

**ASSESS THE EFFECTIVENESS OF VIDEO TEACHING
PROGRAMME ON SELF- HELP TECHNIQUES OF
OSTEOARTHRITIS AMONG ELDERLY IN OLD AGE
HOMES, COIMBATORE, TAMIL NADU.**

By

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A Thesis submitted to

The Tamil Nadu Dr. M.G.R. Medical University, Chennai

In fulfillment of the requirement for the degree of

DOCTOR OF PHILOSOPHY IN NURSING

OCTOBER - 2014

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CERTIFICATE

This is to certify that the dissertation entitled “**To assess the effectiveness of Video Teaching Programme on Self-Help Techniques of Osteoarthritis among Elderly in Old Age Homes, Coimbatore, Tamil Nadu**” is a bonafide work of **M. D. Anuratha** and submitted in fulfillment of requirement for the Degree of Doctor of Philosophy in Nursing to **The Tamil Nadu Dr. M.G.R Medical University, Chennai** under my guidance and supervision.

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DECLARATION

This is certify that the dissertation entitled “**To assess the effectiveness of Video Teaching Programme on Self-Help Techniques of Osteoarthritis among Elderly in Old Age Homes, Coimbatore, Tamil Nadu**” submitted to **The Tamil Nadu Dr. M.G.R Medical University, Chennai**, in October 2014 for the Degree of Doctor of Philosophy in Nursing is the original and independent work carried out during the period from October 2010 to September 2014 under the guidance and supervision of **Dr. N. Kokilavani, M.Sc.(N), M.Phil, M.A. (Pub. Adm), Ph.D.**, Principal and Guide, Adhiparasakthi College of Nursing, Melmaruvathur. This thesis does not contain any part of work that has been submitted for the award of any diploma, degree, associateship or other similar title in this university or any other university without citation.

SIGNATURE OF RESEARCHER

M. D. Anuratha

ACKNOWLEDGEMENT

My heartfelt praises to God Almighty for his bountiful blessings and abundant grace and mercy which encircled me throughout my endeavors and convert this work into reality and without whom it would not have been possible. I thank Him for giving me the required courage from the beginning till the end.

I have been fortunate in having received the cooperation and guidance of many people in completing this research. I consider it as a privilege to acknowledge here the help and guidance extended by each one of them.

I have immense pleasure in thanking the university of **The Tamil Nadu Dr. MGR Medical University, Vice-Chancellor Prof. D. Shantharam M.D., D. Diab., Registrar Dr.Jhansi Charles, M.D., and Academic Officer Dr. N. Jeyalakshmi Devi M.D. (Path), D.G.O., of The Tamil Nadu Dr. MGR Medical University, Guindy, Chennai** for giving me an opportunity and accepting me to join as a Ph.D. candidate in Nursing, under this university.

I wish to thank the Correspondent **Dr. E. Srelekha Senthil Kumar M.B.B.S, D.G.O,** Adhiparasakthi College of Nursing for giving an opportunity to undergo my Degree of Doctor of Philosophy in nursing career in this prestigious institution and for undertaking my research study.

I wish to extend my wholehearted thanks to my guide **Dr. N. Kokilavani, M.Sc. (N), M.Phil, M.A. (Pub. Adm), Ph.D.,** Principal, Adhiparasakthi College of Nursing, Melmaruvathur for her dexterous, constructive and critical guidance, logistic support, valuable suggestions, affectionate and enduring support, timely motivation and inspiration throughout the study. This holds me strong in all places I flattered and all these kept me working towards the completion of this successful dissertation.

I express my deep sense of gratitude to our beloved Principal **Prof. Elizabeth Jean Abraham, M.Sc (N)**, PSG College of Nursing, Coimbatore. The words of appreciation and encouraging support that principal has bestowed on me, kindled my spirit and enthusiasm to go ahead and accomplish this study successfully.

I have immense pleasure in thanking **Dr. Dinakar Rai B. K, M.S Ortho., Professor and HOD of Orthopaedic Surgery Department**, PSG Hospital, for his valuable support, encouragement, suggestions and strong motivation in completing my study.

I am grateful to Statistician, **Mr. Ashok. B**, Melmaruvathur Adhiparasakthi Institute of Medical Science and Research, Melmaruvathur, for his generous support, guidance and meticulous attention which guided me to study my subject with thorough comprehension and confidence. The timely corrections and guidance has motivated me to make this study a reality.

I express my sincere gratitude to **All the Faculty members** of Adhiparasakthi College of Nursing, Melmaruvathur and PSG College of Nursing, Coimbatore for unwavering encouragement, invariable help, insisting support and scholarly guidance in thick and thin of this study which could make the study possible and purposeful.

I sincerely express my profound gratitude to the **Management of Old Age Homes**, Coimbatore, for allowing me to conduct my study in their places and provided me a supportive environment and cooperation to conduct my study successfully.

My special thanks to all the **Subject Experts** who spent their valuable time for validating my tool. Their valuable suggestions, constructive criticism and their interest helped me to complete this study successfully.

My sincere and valuable thanks to **All My Participants** from 9 old age homes, who were the backbone of my study and extended their heart and handfull co-operation to bring out this study as grand success.

I express my sincere thanks to the **Ethics Committee of PSG Institute of Medical Science and Research Institutional Human Ethics Committee** for their valuable suggestion and approval of the study being conducted.

I extend my sincere thanks to all the **Library Staffs** for rendering all the facilities and support during the time of the study.

I also deeply appreciate the work of Computer Technical Person who helped me to turn this study into a final product.

I would like to thank everyone who helped me directly and indirectly to complete the study.

ABSTRACT

Assess the Effectiveness of Video Teaching Programme on Self-Help Techniques of Osteoarthritis among Elderly in Old ge Homes, Coimbatore, Tamil Nadu.

Old age neither be healed nor be prevented much can be done by health workers in helping the old age people to lead a normal life, which helps them to perform their activities of daily living (ADL) without difficulty. Joint-pain to decreased mobility are the commonest problem of old people to meet their ADL. Due to highest health problem of osteoarthritis among elderly population needs strengthening of geriatric health care services in community and hospital based health care settings. The programme needs to be developed in geriatric health care with the facilities of early diagnosis, counseling, healthy diet, weight control, regular exercise and physiotherapy along with the treatment. The researcher has undertaken this study to improve their self-care activities by giving information regarding the self-help techniques of osteoarthritis thus improving the quality of living to lead a healthy life.

Objectives of the study:

1. To identify the clients affected with Osteoarthritis among elderly.
2. To assess the self-care among elderly with Osteoarthritis.
3. To implement the Video Teaching Programme to clients with osteoarthritis on Self-Help Techniques of Osteoarthritis
4. To assess the effectiveness of Video Teaching Programme on Self-Help Techniques of Osteoarthritis.
5. To associate the self-care knowledge and practice with demographic variables of clients with osteoarthritis.

6. To compare the self-care practice in relation to knowledge of the osteoarthritis clients with osteoarthritis.

7.

Methods:

Quasi experimental time series design was adopted for this study. The sample size was 272 osteoarthritis clients from old age homes, Coimbatore. Purposive sampling technique was adopted in this study. Clients more than 50 years of age and of both the sexes were included for the study. The tool used for data collection were osteoarthritis identification tool, modified WOMAC Index tool to assess the severity of osteoarthritis, structured interview schedule in tamil to assess the self-care knowledge on osteoarthritis, observational checklist to assess the self-care abilities and video teaching programme on self-help techniques of Osteoarthritis. Then implemented the video teaching programme on self-help techniques of Osteoarthritis for 25 minutes. After 15 days of interval the post-test was conducted by using same instruments. Severity of Osteoarthritis was assessed for 3 times with every 15 days of intervals by using modified WOMAC index. By using descriptive and inferential statistics the collected data were arranged, tabulated and analyzed.

Major findings of the study:

- Highest percentage (31%) of clients aged between 66-70 years and majorities (54%) of them were female.
- Highest percentage (27%) of clients had secondary education and majority (39%) of them were semi manual workers.
- 67 percentage of clients were non vegetarians and highest percentage (45%) of clients under the BMI classification of obesity (BMI 30kg/m² & above).

- 56 percentages of clients were not had any chronic illness. 78 percentages of clients had history of joint pain more than 5 years and only 13 percentages of clients were adopted the assistive devices for mobilization.
- Area-wise distribution of osteoarthritis clients according to their level of knowledge regarding self-care shows that, overall highest percentage (37%) of clients had poor knowledge in pre-test and 62 percentage of clients had excellent knowledge in post-test.
- Area-wise mean, SD and mean percentage of pre and post-test knowledge Osteoarthritis clients shows that, in pre-test out of 34 maximum obtainable scores the mean score was 15.785 ± 4.594 which is around 52.502 percentage of the total score revealing, clients had average knowledge on self-help techniques of osteoarthritis. Whereas the mean score in post-test was 28.281 ± 3.822 , which is around 87.129 percentage of the total score revealing clients had excellent knowledge on self-help techniques of osteoarthritis.
- Area-wise distribution of osteoarthritis clients according to their level of practice regarding self-care of osteoarthritis shows that, overall highest percentage (62%) of clients had partially adoptive practice in pre-test. Where as in post-test, 97 percentage of clients had fully adoptive practice it reveals that the video teaching programme was effective on self-help techniques of osteoarthritis.
- Area-wise mean, SD and mean percentage of pre and post-test practice of Osteoarthritis clients shows that in pre-test, out of 64 maximum obtainable scores the mean score was 27.08 ± 4.607 which is around 44.368 percentage of the total score, revealing clients had partially adoptive practice on self-help techniques of osteoarthritis. Whereas the mean score in post-test was 54.519 ± 5.031 , which is

around 85.019 percentage of the total score, revealing clients had fully adoptive practice on self-help techniques of osteoarthritis.

