lkpd; -gp
22. vYk;ig tYg;gLj;j ve;j tifahd czTfis vLj;Jf; nfhs;s Ntz;Lk;?  
m. eh;h;rj;J epiwe;j czT  
M. ,Uk;G rj;J epiwe;j czT  
.. fhy;rpak; epiwe;j czT  
<. kpduy;fs; epiwe;j czT
23. rij kw;Wk; jiria tYg;gLj;j ve;j tifahd czTfis vLj;Jf; nfhs;s Ntz;Lk;?  
m. fNyhhp epiwe;j czT  
M. Gujr;rj;J epiwe;j czT  
.. itl;lkpd; - Nf epiwe;j czT  
<. itl;lkpd; - v epiwe;j czT
24. ,uj;jj;jpy; `PNkhFNshgpd; msit mjpfhpf;f ve;j tifahd czit vLj;Jf; nfhs;s Ntz;Lk;?  
m. eh;h;rj;J epiwe;j czT  
M. ,Uk;Gr;rj;J epiwe;j czT  
.. itl;lkpd; - rp epiwe;j czT  
<. fNyhhp epiwe;j czT
25. %l;L mWitr; rpfpr;irf;F gpd; jtph;f;f Ntz;ba czT vJ?  
m. fNyhhp epiwe;j czT  
M. eh;h;rj;J epiwe;j czT  
.. itl;lkpd; - rp kw;Wk; ,Uk;G rj;J epiwe;j czT  
<. itl;lkpd; -Nf epiwe;j czT

**gpd; tpisTfs;**

26. fPo;fz;litapy; %l;L mWit rpfpr;irf;F gpd; tUk; kpf Kf;fpakhd gpd; tpisT vJ?



m. Eiuapuy; ,uj;j Fohapy; ,uj;j fl;L kw;Wk; nghJthd ,uj;j fl;L

M. jiytyp

.. fha;r;ry;

<. the;jp tUk; jd;ik kw;Wk; the;jp

27. fPo; fz;litapy; %l;L mWit rpfpr;irf;F gpd; fhyk; fle;J tUk; gpd; tpiST vJ?

m. %l;L tPf;fk;

M. nraw;if %l;L tpyFjy;

.. fha;r;ry;

<. jiytyp

**nghJthd tpguq;fs;**

28. %l;L mWitr; rpfpr;irf;Fg;gpd; ve;j mstpw;F vilfis Rkf;fyhk;?

m. gipndhd;W fpNyhtpw;F Nky;

M. ,UgJ fpNyhtpw;F Nky;

.. gipndhd;W fpNyhtpw;F fPo;

<. ,Ugj;ije;J fpNyhtpw;F Nky;

29. %l;L mWit rpfpr;irf;F gpd; fPo;fz;l ve;j Nehapy; nraw;if %l;L ,lk; khWk; tha;g;G cs;sJ?

m. ,uj;j nfhjpg;G

M. rh;f;fiu Neha;

.. cly; gUkd;

<. ,Uja Neha;

30. ePq;fs; vg;NghJ kUj;Jtiu mZf Ntz;Lk;?

m. neQ;Rtyp ,Ue;jhy;

M. the;jp tUk; jd;ik ,Ue;jhy;

.. jiytyp ,Ue;jhy;

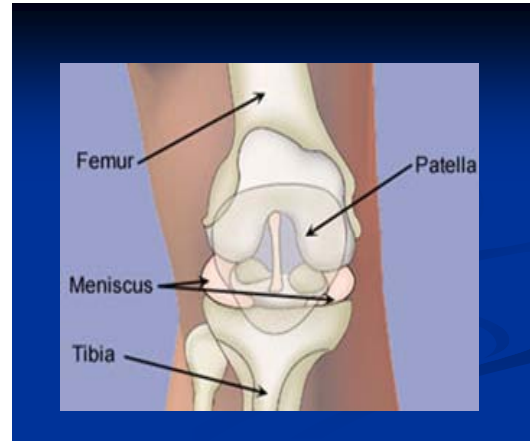
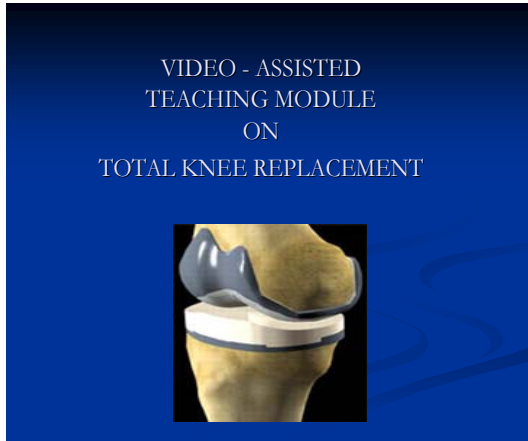
<. njhpatpy;i

**gFjp - III**  
**Koq;fhy; %l;L mWit rpfpr;ir gw;wpa fUj;Jf;fs;**

t. vz;.	fUj;Jf;fs;	jplkhf xg;Gf; nfhs;fpNwd;	xg;Gf; nfhs;fpNwd;	xg;Gjy; ,y;iy	jplkhf xg;Gjy; ,y;iy	njhpatpy;iy
1.	kpfTk; ghjpf;fg;gl;l Koq;fhy; %l;Ltyp cs;sth;fSf;F %l;L mWit rpfpr;ir nra;a Ntz;Lk;.					
2.	Koq;fhy; %l;L tpgj;J Vw;gl;lhy; %l;L mWit rpfpr;ir nra;a Ntz;Lk;.					
3.	njhlh; %l;L mirT fUtpapd; %yk; gapw;rp nra;tJ %l;L mirtpw;F cjTk;.					
4.	%l;L mWit rpfpr;irf;F gpd; ehd;F kzp Neuk; fopj;J elj;jy; ed;W.					
5.	%l;L mWit rpfpr;irf;F gpd; xU thuk; fopj;J ePe;Jjy; kw;Wk; XLjy; ed;W.					
6.	%l;L mWit rpfpr;irf;F gpd; itl;lkpd;-Nf epiwe;j cztpid vLj;Jf; nfhs;syhk;.					
7.	%l;L mWit rpfpr;irf;F gpd; VO ,Q;RfSf;F Nky; gbfl;L Vwyhk;					
8.	njhil gapw;rp kw;Wk; Neuhf fhy;fis cah;j;Jk; gapw;rp Koq;fhy; %l;L mirtpw;F ed;W.					
9.	%l;L mWit rpfpr;irf;F gpd; Fj;Jf;fhy; itj;J cl;fhUjy; ed;W.					
10.	%l;L mWit rpfpr;irf;F gpd; xU thuk; fle;J cly; cwT itj;Jf; nfhs;syhk;.					

## APPENDIX-E

### VIDEO ASSISTED TEACHING MODULE-ENGLISH



### INTRODUCTION


“Knee osteoarthritis isn’t life threatening, but, It can make life miserable”

Total knee replacement is the gold – standard operation for knee arthritis.



### PHYSIOLOGY OF KNEE JOINT


Knee joint mainly helps to provide stability and mobility.



### ANATOMY OF KNEE JOINT

**What is a knee joint?**

The knee is quite a complex hinge joint. It is formed by the ends of the thighbone (femur) and the shinbone (tibia). The kneecap (patella) moves over and protects the joint at the front.



### Signs and symptoms of knee osteoarthritis

Common symptoms of severe arthritis of the knee joint include:

- Swelling of the joint
- Knee pain
- Bow-legged or knock-kneed deformity
- Loss of motion
- Feeling of the knee 'giving-way'



Symptoms of a knee joint infection include:

- severe pain
- joint swelling and warmth
- fevers and
- marked inability to walk, bend the knee, or bear weight.



## WHO SHOULD CONSIDER TKR

A total knee replacement is usually recommended for people

- Who have severe osteoarthritis (OA) in the knee.
- Have had severe trauma to the knee.
- Have some other destructive joint disease.



## SURGICAL PROCEDURE

What is Total Knee Replacement?

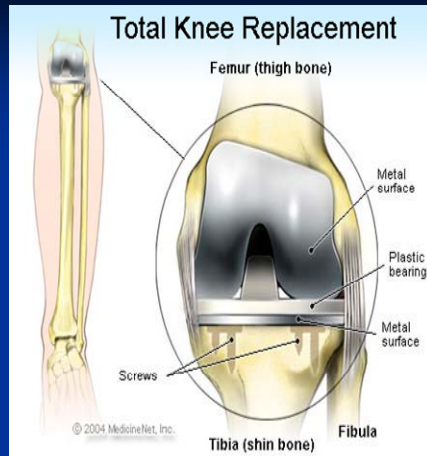
A total knee replacement (TKR) is usually done as the surgical treatment option for advanced [osteoarthritis](#) of the knee.

During the surgery, the knee joint is replaced with artificial material. The artificial knee is made up of the plastic piece and metal stem.

## WHO SHOULD NOT UNDERGO TKR

You should not have knee replacement surgery if you have

- Angina (chest pains) or shortness of breath that limits your walking more than your knee pain.
- You should not have a knee replacement if you have a urinary infection (UTI). This may result in infection of your new knee.



- You should not have a knee replacement if you are a man with prostate problems.
- If you have poor urinary flow, it is better to have this investigated and treated before your knee is replaced.
- Patient with dental caries, throat, respiratory infections.

## ARTIFICIAL KNEE

The end of the femur is removed and replaced with a metal surface and the top of the tibia is removed and replaced with a plastic piece that has a metal stem. If the knee cap has also degenerated, a plastic piece may be added to the back surface to create a smoother joint surface.