- Distribution of osteoarthritis clients according to their severity level of osteoarthritis shows that, in pre-test, 97 percentage of clients had severe level of osteoarthritis and only 3 percentage had moderate level. Where as in post test 74 percentage of clients (202 nos.) came to mild level of severity through fully adaptation of self-help technique and only 5 percentage of clients were still in severe level of osteoarthritis.
- Significant association formed between the knowledge and practice of OA clients when compared to the demographic variables of age, sex, educational status, type of previous occupation, body mass index, history of chronic illness and usage of any assistive devices.
- Calculated the Paired 't' test to assess the significant difference between the pre and post-test knowledge and practice of self-help techniques of osteoarthritis shows highly significant difference. Hence it can be concluded that intervention on self-help techniques of osteoarthritis is highly effective.
- Karl Pearson's co-relation co-efficient analysis between knowledge and practice score of the post-test shows significant positive relationship between knowledge and practice ($r= 0.882$).
- Paired 't' test was calculated to analyze the severity of osteoarthritis, shows that in pre and post-test there was a significant difference in WOMAC index. Hence it can be concluded that there is a highly significant difference between the pre and post severity of osteoarthritis and the hypothesis is accepted. It reveals that the practice of self-help technique reduced the severity of osteoarthritis gradually and significantly.

- Difference in severity of osteoarthritis in pre and post assessment by using one way repeated measures ANOVA shows the there was a significant improvement in the observation of reduction in severity of osteoarthritis.

Conclusion:

Osteoarthritis is a common disorder in all population and overall prevalence is same in men and women. Osteoarthritis cannot be cured but it can be controlled. The primary responsibility of nurse is to create awareness and explain about self-care management of disease, which will develop positive attitude and learn to practice according to the standard level. In this study majority of the clients had inadequate level of knowledge about the self-care management of osteoarthritis in pre-test. After implementation of video teaching programme on self-help technique of osteoarthritis majority of the clients had excellent knowledge and fully adoptive practice of self-care management as well as reduced the severity of osteoarthritis gradually and significantly.

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LIST OF ABBREVIATIONS

OA	–	Osteoarthritis
BMI	–	Body Mass Index
SD	–	Standard deviation
WOMAC	–	Western Ontario and McMaster Universities Osteoarthritis index tool
ADL	–	Activities of Daily Living
VTP	–	Video Teaching Programme
VAS	–	Visual Analog Scale
VDS	–	Verbal Descriptor Scale
BMD	–	Bone Mineral Density
df.	–	Degrees of freedom
SS	–	Sum of Squares
MSS	–	Mean Sum Square
DM	–	Diabetes Mellitus
CAD	–	Coronary Artery Disease
SHT	–	Systemic Hypertension

CHAPTER - I

INTRODUCTION

“Take care of your body. It's the only place you have to live”

1.1 Background of the study:

Osteoarthritis is a disease in which the cartilage which acts as a cushion in between bones in joints begins to overstress, resulting in swelling and pain in joints which affects negatively. It could be also called as degenerative arthritis or degenerative joint disease. It is very common disorder since ancient time. For a person who is suffering from osteoarthritis, there is a breakdown of the joint's cartilage. Following this breakdown the cartilage wears away and the bones will start rubbing each other which can cause severe pain as well as limitations in movement. In extreme cases, the person may not be able to move at all.

Osteoarthritis is a common chronic disease leading to signs and symptoms involving joints which are associated with defective integrity of articular cartilage, changes related to bones and joints varying level of pain. The development of osteoarthritis mainly depends on factors like age, sex, genetic predisposition, and previous trauma involving the joint, abnormal mechanical forces and obesity. Biochemically, an imbalance occurs between the cartilage degradation and cartilage regeneration which leads to the pathogenesis of osteoarthritis. Increasing number (more than 90 percentage) of total hip or knee joint surgeries being undertaken worldwide where osteoarthritis is the main diagnosis.

Excluding aging, it has been proved that factors like obesity and heavy workers with increased physical activity are at high risk for symptomatic knee and hip osteoarthritis. There is a progressive number of older people living with severe joint

disease in developing countries especially in rural places where joint replacement surgery or inaccessible to the people.

Osteoarthritis is a symptomatic disease which includes pain, stiffness, decreased physical functioning, incontinence, depression and thus results in poor quality of life for affected older adults (Arthritis Foundation, 2008). Occurrence of osteoarthritis along with conditions like congestive heart failure, diabetes mellitus, coronary artery disease, systemic hypertension, chronic respiratory disease, etc., will lead to cascading decline in functioning of older adults, resulting in immobility. This may result in social isolation and depression.

1.2 Need for the study:

The prevalence rate of osteoarthritis increases as age progress. The radiographic data reveals that osteoarthritis occurs at skeletal site in the majority of people around the age of 65 years and in nearly in everyone over 75 years of age. Based on prevalence data from the National Center for Health Statistics (2012), an estimated range of 15.8 million adults or 12 percentage of those between 25 and 74 years of age, exhibit the signs and symptoms of osteoarthritis. About one-fifth of the people under the age of 45 have osteoarthritis in hand which is increased 85 percentage for the age group of 70 to 75 years. In case of osteoarthritis of knee it is estimated that it is less than 0.1 percentage in the age group of 25 to 34 years which increases up to 10-20% for the age group of 65-74 years. The overall incidence of hip or knee osteoarthritis is ranges as 200 per 1, 00,000 persons per year. The incidence of hip osteoarthritis is increase in women compared to men, but the rate of knee osteoarthritis is similar in both the genders. In men, rates of knee and hip osteoarthritis increases as the age advances, but in women the rates remain stable.

Based on these population data, one-half million symptomatic cases of osteoarthritis are found to occur annually to White population in U. S.¹

Burden of osteoarthritis in the United States, epidemiologic and economic considerations stated that osteoarthritis is a common and a disabling disease. As there is an advancement in treatment choices for chronic diseases lowering the mortality rate there are older Americans living with various disabling condition including osteoarthritis. The present number of older adults with arthritis and other chronic musculoskeletal joint symptoms can be expected to nearly double, ranging from 21.4 million in 2005 to 41.1 million by 2030. There is a need for total hip arthroplasty (THA) because of osteoarthritis increasing in aged and the obesity crisis.²

In U.S. there are around 20 million of people with arthritis, which may grow up to 40 million by 2020.³

There is a remarkable increase in the number of the old age population. In India, 5.3 percentage of males and 4.8 percentage of female were aged who are more than 65 years. The proportionate percentage of old age people in developing countries is less but in developed countries the absolute number is high.⁴

A study on factors associated with osteoarthritis among Japanese elderly revealed that 598 people out of 1513 living in Miyagawa village were more than 65 years. Out of 598 people, 393 were female. The included demographic data were age, history of previous involvement in sports, occupation, pain, smoking and consumption of type of drinks. Bone mineral density also assessed. The study concluded with the factors like overweight, female gender, old age and weakness in bones are at increased risk for osteoarthritis.⁵

A cross-sectional study was conducted to identify the prevalence rate of symptomatic knee, hand and hip osteoarthritis among people at 40 years of age or

more living in the Bayrakli Adalet district of İzmir. A sample size of 522 people was calculated with the use of Epi Info™ software. Demographic information including the weight, height and body mass index was recorded. Samples were physically assessed for evidence of osteoarthritis, like joint tenderness, difficulty in range of motion, deformity, involvement of 1st carpometacarpal joint and development of Heberden's and/or Bouchard's nodes. One hundred and ninety-one individuals were suspected to have knee/hand/hip osteoarthritis out of 152 which were called in for radiographs. The prevalence of symptomatic knee, hand and hip osteoarthritis of adults of age ≥ 40 years were 20.9 percentage, 2.8 percentage and 1.0 percentage respectively. Symptomatic knee and hand osteoarthritis were significantly higher among female gender ($p < 0.05$).⁶

The osteoarthritis usually affects the knee, hip and hand. Osteoarthritis becomes more common with age after 50 years and women are affected more than men. Also said that the age and sex-standardised incidence of osteoarthritis of the hand is 100 per 1, 00,000 persons per year, for the hip is 88 per 1, 00,000 persons per year, and that of knee is 240 per 1, 00,000 persons per year.⁷

Many Asian countries are ageing rapidly. In Asia old age people more than 65 years will be doubled or more in the next two decades, ranging from 6.8 percentage in 2008 to 16.2 percentage in 2040. In the year 2008, Japan had the world's oldest population of age 65 years and over was 21.6 percentage and China (106 millions) and India (60 millions) were ranked the top most in the absolute number of people aged 65 years and above.⁸

Demographic changes in India estimated that the population of person above 60 years was around 76.62 million in 2001, which can rise up to 179 million by 2031. Dependency ratio in 1991 was around 12.26 and it may rise up to 14.12 by 2016 and

there were around 1, 50,000 centenarians in India in 1991 which will grow to nearly 2, 00,000 by 2016.⁹

In India the prevalence of Osteoarthritis was seen in around 10 percent of the people and over 30 percent of those above the age of 60.¹⁰

The percentage of elderly population in Coimbatore district, Tamilnadu is 9.16 % in 2010.

Osteoarthritis is a common disorder occurring in all population, and overall prevalence is the same in men and women. It is seen that there is a more rapid age related increase in the prevalence of generalized osteoarthritis in women more than men. By the age 40, 90% of all persons can have such changes in their weight bearing joints, though clinical symptoms are generally absent. Under age of 45 years, prevalence was greater among men, whereas after the age of 55 prevalence was more in women than in men. Moderate to severe grades of osteoarthritis was seen to a larger extent in women compared to men. Obesity has a close association with development of knee osteoarthritis. Other studies and findings regarding osteoarthritis has demonstrated an increase frequency of osteoarthritis in the obese persons especially in weight bearing joint and joint stress related to occupation or any sports activity has been implicated in the induction of osteoarthritis.¹¹

The severity of osteoarthritis is related to occurrence of pain often leading to functional disability which may range from slight to severe impairment of normal daily living activities. Pain relief plays is an important management for osteoarthritis. There is a high prevalence of osteoarthritis in India. Osteoarthritis may initially appear without any symptoms between the age of 20 and 30 years. Then the symptoms, like pain and inflammation is slowly visible in middle age. Till the age of 55 it is common in both the sexes. But after the age of 55, women are at a higher risk

to this disease. Many studies have even demonstrated that age is not a very important factor to the start of osteoarthritis and many medical professionals have also found that obesity can be the reason of having this disease. There are increased chances of experiencing some pain in the knees and back for a person who is obese, where the osteoarthritis develops commonly.

Osteoarthritis, a degenerative disorder of synovial joint where there is a progressive destruction of articular cartilage followed by juxtra-articular new bone formation and remodeling. Patients with osteoarthritis have pain which worsens usually with weight bearing and physical activity and improves with rest, including morning stiffness that relieves after periods of activity. Though the cure for osteoarthritis is unknown, appropriate treatment need to be designed for the individual patient who can reduce pain, which will maintain and improve joint mobility there by limiting functional disability.

The major relationship between diet and arthritis is weight. Excess of body weight does not hold good for joint health. Losing some body weight helps in reducing the strain of knees, hips, feet and lower back, thus improving overall physical health and mobility. Many researchers have also shown that in combination with regular exercise, weight loss helps in reducing pain in joint and stiffness related to osteoarthritis. Other serious medical conditions are commonly seen in people who are obese. So, reducing excess weight not only helps to manage but prevent this disease conditions.¹²

The patient education programmes are usually defined as a planned learning experience which can influence the patient's knowledge and health behaviour. Education can be given either by a physician or by the multidisciplinary health team. Research suggests that patient education is not only feasible but also valuable in terms

of improvements in quality of living, functioning, well-being and improves coping. In research made on patient education for osteoarthritis, many different forms of patient education can be employed; some of them include only self-management programmes, whereas some on only exercise programmes and some programmes combining both self-management and exercise. Also including the Devos- Comby et al study's findings which states that the self-management programmes had a little effect on function but a bit more on programmes which combined of both exercises and self-management programmes can reduce pain and increase function.¹³

Old age neither be healed nor be prevented much can be done by health workers is helping the old age people to lead a normal life, which help them to perform their activities of daily living (ADL) without difficulty. Joint-pain leading to decreased mobility are the commonest problem of old age people to meet their activity of daily living.

Due to the highest health problem of osteoarthritis among elderly needs strengthening of geriatric health care in community and hospital based settings. The programme need be developed in geriatric health care with the facilities of early diagnosis, counseling, healthy diet, losing of weight, regular exercise and physiotherapy along with the treatment. So, I would like to conduct a study on clients with osteoarthritis by improving their self-care activities by giving information regarding the self- help techniques of osteoarthritis thus improving the quality of living to lead a healthy life.

1.3 Statement of the problem:

A Study to Assess the Effectiveness of Video Teaching Programme on Self-Help Techniques of Osteoarthritis Among Elderly in Old Age Homes, Coimbatore, Tamil Nadu.

1.4 Aim of the study:

Reduce the severity of osteoarthritis among elderly and improving their self-care ability through implementing video teaching programme on self-help techniques of osteoarthritis.

1.5 Objectives of the study:

1. To identify the clients affected with Osteoarthritis among elderly.
2. To assess the self-care among elderly with Osteoarthritis.
3. To implement the Video Teaching Programme to clients with osteoarthritis on Self-Help Techniques of Osteoarthritis
4. To assess the effectiveness of Video Teaching Programme on Self-Help Techniques of Osteoarthritis.
5. To associate the self-care knowledge and practice with demographic variables of clients with osteoarthritis.
6. To compare the self-care practice in relation to knowledge of the osteoarthritis clients with osteoarthritis.

1.6 Operational definitions:

Assess:

Measurement of the self-care and severity level of Osteoarthritis among Osteoarthritis clients as observed from the score based Interview Schedule and Observational Checklists.

Effectiveness:

Is the gain in self-care knowledge and self-care ability and reduction of severity level of Osteoarthritis after implementation of self-help technique intervention as determined by significant difference between pre and post-test scores.

Video Teaching Programme:

Material using for sight and sound to present information and demonstration on self-help techniques of Osteoarthritis such as basics about osteoarthritis, activities of daily living, regular exercise, diet, weight control, non drug pain relief measures, rest and relief from stress on joints and socialization.

Self-Help Techniques:

The act helps or improves the self-care ability of Osteoarthritis clients to lead a quality of life. It consists, activities of daily living, regular exercise, diet, weight control, non drug pain relief measures, rest and relief from stress on joints and socialization.

Osteoarthritis:

Is a form of arthritis, affecting mainly older people, caused by chronic degeneration of the cartilage and synovial membrane of the all the joints leading to pain and stiffness.

Elderly:

The person aged 50 years and above residing in old age homes, Coimbatore.

Old Age Home:

Care for the old people, who have no one else to care for them or care is provided for a fee. They are given shelter, food, clothing and medical care.

1.7 Variables of the study:

Independent variable

The independent variable is the activities that the researcher introduces the video teaching programme on self-help techniques of Osteoarthritis that will have a positive outcome on the dependent variables.

Dependent variables

The dependent variables are the response of the Osteoarthritis clients towards the video teaching programme on self-help techniques of Osteoarthritis as measured by, changes in self-care knowledge and self-care practice as well as severity level of Osteoarthritis during pre and post-test.

1.8 Hypothesis:

- H₁: There is a significant association between pre-test self-care knowledge and demographic variables of the clients with osteoarthritis.
- H₂: There is a significant association between pre-test self-care practice and demographic variables of the clients with osteoarthritis.
- H₃: There is a significant difference between pre and post-test self-care knowledge of clients with osteoarthritis.
- H₄: There is a significant difference between pre and post-test self-care practice of clients with osteoarthritis.
- H₅: There is a significant relation between the post- test self-care knowledge and practice of clients with osteoarthritis.
- H₆: There is a significant difference between the pre and post assessment on severity of Osteoarthritis.

1.9 Assumptions:

1. Osteoarthritis clients may have poor ability in practice of self-help techniques of Osteoarthritis.
2. Video Teaching Programme on self-help techniques of Osteoarthritis may improve the self-care abilities of elderly with Osteoarthritis.

1.10 Delimitations:

The study was limited to the Osteoarthritis clients who were:

1. More than 50 years of age and of both the sexes.
2. Clients with mild to severe osteoarthritis.
3. Able to understand and speak Tamil.
4. Willing to participate in the study.
5. Available during the period of data collection.
6. Mentally stable clients.

1.11 Projected Outcome:

1. The study will improve the self-care ability of elderly with Osteoarthritis.
2. The study will reduce the severity of osteoarthritis among elderly by adapting self-help techniques of Osteoarthritis.

1.12 Theoretical framework:

Theory is an abstract generation that systematically and clearly explains the relationships among phenomena. In research the overall objectives of theories and models are to make findings more meaningful to summarize existing knowledge into coherent systems to stimulate new research and to explain phenomena and relationship among them.¹⁴

Theoretical framework chosen and modified for this study, was **General System's theory by Alabwig Von Bertalanffy (2010)**.¹⁵ this theory adopted for make the interrelationship of separate parts and explains there as whole. He defines, system is a complex interaction which means of two or more converted elements which form an organized whole and which interact with each other.

According to him **'input'** refers to energy, matter and information. All systems must receive varying type and amount of information from the environment.

The system uses the input to maintain its homeostasis. In the present study input is considered to be the information related to self-help techniques of Osteoarthritis, it includes;

- Osteoarthritis identification tool to identify the clients with Osteoarthritis among elderly population.
- Modified WOMAC (Western Ontario and Mc Master Universities Osteoarthritis) index tool for identifying the severity of Osteoarthritis
- Basic Information of clients with Osteoarthritis
- Structured Interview Schedule and Observation Checklist on self-help techniques and severity assessment of osteoarthritis.
- Video Teaching Programme on Self help techniques of clients with Osteoarthritis. It includes,
 - Basics about Osteoarthritis
 - Activities of Daily Living
 - Exercise
 - Diet
 - Weight control
 - Non drug pain relief measures
 - Rest and relief from stress on joints
 - Socialization of clients with Osteoarthritis.

According to him '**throughput**' refers to the process by which the system processes input and release on output. In the present study the throughput considering for processing the input are;

- Pre-test was conducted by using structured interview schedule and observation checklist on self-help techniques of Osteoarthritis and modified WOMAC tool adopted to assess the severity level of Osteoarthritis.
- Implemented the Video Teaching Programme on self-help techniques of Osteoarthritis.

According to him ‘**output**’ refers to matter, energy and information that leave a system. In the present study output is considering;

- Post-test was conducted by same structured interview schedule, observation checklist and modified WOMAC assessment tool used to see the effectiveness of Video Teaching Programme intervention on self-help technique.
- The information obtained from the interview schedule and checklist in terms of scores. The output expressed depending on scores in terms like, level of knowledge was classified into five categories such as very poor, poor, average, good and excellent, self-care practice was considered as not adoptive, partially adoptive and fully adoptive practice and severity level of Osteoarthritis expressed as mild, moderate, severe and extreme severe osteoarthritis.

According to him ‘**feedback**’ refers to output that is returned to the system that allows it to monitor itself overtime in an attempt to more closer to a steady state known as equilibrium or homeostasis. Feedback may be positive, negative or neutral. Positive feedback was obtained from the Osteoarthritis clients on self-help techniques of Osteoarthritis.