## INVESTIGATIONS BEFORE TKR

- Routine blood tests are performed on all pre-operative patients.
- Chest X-rays and
- Electrocardiograms are obtained in patients who meet certain age and health criteria, as well.
- Liver and renal function test.



## PREPARING FOR SURGERY

- No ASPIRIN products for 10 DAYS before surgery & no clopidet drug.
- No other BLOOD THINNING products for 7 DAYS before surgery (you must be monitored by your family doctor).
- No HERBAL products for 7 DAYS before surgery.
- No IBUPROFEN products for 5 DAYS before surgery.



## ACTIVITY AND EXERCISE:

- Immediately after surgery patient should be put in continuous passive motion during first post operative day.
- Walking within the first 4-8 hours after surgery is recommended.

- Do not drink ALCOHOL for 48 HOURS prior to your surgery.
- Do not EAT or DRINK after MIDNIGHT prior to surgery.



## Suitable during First 3 Months after Surgery

- Walking
- Swimming (after discussion with your surgeon)
- Cycling on a stationary bicycle with the seat positioned high enough to avoid bending the knee excessively

### Suitable Activities after 3 Months

- Swimming (avoid twisting motions such as whip kick)
- Golf
- Cycling on a regular bicycle with the seat positioned high enough to avoid bending the knee excessively
- Some types of dancing
- Gardening with raised beds or long-handled tools or devices
- Aquatic exercise and low-impact aerobics

### EXERCISES AFTER TKR

#### Early Postoperative Exercises

- **Quadriceps Sets (on the day of surgery)**
- Tighten your thigh muscle. Try to straighten your knee. Hold for 5 to 10 seconds.
- Repeat this exercise approximately 10 times during a two minute period, rest one minute and repeat. Continue until your thigh feels fatigued.

### Movements to avoid after TKR:

- Do Not Twist or Pivot on Your Leg.
- No Extreme Knee Bending.
- Do not squat to pick up objects from the floor. Use a reacher.
- Jogging or running
- Impact exercises
- Sports that require twisting/pivoting (aggressive tennis, basketball, racquetball)
- Contact sports
- Heavy labor.

#### Ankle Pumps (on the day of surgery)

- Move your foot up and down rhythmically by contracting the calf and shin muscles. Perform this exercise periodically for two to three minutes, two or three times an hour in the recovery room.
- Continue this exercise until you are fully recovered and all ankle and lower-leg swelling has subsided.



### Activities Not Recommended

- Lifting and pushing heavy objects (more than 11 kg, or 25 lbs.)
- Contact sports
- Any activities involving fast or sudden stopping and starting, twisting or jarring, jumping
- Running, tennis, badminton, squash
- Modern dance (disco, tango, twist)
- Downhill skiing
- Some gym activities such as:
  - High-impact aerobics
  - Heavy weight-lifting
- Walking (6 hours after surgery)
- Chair sitting ( 1<sup>st</sup> day after surgery)
- Parallel bar walking (1<sup>st</sup> or 2<sup>nd</sup> day)

### Straight Leg Raises

- Tighten the thigh muscle with your knee fully straightened on the bed, as with the Quad set. Lift your leg several inches. Hold for five to 10 seconds. Slowly lower.
- Repeat until your thigh feels fatigued.
- You also can do leg raises while sitting. Fully tighten your thigh muscle and hold your knee fully straightened with your leg unsupported. Repeat as above. Continue these exercises periodically until full strength returns to your thigh.



### Sitting Supported Knee Bends

- While sitting at bedside or in a chair with your thigh supported, place your foot behind the heel of your operated knee for support. Slowly bend your knee as far as you can. Hold your knee in this position for 5 to 10 seconds.
- Repeat several times until your leg feels fatigued or until you can completely bend your knee.



### Knee Straightening Exercises

- Place a small rolled towel just above your heel so that it is not touching the bed. Tighten your thigh. Try to fully straighten your knee and to touch the back of your knee to the bed. Hold fully straightened for five to 10 seconds.
- Repeat until your thigh feels fatigued.



### Sitting Unsupported Knee Bends

- While sitting at bedside or in a chair with your thigh supported, bend your knee as far as you can until your foot rests on the floor. With your foot lightly resting on the floor, slide your upper body forward in the chair to increase your knee bend. Hold for 5 to 10 seconds. Straighten your knee fully.
- Repeat several times until your leg feels fatigued or until you can completely bend your knee.



### Bed-Supported Knee Bends(3<sup>rd</sup> day after surgery)

- Bend your knee as much as possible while sliding your foot on the bed. Hold your knee in a maximally bent position for 5 to 10 seconds and then straighten.
- Repeat several times until your leg feels fatigued or until you can completely bend your knee.



### Walking

- Proper walking is the best way to help your knee recover. At first, you will walk with a walker or crutches. Your surgeon or therapist will tell you how much weight to put on your leg.