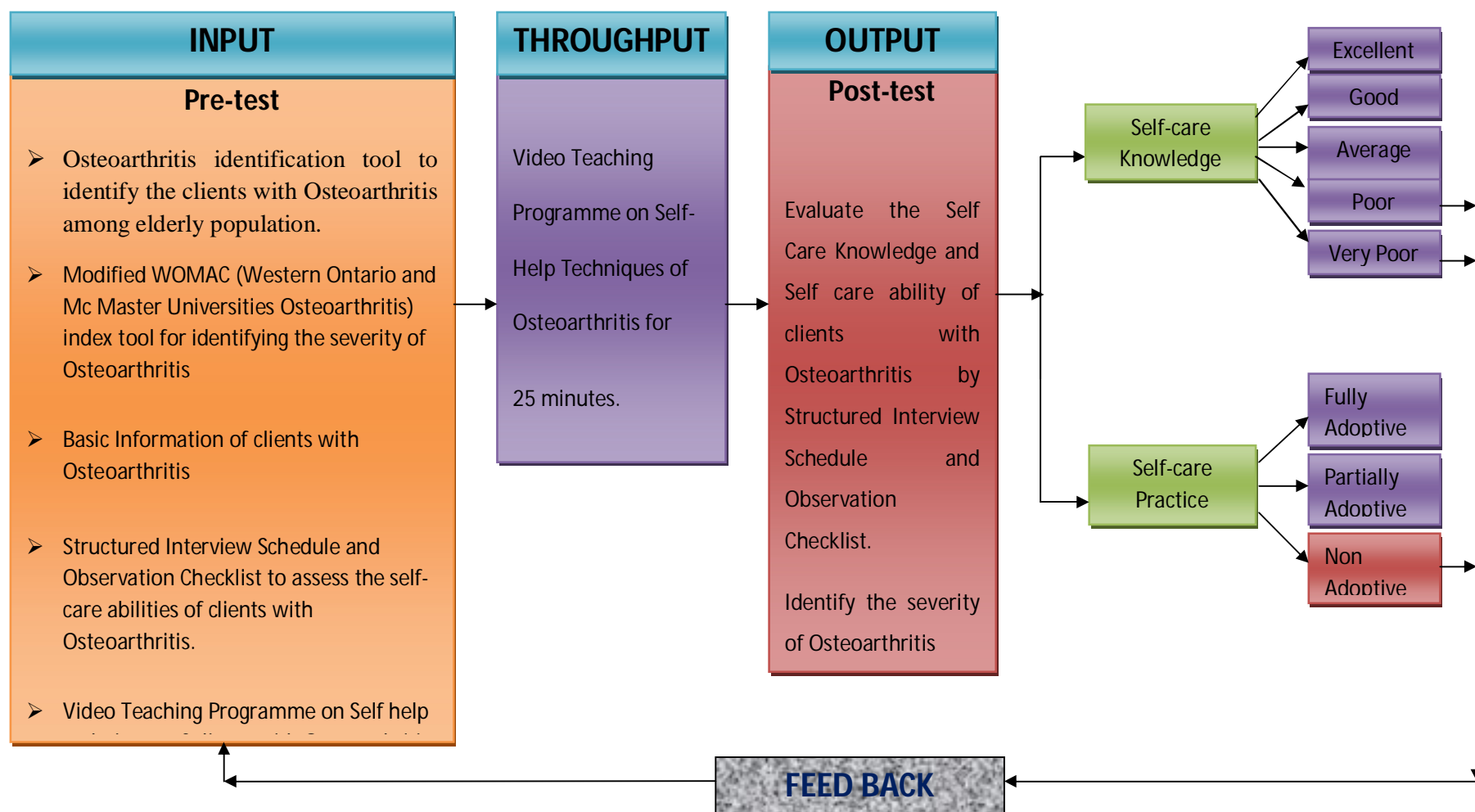


Figure 1.1: Modified Theoretical framework of Alabwig Von Bertalanffy's General System Theory (2010) to Assess the Effectiveness of Video Teaching Programme on Self-help Techniques of Osteoarthritis

1.13 Summary:

This chapter deals with the need for the study, statement of the problem, aim of the study, objectives of the study, operational definitions, variables, hypothesis, assumptions, delimitation, projected outcome and theoretical framework of the study.

CHAPTER - II

REVIEW OF LITERATURE

A literature review is a written summary which includes existing knowledge regarding a research problem. The task of reviewing research literature involves the steps of identification, selection, critical analysis and written description of existing information on a given topic.¹⁴

Under this chapter, review of literature was related to the objectives of the proposed study.

The literature review was carried out under the headings given below related to self-help techniques of osteoarthritis;

- 1. Basics about Osteoarthritis**
 - 2. Activities of daily living**
 - 3. Exercise**
 - 4. Diet**
 - 5. Weight Control**
 - 6. Non drug pain relief measures**
 - 7. Rest and relief from stress on joint**
 - 8. Socialization**
 - 9. Importance of Self management of Osteoarthritis**
- 1. Studies Related to Basics about Osteoarthritis**

Auw Yang K G, Raijmakers N J H, Verbout A J, Dhert W J A, et al (2007)¹⁶ conducted a study on effectiveness of the WOMAC short-form functional scale in use of assess the severity of knee osteoarthritis. This study utilizes the short-form of WOMAC function scale in assessment of conservative management of

osteoarthritis of the knee. Data were collected from 100 osteoarthritis patients before the initiation of treatment and six and nine months later, to assess the validity, internal consistency, test-retest reliability, floor and ceiling effects, and effectiveness of the short-form WOMAC function scale. This scale had a high correlation with the traditional WOMAC and even other measures. The internal consistency was not only good (Cronbach alpha: 0.88 to 0.95) but an excellent test-retest reliability was found (0.85 to 0.94). The responsiveness was adequate and it was also comparable to that of the traditional WOMAC (standardised response mean 0.56 to 0.44 and effect size 0.64 to 0.57) and found not to be significantly affected by effects of floor or ceiling (0% and 7%, respectively). Then the researchers concluded that, short-form WOMAC function scale is a valid one, reliable and responsive alternative to the traditional WOMAC used in the evaluation of patients with osteoarthritis. It is also simple to use in daily practice.

Busija L, Bridgett L, Williams S R, Osborne R H, et al (2010)¹⁷ said that internationally, prevalence estimates for osteoarthritis shows varying changes depending upon the age and sex of the studied population. It is constantly demonstrated in population-based studies. Worldwide, prevalence of osteoarthritis is positively related to advancing age which increases the burden by involvement of hip and knee joints. The knowledge regarding modifiable risk factors for disease incidence and progression marks important.

Sadosky A B, Bushmakin A G, Cappelleri J C, Lionberger D R (2010)¹⁸ conducted a study on association with osteoarthritis subjective verbalized severity, level of pain and effectiveness of function. A basic understanding the relationship and prognosis of disease in health care setting will give the patient management which is appropriate. The main objective of this study was to identify the relationship between

the clients word on osteoarthritis severity and their prognosis which includes level of pain, functional ability. Pain was assessed with the use of visual analogue scale (VAS) and a structured questionnaire was used to collect the data regarding the activities of daily living and work productivity. Out of 714 samples 61.7% were female gender with mean age of 63.8 ± 12.9 years. The associate factors observed for osteoarthritis are older age as well as observed the increasing pain reduces the functional ability. in conclusion identification of clients with osteoarthritis according to their severity of disease may be beneficial to the clients and care providers can choose the optional treatment to reduce the pain and improve the functional ability and productivity.

Muhammad Navaid Iqbal, Abdul Mannan, Fakhir Raza Haidri, Balchand Motiani (2011)¹⁹ conducted a cross sectional study regarding the frequency of factors associated with knee osteoarthritis in the patients with knee osteoarthritis. It was conducted in the department of medicine at Liaquat National Hospital Karachi from September 2007- March 2008. One hundred patients who were more than the age of 18 either gender were consecutively included. The main outcome factors in relation with osteoarthritis in this study conducted were obesity, age, gender, smoking and anaemia. The mean age, mean BMI and mean Haemoglobin were 56.28 ± 8.786 years, 29.434 ± 7.849 and 11.77 ± 1.670 mg/dl respectively. The frequency of factors linked with osteoarthritis was 60 patients in number who were above 55 years. There were 74 percentage females and 26 percentage males, 25 percentage of them were smokers, 33 percentage were obesity and 50 percentage of women and 60 percentage were anemic. The study also added a note that females of age greater than 55 years are in need of a visit to a tertiary care hospital for the knee osteoarthritis.

Mohamed Ahmed, Nahid Ali, Zia Ur Rahman, Misbahullah Khan (2012)²⁰ stated that arthritis is an inflammation of joint which can be acute or chronic and is usually, accompanied by pain, swelling and stiffness which may result from infection in case of any joint injury. Pain is the very common symptom of osteoarthritis which leads to poor functional outcomes. The main characteristics are loss of articular cartilage and periarticular bone remodelling. It also causes joint pain, which is very worse especially with weight bearing and activity joint and stiffness of joints after period of inactivity.

Theim U, Lamsfub R, Gunter S, Schumcher J, et al (2013)²¹ conducted a cross-sectional survey study at Herne in Germany. It was based on prevalence on subjective pain and joint complaints among adults age more than 40 years. Pain and complaints of musculoskeletal system were among the most common symptoms seen in the general population. The study used a detailed self-complete postal questionnaire which was followed by a short reminder questionnaire and then finally telephone contacts for those who were not responding. The response rate was around 57.8% (4,527 of 7,828 individuals). The proportion of women among responders was comparatively higher than in population sample. The prevalence rate was assessed for current pain, pain within past four weeks and current joint pain were 59.7%, 74.5% and 49.3% respectively. It also included the complaints in joint at 4 weeks and 12 months which were 62.8% and 67.4% respectively. According to the sight affected, the predominant sight is the knee which is about 30.9% following which was the knee bilateral, hip, hip bilateral and knee and hip which was 9.7%, 15.2%, 3.5% and 5.5% respectively. Pain and musculoskeletal complaints were significantly higher in women. A clear relationship between pain and joint complaints according to age was found, that is increasing prevalence as the age advances were also found, pain and

joint pain were found along with co-morbidity and increase body mass index affecting the quality of life.