- Stand comfortably and erect with your weight evenly balanced on your walker or crutches. Advance your walker or crutches a short distance; then reach forward with your operated leg with your knee straightened so the heel of your foot touches the floor first. As you move forward, your knee and ankle will bend and your entire foot will rest evenly on the floor. As you complete the step, your toe will lift off the floor and your knee and hip will bend so that you can reach forward for your next step. Remember, touch your heel first, then flatten your foot, then lift your toes off the floor.

- Stair climbing is an excellent strengthening and endurance activity. Do not try to climb steps higher than the standard height (7 inches) and always use a handrail for balance. As you become stronger and more mobile, you can begin to climb stairs foot over foot.

### Stair Climbing and Descending (7<sup>th</sup> day)

- The ability to go up and down stairs requires strength and flexibility. At first, you will need a handrail for support and will be able to go only one step at a time. Always lead up the stairs with your good knee and down the stairs with your operated knee. Remember, "up with the good" and "down with the bad." You may want to have someone help you until you have regained most of your strength and mobility.

### WHEN DO YOU USE KNEE IMMOBILIZER:

- Wear only when ambulating until straight leg raising can be done independently.



### SEXUAL ACTIVITY AFTER TKR

- Most people are able to return to sexual activity when it is comfortable to do so. This activity is safe for your operated leg as long as all the precautions for your knee are followed. Remember:
  - Do not force your new knee to bend.
  - Do not twist your new knee inward or outward.
  - Avoid positions that cause pain.
  - Sexual activity can be carried-out 4-6 weeks after surgery



## PAIN MANAGEMENT

- Taking analgesics by mouth.
- Epidural analgesia.

- Iron is necessary to build the hemoglobin in your blood, which carries oxygen to your tissues. Blood loss from surgery can decrease your hemoglobin and make you feel weak, tired and light-headed. Good sources of iron include: red meat, fish, poultry, canned oysters and clams, tofu, fortified whole grains and some leafy green vegetables such as spinach.



## Diet after TKR

- Vitamin C and Iron rich diet should be taken.
- It is important that you eat a well-balanced, high-fibre diet following surgery and after you are discharged from hospital. Certain foods promote healing and increase energy level and strength. Eating healthy food also helps avoid infections and prevent constipation.



## FOODS TO BE AVOIDED

- Vitamin K diet should be avoided after TKR because vitamin-K mainly lead to blood coagulation. Sources of vitamin-K are cauliflower, cabbage etc.,



- Calcium helps heal bones and keeps them strong. Good sources of calcium include milk, yogurt, cheese, canned salmon, soy, calcium-fortified tofu and milk rice.
- Protein is needed to heal tissue and strengthen muscles. Foods such as beef, pork, fish, poultry, eggs, milk, dairy products, soymilk, beans, nuts, peanut butter and tofu are good sources of protein.



## COMPLICATIONS AFTER TKR

- Blood clots
- Urinary tract infections
- Nausea and vomiting
- Chronic knee pain and swelling
- Bleeding into the knee joint
- Nerve damage
- Blood vessel injury
- Infection
- Stiffness of the Knee

### LATE COMPLICATION

- Dislocation of the artificial Knee.

## GENERAL INFORMATION

- You can lift only less than 11kg of weight.
- Obesity patient may lead to loosening or dislocation of artificial knee.



When to contact Your doctor ?.

- Pain in your chest.
- Difficulty in breathing.
- Shortness of breath.



THANK YOU

## VIDEO ASSISTED TEACHING MODULE – TAMIL

**வணக்கம்**

**முழங்கால் மூட்டு அறுவை  
சிக்ச்சை பற்றிய ஒளி  
நாடாக் கல்வி**



**முன்னுரை:**

முழங்கால் மூட்டு வலி என்பது வாழ்க்கைகளை  
அச்சுறுத்தக்கூடியதாக இருக்குமா? ஆனால்  
இது வாழ்க்கையை ஆபத்துக்குறியதாக  
மாற்றும்.



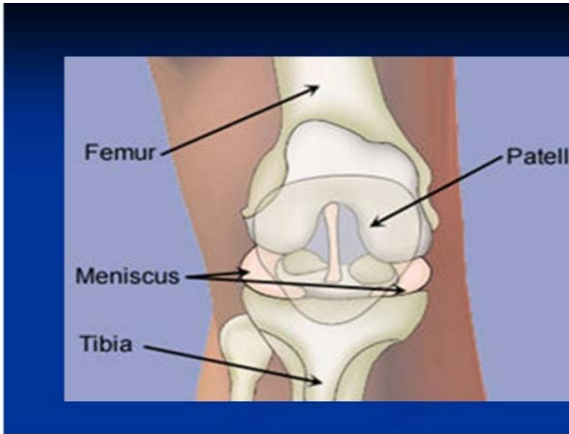
**முழங்கால் மூட்டின் அமைப்பு**

முழங்கால் மூட்டு என்றால் என்ன?  
முழங்கால் மூட்டு என்பது தொடை எழும்பு,  
கீழ்க்கால் எழும்பு மற்றும் முட்டியால் ஆனது.