2. Studies Related to Activities of daily living

Brenda W J H Penninx, Messier Stephen P, Rejeski Jack, Williamson Jeff D, et al (2001)²² the study to determine whether an exercise program can be used to prevent disability in Activities of Daily Living and the samples grouped as 3 by giving aerobic exercise programme, resistance exercise programme and one group as controlled. 250 samples were assessed their disability in Activities of Daily Living before intervention. During the intervention every 3 months once assessed their ADL during 18 months of study period. The study findings show the group who is involved in exercise programme like aerobic and resistance exercise shown the reducing their disability in ADL, so researchers suggested that exercise plays a important role in reduction of ADL disability.

Corinna C Winter, Mirko Brandes, Carsten Müller, Tim Schubert, et al (2010)²³ conducted a cross sectional study on assess the ability of walking in patient with OA in knee, hip and spine and its impact also studied in walking. Studied the 120 samples with 30 in each with knee, hip and spinal osteoarthritis. The researchers concluded that clients with all disorders in muscular skeletal system demonstrated the reduction of pain.

Le V Hoi, Pham Thang, Lars Lindholm (2011)²⁴ conducted a study on the subject of elderly care in daily living needs and the socioeconomic determinants of it in rural Vietnam. Randomly selected the people aged 60 and above and assessed their needed support to achieve their Activities of Daily Living. Samples were distributed on the basis of economic status, needed support, amount of received support, caregivers' type and their ADL. Nearly 315 of samples received the help from their

children and grand children. Concluded with factors like old age, un married, size of family, living environment, wealthness and other co-morbid conditions are playing a major role in need of support in old age majority of older peoples need support to meet day today activities.

Allen K D, Chen J C, Callahan L F, Golightly Y M, et al (2012)²⁵ conducted a study on osteoarthritis pain among African, Americans and Whites to find the racial differences. Study taken as occupational and household tasks among these 2 groups. Using a WOMAC tool assessed the relation in numbers of occupational tasks and household tasks. African Americans experienced higher level of pain than Whites. Concluded as increased occupational or household tasks at the longest jobs increases the higher level of pain.

Jonathan Daniel Stevenson, Richard Roach (2012)²⁶ stated that there is an increase in prevalence of osteoarthritis placing greater demands on healthcare and future socioeconomic costing models in future. Exercise and non-pharmacological methods can be used to treat this common and disabling disease. Expectations throughout the disease are increasing with a desire to become active and independent.

A Banerjee, S L Jadhav and J S Bhawalkar (2012)²⁷ conducted a cross-sectional study regarding the limitations of activities in patients having musculoskeletal disorders. 2633 patients having MSD from D Y Patil Medical College were identified by interview sessions and clinical examination done as well as identified their limitation in Activities of Daily Living. Out of 2633, 190 patients suffering with musculo skeletal disorder severely. Increased prevalence was seen in females and rural population. Various degrees of limitations were assessed in their ADL. The limitations over dressing (9.5%), hair washing 11.6 percentage, getting out of bed 50 percentage, self food intaking 6 percentage, walking 39 percentage, bathing

self 10 percentage, toileting 37 percentage, off chair 47 percentage and disturbance in sleep 47 percentage of samples felt limited: these limitations disturbed their family socialization also.

Arora Pooja, Arya Shilpa and Yardi Sujata (2012)²⁸ conducted a study regarding the immediate effects of taping the clients having osteoarthritis knee. With the aim to immediate effects on pain in patients having osteoarthritis of the knees by using the VAS score on four performance like walking, squatting in toilet, ascending stairs as well as descending stairs and also on functional disability tests like walking speed, Time Get Up and Go test and step test. Hospital based longitudinal study design was used. Inclusion criteria were patients with unilateral or even bilateral knee pain, which was clinically and radiologically diagnosed has grade 1 and 2 osteoarthritis, (according to Kellgren and Lawrence classification) as patello-femoral and/or tibio-femoral osteoarthritis of knees were included. Patients with knee instability, acute stage osteoarthritis, rheumatoid and other knee arthritis were excluded. Interventions adopted for this study was mainly patellar taping by McConnell technique and then Tibio-femoral taping by Mulligan Technique. Others were post taping pain measurement using VAS Scale, Observed disability by TUG (Timed Get Up and Go test), Walking speed, and Step test. Sixty subjects were enrolled with mean age of 57.17 years. Pain relief were assessed using VAS scores on the 4 main activities which includes walking, squatting, ascending stairs and descending stairs, then the TUG scores, Step test scores and Walking Speed showed improvements which was statistically significant after taping in both unilateral and bilateral osteoarthritis knee subjects. Knee taping had high significant reduction in pain and disability in individuals with osteoarthritis.

Golam Nobi, Abul Kalam Azad, Badrunnessa Ahmed, Imamur Rashid, et al (2012)¹¹ done a prospective experimental investigation on the effects of activities of daily living (ADL) instructions on patient suffering from knee osteoarthritis. A total sum of 60 patients with osteoarthritis of knee was selected. Out of 60 participants 28(46.7%) of them were female and 32(53.3%) were male. Age distribution was around 40 to 70 years with a mean of 53.58 ± 6.86 years. Maximum number of patients 17(28.3%) belonged to age group of 56-60 years including both sexes and house wives were the highest in number of 26 (43.3%). They were then divided into two different groups out of which, 30 patients were treated with therapeutic exercise along with NSAID and the other 30 participants were treated with therapeutic exercise, NSAID and ADL. In both the groups patients were treated for a period of six weeks. The findings of the study is as follows, patients who received NSAID, exercise and ADL instructions have improved more significantly when compared to those who were not advised regarding ADL instructions but received NSAID and Exercise only (95% CI: 4.30 to 9.36, P = 0.001). Finally, it was concluded that instructions about activities of daily living play a major role to improve the symptoms of osteoarthritis knee.

Wilkie R, Blagojevic-Bucknall M, Jordan K P, Lacey R, et al (2013)²⁹ conducted a prospective cohort study on the basis of multimorbidity and self-reported consultation. In addition of depression and also locomotor disability this increased the severe pain in lower extremities. The results emphasized the multimorbidity which acts on the daily lives of people with lower extremity osteoarthritis.

3. Studies Related to Exercises

Sharma M K, Swami H M, Bhatia V, Verma A, et al (2007)⁴ conducted a prevalence study among population in Chandigarh. The findings of the study revealed the osteoarthritis was seen common in females and also as age increases the severity of osteoarthritis also increased. Prevalence rate is increased as BMI increases as well as low prevalence in rural population.

Maly Monica R, Costigan Patrick A, Olney Sandra J (2007)³⁰ conducted a study which identified the effect of self-efficacy on age, psychological and social aspects, physical impairment and physiological factors on performance of walking. Selected 54 samples self efficacy mainly influenced the effect of age and difficulty in mobility. As well as the strength effect of the person with osteoarthritis, interacted by self-efficacy moderately. Whereas the psychological factors and overweight were not influenced by self-efficacy. The findings of the study consistent with pain rigidity of the joints poorly influence the physical performance of the clients. Strength and overweight closely represent the individuals' abilities of old person with osteoarthritis.

Melane A Holen, Eline E Nichols, Eline M Hay, Nadin E Foster, (2008)³¹ conducted a explorative study on physical therapists' who used various curative treatment of clients having osteoarthritis in knee. Physical therapists play a vital role, through proper scheming and supervising the various physical exercises. Assessed the effectiveness between the available exercise and recent recommendations for osteoarthritis patients. Around 99 percentage of physical therapist adopting the recent recommendations where employing the physical exercises to their clients as well as encouraging them to maintain a diary as well as to coming for follow up.

Laura Shmitt C, G Fitzgerald Kelley, Riesman S Andrew, Katherine Rudolph S (2008)³² conducted a study on contributing factors of functional limitation among persons with osteoarthritis in knee as well as the problem of weakness of quadriceps femories muscle, joint ability and weakness of knee were assessed osteoarthritis. 52 clients participated in the study. Knee weakness scores directly associated with functional ability. Joint ability and alignment were not directly related with joint abilities.

Bieleman H J, Reneman M F, van Ittersum M W, van der Schans C P, et al (2009)³³ conducted a study on effectiveness of resistance training towards improvement in physical activity among clients with osteoarthritis in early stage. The study is compared the outcome of 3 osteoarthritis clients groups. One group assigned with resistance training, 2nd group adopted self management techniques and 3rd group given both resistance training and self management. Moderate and vigorous intensity physical activity was encouraged to participants. There was a significantly improvement in resistance training (18%) and self management (22%) allotted group. Researcher suggested the osteoarthritis clients who are all in early stage can initiate in resistance training to improve their physical activity.

Joshua Farr N, Scott Going B, Patrick McKnight E, Shelley Kasle et al (2010)³⁴ conducted a study on effectiveness of resistance training towards improvement in physical activity among clients with osteoarthritis in early stage osteoarthritis clients. The study is compared the outcome of 3 osteoarthritis clients groups. One group assigned with resistance training, second group adopted self management techniques and third group given both resistance training and self management. Moderate and vigorous intensity physical activity was encouraged to participants. There was a significantly improvement in resistance training (18%) and

self management (2.2%) allotted group. Researcher suggested the osteoarthritis clients who are all in early stage can involve in resistance training to improve their physical activity.