**முழங்கால் மூட்டின் பயன்**

முழங்கால் மூட்டு என்பது பொதுவாக  
திபநிலை மற்றும் உடல் அசைவிற்கு உதவும்.



முழங்கால் மூட்டு வலியின் பொதுவான அறிகுறிகள்

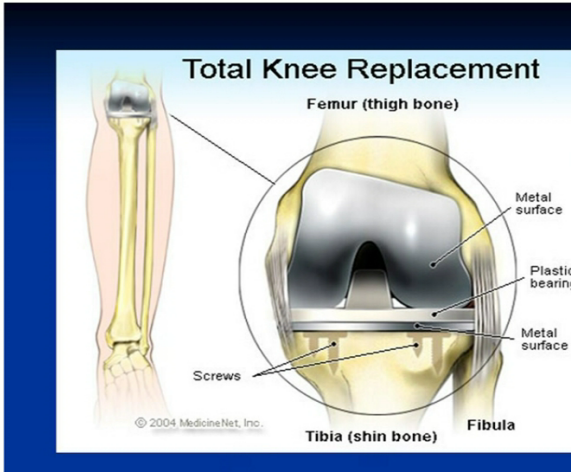
- ❖ முழங்கால் மூட்டு வீக்கம்.
- ❖ முழங்கால் வலி
- ❖ முழங்கால் மூட்டு உருக்குலைவு
- ❖ மூட்டு இயக்கமின்மை
- ❖ முழங்கால் மூட்டு செயல் இழந்ததாக உணர்தல்.
- ❖ காய்ச்சல்
- ❖ நடக்க முடியாமை, முட்டியை மடக்க இயலாமை.
- ❖ எடைதூக்க முடியாமை.



### முழங்கால் மூட்டு அறுவை சிகிச்சை

முழங்கால் மூட்டு அறுவை சிகிச்சை என்றால் என்ன?

முழங்கால் மூட்டு அறுவை சிகிச்சை என்பது தொடை எழும்பு, கீழ்க்கால் எழும்பு மற்றும் முட்டியில் செயற்கை மூட்டு அமைத்தல்.



முழங்கால் மூட்டு அறுவை சிகிச்சை யாருக்கு செய்ய வேண்டும்?

- ❖ மிகவும் பாதிக்கப்பட்ட முழங்கால் மூட்டுவீக்கம் உள்ள மூலாயோளிகளுக்கு.
- ❖ விபத்தினால் மிகவும் பாதிக்கப்பட்ட முழங்கால் மூட்டு உள்ளவர்கள்.
- ❖ முழங்கால் மூட்டு சிதைவு ஏற்பட்டால்.



முழங்கால் மூட்டு அறுவை சிகிச்சை யாருக்கு செய்யக்கூடாது?

- ❖ நெஞ்சுவலி மற்றும் மூச்சுத் திணறல் இருந்தால்.
- ❖ சிறுநீரக கிருமித் தொற்று இருந்தால்.
- ❖ ஆண்களுக்கு பிராஸ்டேட் தொடர்பான தொந்தரவு இருந்தால்.



❖ குறைவாக சிறுநீர் கழித்தல் போன்ற தொந்தரவு இருந்தால்.

❖ பூச்சிப்பல், தொண்டை மற்றும் சுவாசக் கிருமித் தொற்று இருந்தால். இவை அனைத்தும் செயற்கை மூட்டினை பாதிக்கும்.

### செயற்கை முழங்கால் மூட்டு

தொடை எலும்பின் சிதைந்த கீழ்ப்பகுதியை நீக்கிவிட்டு மெட்டல் அமைத்தல் மற்றும் கீழ்க்கால் எலும்பின் சிதைந்த மேல் பகுதியை நீக்கிவிட்டு பிளாஸ்டிக் செயற்கை மூட்டினை அமைத்தல். முட்டி சிதைவு ஏற்பட்டிருந்தால் பின்புறமாக செயற்கை பிளாஸ்டிக் மூட்டினை அமைத்தல். செயற்கை மூட்டு என்பது மெட்டல் மற்றும் பிளாஸ்டிக் மூட்டினால் ஆனது.



### முழங்கால் மூட்டு அறுவை சிகிச்சைக்கு முன் செய்ய வேண்டியவை

- ❖ அறுவை சிகிச்சைக்கு பத்து நாட்களுக்கு முன்பு வரை ஆஸ்பரின் மற்றும் குலோபிலட் மாத்திரைகளை தவிர்க்கவும்.
- ❖ இரத்த உறைவு ஏற்படும் எந்தவிதமான மாத்திரைகளையும் அறுவை சிகிச்சைக்கு ஏழு நாட்களுக்கு முன் தவிர்க்கவும்.