Elizabeth A Sled, Latif Khoja, Kevin J Deluzio, Sandra J Olney, et al (2010)³⁵ conducted a study on effect of a hip abductor exercises in home on client with pain in knee osteoarthritis. Assessed the outcome of 8 weeks home based hip abductor exercises. Selected 40 participants. Functional performance was assessed by using sit to stand test. WOMAC osteoarthritis index was used to assess the pain. There was a significant improvement in functional ability when compared with control group as well as experimental group reported the reduction in pain. Concluded with hip abductor strengthening reduces the loading in knee, pain and improved functioning.

Hiroyuki Watanabe, Ken Urabe, Naonobu Takahira, Noriaki Ikeda, et al (2010)³⁶ conducted a study to Japanese elderly with osteoarthritis on their quality of life, knee joint and physical functions. Measured their BMI with the help of their height & weight, level of quality of life, ability of knee joint and its strength along with their quality of physical activities. The researchers concluded with the findings that quality of life poorly related with physical functions. As well as told that reduced knee strong together with the increased level of physical functioning are contributing the development of early osteoarthritis in knee.

Maggo Aastha, Saxena Shobhit, Grover Shalini, et al (2011)³⁷ conducted a study on the outcomes of proprioceptive exercises and strengthening exercises in knee osteoarthritis, with the goal to compare the effectiveness of proprioceptive exercises and strengthening exercises in management of osteoarthritis of knee with account of pain and functional disability. In this study, 24 participants who met the inclusion

criteria were randomly assigned into three groups. Group A were provided with conventional treatment (SWD and static quadriceps). Group B with strengthening exercises along with SWD. Group C; were given strengthening exercises, proprioceptive exercises in addition to SWD. Outcome measures seen were pain, functional disability and joint position sense. All the groups have significantly improvement in VAS and WOMAC scores after intervention, but knee reposition (Joint position) only improved in proprioceptive exercises group. The proprioceptive exercises group showed a better improvement in VAS and WOMAC scores as when compared to other two groups. Investigations found the combination of the two shows better relief to the subjects of knee osteoarthritis in reduction of pain and functional disability.

Elizabeth A Schlenk, Jennifer L Lias, Susan M Sereika, Jacqueline Dunbar-Jacob, et al (2011)³⁸ conducted a feasibility study on effectiveness of individualized self-capability based exercise to lower-limbs and fitful gaitng for 6 month intervention after the pre test assessment of physical activity and functional level of overweight 26 elderly adults with knee osteoarthritis. There was a significant improvement in lower limbs functional exercises as well as involvement of proper walking during their post-test as well as elderly adults shown the improvement in their self-efficacy.

Paulo E P Teixeira, Sara R Piva, G Kelley Fitzgerald (2011)³⁹ conducted a study to identify the effect of impairment based exercise on functional level of individuals with osteoarthritis in knee. 183 samples with knee osteoarthritis was studied and divided as 2 groups. One group given impairment based exercise intervention ad another group given a along with impairment based exercise therapeutic functional task also given. The findings of the study told that along with

impairment based exercise, functional task also recommended to achieve the good progress outcome of clients with osteoarthritis in knee

Serrao P R, Gramani-Say K, Lessi G C, Mattiello S M (2012)⁴⁰ conducted a study on to identify the relation between knee extensor torque of men in early stage of osteoarthritis and pain, stiffness and functional ability. the concentric and eccentric knee extensor torque was assessed. Disabilities were identified through WOMAC questionnaire. Identified the relation between dependent and independent variables. There was a negative correlation between the concentric extensor torque with pain, stiffness and function. Researcher told that strengthening of quadriceps muscles, with the use of concentric and eccentric exercise.

Vincent KR and Vincent HK (2012)⁴¹ stated that prolonged osteoarthritis pain may produce fear, tension as well as depression. Due to this fear and pain, reduces their mobility and socialization. Resistance exercise shows the significant improvement in reducing pain as well as betterment in physical activity. Adaptation of this intervention in home or physical fitness center reduces the severity of osteoarthritis. Advised the clients to take rest in between exercise as well as need to be monitoring their level of pain before and after the practice of resistance exercise.

Focht B C, Garver M J, Devor S T, Dials J, et al (2012)⁴² conducted a single-blinded randomized controlled study done on effectiveness of group mediated cognitive behavioral (GMCB) exercise intervention with traditional based exercise among the knee osteoarthritis clients. Outcome measured in view of physical activity. 80 older clients assigned randomly to both the group to assess the efficacy. The findings of the study shows the both the group clients shown the significant improvement in functional or physical ability.

Pietrosimone B G and Saliba S A (2012)⁴³ conducted a study regarding changes in activation of voluntary quadriceps predict changes in quadriceps strength after therapeutic exercise in people with knee osteoarthritis. Having aim to determine if changes in voluntary quadriceps activation could find changes in quadriceps strength followed by a 4 week therapeutic exercise regimen. 36 participants with tibiofemoral osteoarthritis were involved in study, demographics, quadriceps strength and voluntary quadriceps activation employing the burst superimposition technique was determined prior to the intervention. Only 30 participants (14 males, 16 females, 58±11.8years, 172.2±9.2cm, 87.1±18.5kg) completed the 4 week supervised therapeutic exercise protocol. Following which the therapeutic exercise program, quadriceps strength and voluntary activation were assessed. There was a good moderate simple correlation ($r = -0.44$, $P = 0.01$). Variations in voluntary quadriceps activation suggested 47% of variance in the change in quadriceps strength. Their result recommends that interventions aimed at manipulating the activation of quadriceps was helpful for improving quadriceps strength in patients.

Lucie Brosseau, George A Wells, Glen P Kenny, Robert Reid, et al (2012)⁴⁴ conducted a community based single-blind, randomized control trial on performance of aerobic walking programme to osteoarthritis clients with mild and moderate osteoarthritis. Samples were divided into 3 groups. One group underwent information of walking and behavioral intervention. Second group received walking intervention. Third group received behavioural intervention of self instructed pamphlet. There was no significant difference between these groups. Researchers concluded that along with self instructed clinical practice guidelines along with walking helps to treat the osteoarthritis pain and disability.

Kim L Bennell, Yasmin Ahamed, Christina Bryant, Gwendolen Jull, et al (2012)⁴⁵ conducted a randomized controlled trial protocol study on a physiotherapist-providing exercise and training intervention on pain management among knee osteoarthritis clients. Samples were divided into 3 groups. One group given complete exercise alone, second group given training intervention on pain management and third group given both exercise and training intervention. Outcome was assessed as muscle strength, functional performance, activity levels, quality of life and clients' psychological factors during the intervention periods. Concluded that group which was received complete exercise and training intervention on pain coping shows significant evidence when compared with other group.

Ceceli E, Gul S, Borman P, Uysal S R, et al (2012)⁴⁶ conducted a study on functioning hand function in female patients with hand osteoarthritis: related to radiological progression. 60 patients and 40 controls participated in the study. The presence of hand pain, nodes, and tenderness in hand joints was assessed. Grip and pinch strengths were identified by Jamar dynamometer and pinch meter, dexterity was found by Purdue pegboard test, and upper extremity function was found by disabilities of arm, shoulder and hand (DASH) test. Hand radiographs were checked according to the Kallman grading scale. The average age of the patients and control subjects were 58.9 ± 4.8 and 56.6 ± 5.8 years, respectively. The levels of hand pain and tenderness, and the number of nodes were seen higher in the patient group than in control subjects. The average grip and pinch strengths were reduced in the patient group, however, the variation was considered only in left lateral and left three chuck pinch. In hand dexterity, all scores except Purdue 1 were seen lower in the patient group. In the functional evaluation DASH outcome, questionnaire scores of both the patient and control groups were 48.3 ± 26.3 and 39.5 ± 23.5 , respectively ($p > 0.05$). In

the patient group, Kallman scores indicated radiological severity were found to be in relation with age, DASH scores, grip and pinch strengths, and Purdue scores (except Purdue assembly). Pain by visual analog scale was seen higher in the patient group and related significantly with DASH scores.

Bennell K L, Egerton T, Bills C, Gale J, et al (2012)⁴⁷ conducted a randomized controlled trial study on telephonic coaching to a physiotherapist prescribing exercise programme among clients with knee osteoarthritis. This investigated the clinical- and also the cost-effectiveness of adding telephone teaching to a physiotherapist-delivered physical activity intervention for people with knee osteoarthritis. 168 samples randomly assigned as 2 groups, one group receiving the physiotherapist prescribing exercise alone, other group along with physiotherapy nurses delivering the coaching through telephone. The study done for 6 months. There telephonic coaching maximized their physical functions. The secondary outcomes like physical activity, quality of life, pain coping and their level of depression. The study concluded with telephonic coaching improved the outcome of physiotherapy.

Golightly Y M, Allen K D, Caine D J (2012)⁴⁸ conducted a study regarding the effectiveness of various exercise programs for patients with osteoarthritis. It aimed to identify the different exercise for osteoarthritis through literature between 1997 to 2012. As well as reviewed different electronic databases. The literatures said that aerobic and muscle strengthening exercise programs including both land-and water based, were to adult with mild to moderate level of osteoarthritis to reduce their pain and improving their physical activity. s told that aerobic and strengthening exercise programs including both land- and water-based, were important for improving pain and physical function in adults having mild-to-moderate knee and hip osteoarthritis. Researchers concluded that osteoarthritis patients take larger efforts to improve

compliance to evidence-based exercise programs for osteoarthritis and to improve the dissemination and implementation of these programs are very important.