- ❖ மூலிகை மருந்துகளை அறுவை சிகிச்சைக்கு ஏழு நாட்களுக்கு முன் தவிர்க்கவும்.
- ❖ புரூபன் மாத்திரையை அறுவை சிகிச்சைக்கு ஐந்து நாட்களுக்கு முன் தவிர்க்கவும்.
- ❖ அறுவை சிகிச்சைக்கு நாற்பத்தெட்டு மணி நேரத்திற்கு முன்பு வரை மது அருந்தக்கூடாது.
- ❖ அறுவை சிகிச்சைக்கு முதல் நாள் இரவு தண்ணீர் மற்றும் உணவினை தவிர்க்கவும்.



### முழங்கால் மூட்டு அறுவை சிகிச்சைக்கு முன் செய்ய வேண்டிய பரிசோதனைகள்

- ❖ இரத்த பரிசோதனை
- ❖ நெஞ்சுப்படம் எடுத்தல்
- ❖ இ.சி.ஐி எடுத்தல்.
- ❖ கல்லீரல் மற்றும் சிறுநீரகம் தொடர்பான பரிசோதனைகள்



### முழங்கால் மூட்டு அறுவை சிகிச்சைக்கு பின் செய்ய வேண்டிய செயல்களும், உற்பயிற்சியும்.

- ❖ அறுவை சிகிச்சைக்கு பின் முதல் நாள் தொடர் மூட்டு அசைவு கருவியின் உதவியுடன் பயிற்சி செய்தல்.
- ❖ அறுவை சிகிச்சைக்கு பின் நான்கு முதல் எட்டு மணி நேரத்திற்குள் நடக்க ஆரம்பிக்கலாம்.

### அறுவை சிகிச்சைக்கு பின் முதல் மூன்று மாதம் செய்ய வேண்டியவை

- ❖ நடத்தல்.
- ❖ நீந்துதல் (மருந்துவரின் ஆலோசனையுடன்)
- ❖ சீட்டு உயரமாக இருக்கும் சைக்கிளை ஓட்டலாம். அது முட்டி மடங்குவதை தவிர்க்கும்.

**அறுவை சிகிச்சைக்கு மூன்று மாதத்திற்கு பின்  
செய்ய வேண்டியவை**

- ❖ நீந்துதல் (மூட்டு மடங்காமல் இருக்க வேண்டும்)
- ❖ குழிப்பந்து விளையாடுதல்.
- ❖ சீட்டு உயரமாக இருக்கும் சைக்கிளை ஓட்டலாம்.  
அது மூட்டி மடங்குவதை தவிர்க்கும்.
- ❖ நடனமாடுதல்.
- ❖ தோட்டம் பராமரித்தல்.

**அறுவை சிகிச்சைக்கு பின் தவிர்க்க வேண்டிய  
செயல்கள்**

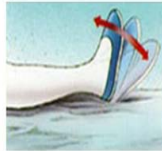
- ❖ முழங்கால் மூட்டினை முறுக்கக்கூடாது.
- ❖ அதிகமாக மூட்டியை மடக்கக்கூடாது.
- ❖ குந்தி உட்கார்ந்து எந்த பொருள்களையும்  
எடுக்கக்கூடாது.
- ❖ ஓடக்கூடாது.

- ❖ டென்னிஸ், கூடைப்பந்து விளையாடுதலை  
தவிர்க்கவும்.
- ❖ பதினோறு கிலோவிற்கு மேல் எடைகளை  
சுமக்கக்கூடாது.
- ❖ டிஸ்கோ நடனமாடுதலை தவிர்க்கவும்.

**கணுக்கால் பயிற்சி  
(அறுவை சிகிச்சை செய்த நாளன்று)**

கணுக்காலை மேலே மற்றும் கீழே உயர்த்தி  
இறக்குவதால் கீழ்க்கால் தசையை வலுப்படுத்த  
உதவும்.

ஒரு மணி நேரத்திற்குள் இரண்டு முதல் மூன்று  
தடவை விட்டுவிட்டு இந்த பயிற்சியை செய்ய  
வேண்டும்.



**முழங்கால் மூட்டு அறுவை சிகிச்சைக்கு பின்  
செய்ய வேண்டிய உடற்பயிற்சிகள்**

தொடைதசைப் பயிற்சி: (அறுவை சிகிச்சை செய்த  
நாளன்று)

தொடை தசைகளை ஐந்து முதல் பத்து நிமிடம் வரை  
இருக்கமாக பிடித்து மூட்டியை வலுப்படுத்த வேண்டும்.

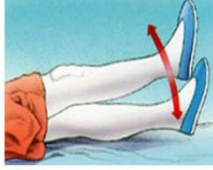
இந்த பயிற்சியை பத்து முறை இரண்டு நிமிட  
அளவில், ஒரு நிமிட இடைவேளை விட்டு திரும்ப  
செய்ய வேண்டும்.

**அறுவை சிகிச்சைக்கு ஆறு மணி நேரம்  
கடந்த பிறகு நடக்க வேண்டும்**

- ❖ அறுவை சிகிச்சைக்கு பின் முதல் நாள்  
நாற்காலியில் அமர்ந்து பயிற்சி செய்ய  
வேண்டும்.
- ❖ ஆரம்பம் முதல் கடைசி வரை இணையாக  
அமைந்த பான்களை பிடித்து நடப்பது.

### நேராக கால்களை நீட்டி உயர்த்தும் பயிற்சி

- ❖ தொடை தசைகளை இறுக்கமாக வைத்துக் கொண்டு உங்களது முட்டியை நேராக நீட்டி உயர்த்த வேண்டும்.
- ❖ பத்து நொடிகளுக்கு உயர்த்தி வைத்து பின் கால்களை இறுக்க வேண்டும்.



### படுக்கையில் இருந்துக் கொண்டே முட்டியை உயர்த்தி மடக்கும் பயிற்சி

- ❖ படுத்துக் கொண்டு தங்களது பாதம் படுக்கையில் படும்படி, தங்களால் முடிந்தவரை முட்டியை உயர்த்தி மடக்க வேண்டும்.
- ❖ ஐந்து முதல் பத்து நொடிகளுக்கு முட்டியை மடக்கி பின்பு நீட்ட வேண்டும்.



### உட்கார்ந்தபடியே எதையும் சாராமல் முட்டியை மடக்கும் பயிற்சி

- ❖ நாற்காலியில் அமர்ந்து கொண்டு தங்களது முட்டியை முடிந்தவரை மடக்கி, பாதங்கள் தரையில் படும்படி அமர்த்த வேண்டும்.
- ❖ ஐந்து முதல் பத்து நொடிகளுக்கு முட்டியை மடக்கி பின்பு நீட்ட வேண்டும்.



### முழங்கால் முட்டியை நேராக நீட்டும் பயிற்சி

- ❖ சுருட்டிய துண்டினை கணுக்காலுக்கு அடியில் வைத்து கால்களை நேராக நீட்டி தங்களது முட்டியை பெட்டில் அமர்த்த வேண்டும்.
- ❖ முட்டிகளை ஐந்து முதல் பத்து நொடிகள வரை நீட்ட வேண்டும்.



### உட்கார்ந்து கொண்டு முட்டியை மடக்கும் பயிற்சி

- ❖ நாற்காலியில் அமர்ந்து கொண்டு அறுவை சிகிச்சை செய்யாத பாதத்தில், அறுவை சிகிச்சை செய்த காலை அமர்த்தி தங்களது முட்டியை முடிந்த வரை மடக்க வேண்டும்.
- ❖ ஐந்து முதல் பத்து நொடிகளுக்கு முட்டியை மடக்கி பின்பு நீட்ட வேண்டும்.



### நடந்தல்

- ❖ அறுவை சிகிச்சைக்கு பின் நடப்பது தங்கள் செயற்கை மூட்டின் பயனுக்கு உதவும்.
- ❖ நடக்க ஆரம்பிக்கும் பொழுது நீங்கள் வாக்கர் அல்லது கிரட்ஸை பயன்படுத்தி நடக்க வேண்டும்.
- ❖ வாக்கர் அல்லது கிரட்ஸை முதலில் முன்னே வைத்து பின்பு தங்கள் முட்டியை நேராக நிறுத்தி அறுவை சிகிச்சை செய்த காலை முன் நோக்கி, பாதங்கள் தரையில் படும்படி வைக்க வேண்டும். பின்பு பாதத்தை மேலே தூக்கி சற்று முட்டியை மடக்கி நீங்கள் முன்னோக்கி நடக்க வேண்டும்.
- ❖ எப்பொழுதும் அடிபாதத்தை முதலில் தரையில் வைத்து பின்பு பாதத்தை சமமாக தரையில் அமர்த்தவும்.



- படியேறும் பயிற்சி (அறுவை சிகிச்சை செய்த ஐயாவது நாள்)
- ❖ நீங்கள் படியேறும் பொழுது கைபிடியை பிடித்து ஏற வேண்டும்.
  - ❖ எப்பொழுதும் மேலே ஏறும் பொழுது அறுவை சிகிச்சை செய்யாத காலை முன்னே வைக்க வேண்டும். அதை தொடர்ந்து அறுவை சிகிச்சை செய்த காலை முன்றோக்கி ஏறவேண்டும்.
  - ❖ நீங்கள் இறங்கும் பொழுது அறுவை சிகிச்சை செய்த காலை முதலில் கீழே இறக்க வேண்டும். தொடர்ந்து நல்ல காலை இறக்க வேண்டும்.
  - ❖ படிக்கெட் ஏறும் பொழுது 7 அடிகளுக்கு மேல் ஏறக்கூடாது.



முழங்கால் மூட்டு அசையாமல் இருக்க தகுந்த சாதனத்தை எப்போது உபயோகிக்க வேண்டும்?