Brosseau L, Macleay L, Welch V, Tugwell P, et al (2013)⁴⁹ conducted a study on level of exercises for the management of clients with osteoarthritis. Which aimed to see the efficacy of recommended exercises by measuring the osteoarthritis clients' functional ability, walking style, severity level of pain and ability of clients over aerobic activities. Through observation and feedback from clients reviewed the different literatures and assessed the efficacy of exercises. It indicated the no evidence based difference between different level of exercise intensity, as well as there was no diffrenciatable changes in functional ability, walking style and clients pain level.

Abbott J H, Robertson M C, Chapple C, Pinto D, et al (2013)⁵⁰ conducted a randomized controlled study on effectiveness of either manual physiotherapy or exercise physiotherapy or both the therapy for clients which osteoarthritis. Randomly divided the clients into as a three group outcome was measured with WOMAC scale. Thre is significant reduction of severity of osteoarthritis in group of participants who received the manual therapy along with usual care as well as group received the exercise therapy along with normal care. But they have not found additional benefits with the combination of both the therapies.

Beckwee D, Vaes P, Cnudde M, Swinnen E, et al (2013)⁵¹ done a qualitative study with the aim to identify the advantages in exercise treatment to osteoarthritis clients. Reviewed published articles between 2000 and 2012. Over all 73 points were found then again subdivided into 16 aspects. At last developed 5 divisions of benefits of exercise like neuromuscular, physical fitness, general health, both peri and intra articular benefits.

4. Studies Related to Diet

Rosenbaum C C, O Mathuna D P, Chavez M, Shields K (2010)⁵² reviewed the suitable dietary supplements for osteoarthritis and rheumatoid arthritis. Reviewed the published studies. From these review from the cats claw, omega 3 fatty acids, fat soluble vitamins, ginger as well as turmeric had the effect on osteoarthritis and rheumatoid arthritis.

Kristiann Heesch, Norman T M, Wendy J Brown (2010)⁵³ worked with a group of researchers and carried an intervention trial over 36 osteoarthritis clients. First 6 weeks given a dietary supplements, then advised to continue the dietary supplements, along with the effective walking sessions for 12 weeks. The study found that there was a significant effectiveness of outcomes when patient receives the glucosamine sulphate supplements and adaptation of walking. As well as suggested to take fat soluble vitamins, Ginger and turmeric to osteoarthritis clients.

Schumacher H R, Pullman-Mooar S, Gupta S R, Dinnella J E, et al (2013)⁵⁴ conducted a randomized double blind study to see the effectiveness of tart cherry juice to manage the osteoarthritis. Samples were advised to take 500ml of tart cherry juice daily for 6 weeks. Physical function and walking ability were assessed before and after each treatment. Their urea and creatinine levels were monitored. The study results found that there was a symptomatic relief of pain to osteoarthritis client with mild to moderate level of severity.

5. Studies Related to Weight Control

Xuewen Wang, Gary D Miller, Stephen P Messier and Barbara J Nicklas (2007)⁵⁵ conducted a study on effectiveness of weight loss among people with osteoarthritis in knee. 6-month weight loss interventions implemented to experimental group strength of muscle and joint extension increased in experimental group (25%)

than the control group (6%). Significant relation was found between lean body/less body weight and strength of muscle. Researchers concluded that low calorie diet and proper exercise reduces the body weight, through this the osteoarthritis persons can postponed the severity of osteoarthritis.

Rajiv Gandhi, Herman Dhotar, Dmitry Tsvetkov, Nizar N Mahomed (2010)⁵⁶ conducted a study to find the correlation between body mass index and waist-hip ratio among osteoarthritis clients. Found the percentage of BMI for male was 38 percentage and for female 42 percentage. The variables of waist hip ratio shows men were higher (92%) than the female (82%). Researchers concluded that Body Mass Index and Waist Hip Ratio place the important role in occurrence of osteoarthritis as well as going to severity level of osteoarthritis.

Sarah Wolf, Sharon Foley, Elly Budiman-Mak, Thomas Moritz, et al (2010)⁵⁷ conducted a clinical trial study on factors of weight reduction among obese osteoarthritis clients. Receiving a good nutritional counseling was directly related with weight loss. Staying mild or absence of depression and receiving counseling on diet among osteoarthritis clients reduces the body weight.

Brosseau Lucie, Wells George A, Tugwell Peter, Egan Mary, et al (2011)⁵⁸ reviewed the literatures to develop the evidence based clinical practice guidance on the aspects of physical function and recommended diet for osteoarthritis clients with more than 18 years and obese. Recommended practices were graded and implemented to experimental group and compared with controlled group. Findings shown there was a significant improvement in experimental beneficial improvement in group who adopted physical function along with diet together.

Sridhar M S, Jarrett C D, Xerogeanes J W, Labib S A (2012)⁵⁹ stated the relation between the obesity and osteoarthritis symptoms. The prevalence of

osteoarthritis increases among obese clients. Obesity may be due to genetic factor. Even though weight loss has close relation towards the prevention as well as reduction of osteoarthritis severity. Reducing weight has other additional benefits like relieving of joint pain and obese related diseases. Weight loss can be done through exercise, dietary modification, drug therapy and partial gastrectomy surgery.

Christensen P, Bartels E M, Riecke B F, Bliddal H, et al (2012)⁶⁰ done the prospective cohort examination on effectiveness in weight loss through dietary modification among osteoarthritis patients. Selected 192 obese clients modified their micronutrients like vitamin D, vitamin B12, and ferritin as well as changes done in intake of kilo calories per day. 175 clients adopted the intervention and reduced their weight 14kg. Developed their bone mineral density (BMD) by improving intake of vitamin D and B12 but ferritin not shown any effect on BMD. Researchers concluded that there is a significant benefit of formula diet over obese osteoarthritis patients.

Takacs J, Anderson J E, Leiter J R, MacDonald P B, et al (2013)⁶¹ conducted a study to investigate the feasibility of using advanced technology of low body positive pressure (LBPP) to stimulate weight reduction and pain reduction among osteoarthritis clients. Assessed the walking ability, pain level through VAS and functional status of the 22 study samples. The study results told the LBPP technology can be used effectively and safely to reduce the weight as well as reduction of pain in weight bearing joints and osteoarthritis clients.

6. Studies Related to Non drug pain relief measures

Brosseau L, Yonge K A, Robinson V, Marchand S, et al (2003)⁶² conducted a study on effectiveness of thermotherapy for treatment of clients with osteoarthritis. The study outcomes were measured as relief from pain, edema reduction improvement in joint function. 179 samples were selected given a ice massage for 20

minutes, 5 days in seek for 3 weeks. The outcome was compared with control group. Findings shown through this study that ice message had significant effect on edema reduction as well as improvement in joint function but did not have effect on pain.

Luciana E Silva, Valeria Valim, Ana Paula C Pessanha, Leda M Oliveira, et al (2008)⁶³ conducted a randomized clinical trial study on effectiveness of hydrotherapy and land based exercise therapy. 64 samples divided in to 2 groups, one group given hydrotherapy and other group given a land based exercise. Outcome was assessed by visual analog scale and WOMAC scale while doing walking test. The study finding shows that water based exercise group demonstrated significant improvement in decreasing in pain than the land based exercise group. So researchers concluded that water based exercise are better complementary treatment for osteoarthritis clients.

Martin Schencking, Adriane Otto, Tobias Deutsch, Hagen Sandholzer (2009)⁶⁴ conducted a study on a comparative effectiveness of hydrotherapy and accepted/prescribed physiotherapy among clients with hip and knee osteoarthritis. 180 samples were selected, divided into 3 groups and assigned randomly with hydrotherapy to one group, physiotherapy to second group and both hydro and physiotherapy to another group. Outcome was measured as 3 assessments include physical assessment by the researchers, subjective assessment by the patient and telephonic assessment. Results demonstrated that hydrotherapy has significant effect on osteoarthritis joints and it can be adopted easily with low prize.

Craig Denegar R, Devon Dougherty R , Jacob Friedman E , Maureen Schimizzi E et al (2010)⁶⁵ conducted a study on preference treatment for osteoarthritis with heat therapy, cold therapy or contrast commercially available therapy among 34 osteoarthritis clients. Each type of treatment given one week time

period. Outcome is measured with VAS and assessed their preference. 48 percentage of clients preferred heat therapy, 24 percentage of clients preferred cold therapy and contrast therapy respectively. Researchers concluded that superficial warm therapy place a important role in management of osteoarthritis.

Thomas Hoogeboom J , Mirelle Stukstette J P M, Rob A de Bie, Jessica Cornelissen et al (2010)⁶⁶ conducted a comparative study on effectiveness of 2 health programmes in non pharmacological treatment of clients with osteoarthritis. Experiment group interventions include 6 self-management sessions providing by nurses, physiotherapies, dietician and occupational therapist. Control group received a study the 2 telephonic sessions from nurse and physiotherapist. Outcome was measured as health related quality of life, cost effective, fatigue as well as their self efficacy. The researcher concluded that both the group has shown the significant effectiveness of non-pharmacological interventions for osteoarthritis clients.

Ramjilal Sahu (2011)⁶⁷ conducted a study on nondrug and noninvasive treatment in the management of knee osteoarthritis. Study done on 251 out patients from Haryana, MM Medical Coolege, with the average age of 45 years. Non invasive treatments were shown significant improvement in their severity of osteoarthritis among osteoarthritis clients with 30-40 years of age as well as it reduced their pain level and enhanced their function.

Marc C Hochberg, Roy D Altman, Karine Toupin April, Maria Benkhalti (2012)⁶⁸ conducted a comparative effectiveness study oh pharmacological and non pharmacological therapy for osteoarthritis clients. Collected the systematic evidence based review to find the effectiveness of these 2 therapies. Review data shows the ‘strong’ and limitational recommendations were given for treating osteoarthritis. Researchers recommended the joint safety techniques, usage of assistive devices,

thermal therapy, joint immobilization while presenting pain, joint supporters as well as NSAID (Non steroidal anti inflammatory drugs also can be adopted to manage osteoarthritis symptoms. Also told that health care providers should take responsibility to make the osteoarthritis patient to adopt all these pharmacological and non pharmacological techniques to manage their osteoarthritis symptoms.