- ❖ தங்களால் சுதந்திரமாக கால்களை நேராக உயர்த்தும் பயிற்சி செய்ய முடிந்தபின் உபயோகிக்க வேண்டும்.

அறுவை சிகிச்சைக்கு பின் வரும் வலியை கட்டுப்படுத்த மேற்கொள்ள வேண்டியவை

- ❖ வலிநீக்கும் மருந்தினை உட்கொள்ளுதல்.
- ❖ முதுகு தண்டு வழியாக வலி நீங்கும் மருந்தினை எடுத்துக் கொள்ளுதல்.



அறுவை சிகிச்சைக்கு பின் எப்பொழுது உடல் உறவு வைத்துக் கொள்ள வேண்டும்.

- ❖ அறுவை சிகிச்சைக்கு நான்கு முதல் ஆறு வாரத்திற்கு பிறகு நீங்கள் உடலுறவு வைத்துக் கொள்ளலாம். அப்போது நீங்கள் முட்டியை மடக்காதவாறு பார்த்துக் கொள்ளவேண்டும். உட்காரிந்து கொண்டு முட்டியை மடக்கும் பயிற்சி
- ❖ நாற்காலியில் அமர்ந்து கொண்டு அறுவை சிகிச்சை செய்யாத பாதத்தில், அறுவை

அறுவை சிகிச்சைக்கு பின் மேற்கொள்ள வேண்டிய உணவு முறை

- ❖ லைட்டபிள் - சி மற்றும் கிரூம்ப் சத்து நிறைந்த உணவு.
- ❖ மலச்சிக்கல் வருவதை தவிர்க்க நார்சத்து நிறைந்த உணவினை எடுத்துக் கொள்ளவேண்டும்.





- ❖ எலும்பினை வலுப்படுத்த கால்சியம் நிறைந்த உணவினை எடுத்துக் கொள்ளவேண்டும்.
- ❖ கால்சியம் பால் மற்றும் வெண்ணெய் ஆகியவற்றில் உள்ளது.
- ❖ திசுக்கள் மற்றும் தசையை வலுப்படுத்த புரதச்சத்து நிறைந்த உணவினை எடுத்துக் கொள்ளவும்.
- ❖ பால், மூட்டை, பீன், பீன்ஸ், கொட்டை வகைகளில் புரதச்சத்து நிறைந்துள்ளது.



- ❖ இரத்தத்தில் ஹீமோகுலோபின் அளவை அதிகரிக்க இரும்புச் சத்து நிறைந்த உணவினை எடுத்துக் கொள்ள வேண்டும்.
- ❖ இரும்புச்சத்து கீரை வகைகள், கேழ்வரகு, பேரிட்சை, வெல்லம், தேன், உலர்ந்த திராட்சை ஆகியவற்றில் உள்ளது.



#### அறுவை சிகிச்சைக்கு பின் எடுத்துக் கொள்ளக் கூடாத உணவு

- ❖ வைட்டமின் - கே. ஏனெனில், வைட்டமின் கே பொதுவாக இரத்தம் உறைவதற்கு காரணமாக அமையும். இதனால் அறுவைசிகிச்சைக்கு பின் இரத்தக்கட்டு ஏற்படும் வாய்ப்பு உள்ளது.
- ❖ காளிப்பிளவர், மூட்டைகோஸ் ஆகியவற்றில் வைட்டமின் - கே உள்ளது.



#### அறுவை சிகிச்சைக்கு பிறகு வரும் பின் விளைவுகள்

- ❖ இரத்தம் உறைதல் அல்லது இரத்தக்கட்டு.
- ❖ சிறுநீரக கிருமித் தொற்று.
- ❖ வாந்தி வரும் தன்மை மற்றும் வாந்தி.
- ❖ நெடுநாள் முழங்கால் மூட்டு வலி மற்றும் வீக்கல்.
- ❖ நரம்புக் கோளாறு.
- ❖ இரத்தக்குழாய் கோளாறு.
- ❖ கிருமி தொற்று
- ❖ செயற்கை மூட்டு செயலின்பை.

#### காலம் கடந்து வரும் பின் விளைவு

- ❖ செயற்கை மூட்டு விலகதல்.

#### பொதுவான விபரங்கள்

- ❖ நீங்கள் அறுவை சிகிச்சைக்கு பின் பதினாறு கிலோவிற்கு கீழ் உள்ள எடைகளை சமக்கலாம்.
- ❖ உடல் பருமன் உள்ளவர்களுக்கு செயற்கை மூட்டு விலகும் வாய்ப்பு உள்ளது.



#### எப்போது நீங்கள் மருத்துவரை அணுகவேண்டும்

- ❖ நெஞ்சுவலி இருந்தால்.
- ❖ மூச்சுத் திணறல் இருந்தால்.
- ❖ மூட்டு வீக்கம் மற்றும் வலி இருந்தால்.