Fernandes L, Hagen K B, Bijlsma J W, Andreassen O, et al (2013)⁶⁹ conducted a study which aimed to develop the evidence based recommended intensity for the non pharmacological management of clients with knee osteoarthritis. The multidisciplinary task force consisted of 21 experts. Provisional suggestions were formed through literature in search of Medline and other databases was done up to February 2012. Evidence was graded according to categories I-IV and bond with the recommendations was identified through scores ranging from 0 (total disagreement) to 10 (total agreement). Eleven evidence-based suggestions non pharmacological measures of hip and knee osteoarthritis were developed, including the following nine topics: assessment, general approach, patient information and education, lifestyle modification, exercise, weight loss, assistive technology, adaptations, footwear and work.

7. Studies Related to Rest and relief from stress on joint

Baird C L, Yehle K S, Schmeiser D (2007)⁷⁰ conducted a study regarding the past experiences of women with osteoarthritis in assisted living facilities. A naturalistic inquiry design was employed to gather data from 23 older women. Transcriptions were checked by deconstruction and reconstruction. Findings suggested that the importance for further examination of symptoms, symptomatic management and other interventions to improve healthcare and also quality of life of patients with osteoarthritis.

Jensen L K (2008)⁷¹ conducted a long longitudinal study with the aim to evaluate the evidence of relation between hip osteoarthritis and physical work demands. Searches were made systematically and epidemiological studies on hip osteoarthritis with heavy lifting, which involved farming, construction work, climbing stairs were reviewed for the time period 1966-2007 inclusive. In conclusion evidence was found for a correlation between heavy lifting and hip osteoarthritis. The burdens have to be at least around 10-20kg lifting and the time duration for at least 10-20 years to give a high risk of hip osteoarthritis.

Pollard Henry, Ward Graham, Hoskins Wayne, Hardy Katie (2008)⁷² conducted a randomized controlled trial study on effectiveness of manual therapy protocol to manage the osteoarthritis pain. Selected 43 participants with age between 47 and 70 years and allocated randomly as controlled (n=17) and experimental group (n=26). Implemented the Macquarie Injury Management group protocol as intervention. Outcome of treatment were measured in intervention group felt that there is improvement in knee mobility as well as reduction in symptoms of crepitus in joint as well as reported there was no adverse reaction during treatment. The study concluded that short term manual therapy protocol places a vital role in reduction of osteoarthritis symptoms.

Ilias Vrezas, Gine Elsnor, Ulrich Bolm-Audorff, Nasreddin Abolmaali, et al (2010)⁷³ conducted a case controlled study regarding the interaction of lifestyle practices and knee osteoarthritis in their physical activity. Selected 295 clients as experimental group, 327 clients as controlled group. Researchers concluded with the findings of strong relation between BMI and risk of osteoarthritis. And said that planning of occupational workload and measures to reduction of body weight place the important role in severity of osteoarthritis.

Kjeken I, Darre S, Smedslund G, Hagen KB et al (2011)⁷⁴ conducted a study on efectivrandomized controlled trail study on 35 patients with hand osteoarthritis to assess the effectiveness of assistive technology. 35 patients on intervention group given an information and assistive devices. Whereas 35 patients in controlled group given only information of assistive devices. Whereas 35 patients in controlled group given only information of assistive devices. Outcome was measured as activity performance. Secondary outcome included disease condition, level of pain, tiredness and functional ability. In intervention group 97 percentage of clients adopted the assistive technology as well as their functional ability was significantly higher than the controlled group.

Moe R H, Fernandes L, Osteras N (2012)⁷⁵ conducted a study on effectiveness of daily us of cane among the osteoarthritis clients. Selected the samples with osteoarthritis pain level between 3 and 7 they were instructed to use cane for 3 months. One group kept a controlled group and advanced to adopt any assistive devices as they need. Outcome of the study measured the pain; functional level is measured with WOMAC tool. Every month level of pain was assessed. The researchers concluded that the level of pain is reduced among osteoarthritis clients who adopted the cane as assistive devices as well as there was an improvement in their functional level.

Carbone L D, Satterfield S, Liu C, Kwoh K C, et al (2013)⁷⁶ conducted a study on usage of assistive walking device, among osteoarthritis in the knee person. The need of the study to identify factors which predicted incident usage of assistive walking devices (AWDs) and to identify whether AWD use was linked with changes in osteoarthritis of the knee in a community setting. Identified the 874 patients with prevalence of knee pain. Main outcome measured included incident use of AWDs,

mean WOMAC pain scores and the frequency of narrowing of joint space on knee radiographs over a period of 3 years. AWD was initiated by 9 percentage of the whole Health ABC cohort and 12 percentage of the subset. Factors which predicted use in both the groups were age ≥ 73 years. Mean WOMAC pain scores reduced slightly over time in both users. Non-AWD users and users of about 20 percentage and 28 percentage respectively had radiographic progression in joint space tibiofemoral joint in at least single knee. Where 14 percentage of non-AWD users and 12% of AWD users had the narrowing in the patellofemoral joint in at least single knee. In conclusion AWDs were mostly used by older adults. Knee pain and balance problems were main reasons why older adults the usage of an AWD. On analysis, there was no relation between the use and nonuse of an AWD and also WOMAC pain scores or progression of knee joint space narrowing.

Martin K R, Kuh D, Harris T B, Guralnik J M, et al (2013)⁷⁷ conducted a study based on BMI, performance occupational occupation, and leisure-time physical activity: to identify the risk factors and modifiers for knee osteoarthritis. Self-reported free time physical activities and occupational activities like lifting; climbing and sitting were ascertained. Relations were identified using the multiplicative logistic model. BMI was positively associated with knee osteoarthritis in both genders. Both genders in manual occupations had a greater odd of knee osteoarthritis. There was also a weak suggestion that knee osteoarthritis risk was higher in men is due to exposure of lifting or kneeling at work.

8. Studies Related to Socialization

Cruz-Almeida Y, King C D, Goodin B R, Sibille K T, et al (2013)⁷⁸ conducted a study to determine the relationship between psychological factors and characteristics of pain in older adults with knee osteoarthritis. 194 samples underwent the psychological and physical assessments. The findings had shown the presence of homogenous psychological profiles showing the pain related features. Researchers suggested that osteoarthritis clients need to treat with multidisciplinary treatment model to manage the pain.

Gignac M A, Backman C L, Davis A M, Lacaille D, et al (2013)⁷⁹ conducted a study on participation in social role adaptation among osteoarthritis elderly. Examined the osteoarthritis clients social role, 14 limitations and role satisfaction as well as assessed the clients depression level, stress, utilization of health care. The study results indicated that middle aged adults with osteoarthritis had limitation in greater role, as well as reported these groups of clients had higher level of depression, stress, coping behaviour and role adjustment else.

9. Studies Related to Importance of self-care management of Osteoarthritis

Burks and Kathryn (2005)⁸⁰ conducted a study on the health concerns of men having osteoarthritis of the knee. The purpose was to identify health concerns of men with osteoarthritis of the knee and designing of appropriate nursing interventions. A one-group, descriptive design was employed with a convenient sample of 104 men with osteoarthritis of the knee. All participants were received from a VA hospital/clinic located in Missouri. They were assessed using the Arthritis Impact Measurement Scales 2 (AIMS2). The finding was that the men in this sample were most concerned regarding pain, walking and bending, and mobility. They rated their present health regarding from fair to good, but in 10 years they expected their health

would be worse and their arthritis can be a major problem. Based on these, interventions for men with osteoarthritis should mainly focus on strategies to deal with pain and decreased movement and on fostering hope for the future life.

Porcheret M, Jordan K, Jinks C, Croft P (2007)⁸¹ conducted a study regarding primary care treatment for knee pain among 201 osteoarthritis clients. Advised the six interventions to manage their pain 84 percentage of participants advised and followed heat and ice therapy. 71 percentage of clients followed the paracetamol therapy; 59 percentage of clients adopted opioid analgesics and NSAID (59%). The additional treatments of written information (16%), exercises (46%) and weight loss information (39%). Found that pharmacological treatment reduced the adaptation of non pharmacological therapy. Self care place the important role in management of osteoarthritis symptoms. Asked the health team members by providing a supportive encouragement to adopt the self care among osteoarthritis clients.

Pearson-Ceol and Juanakee (2007)⁸² stated that, all clients must be given a general advice about their disease condition, lifestyle changes that can lessen symptoms, the importance to live physically fit and the need to maintain healthy weight. All clients need to be motivated to adopt the self-help measures to manage their health condition effectively. Advised the clients to adopt the self-care management by thorough reviewing of different literatures. According to disease severity and subjective data the information given to the OA clients by the health-care providers should be based on individualized treatment plan.

Albert Steven M, Musa Donald, Kwoh Kent, Silverman Myrna (2008)⁸³ conducted a study to determine the best self-care management among White and African Americans osteoarthritis clients. 551 samples from USA, assessed their

behavior towards the self-management by using descriptive questions. Implemented optimal self-management along with hot compresses. Only 20 percentage of clients practiced proper self-management. Self management programmes plays the important role in severity of mild to moderate disease among both white and African Americans

Smith Caroline, Kumar Saravana, Pelling Nadine (2009)⁸⁴ conducted a study regarding the effectiveness of self-management educational interventions used for osteoarthritis of the knee. Current treatment aims to teach the patients about the management of osteoarthritis, pain reduction, improve function, improve ability and reduce the progression of the disease. Education with clients had been said as a set of well planned educational activities created to improve patients' health aspects or health status. The purpose of self-education aimed to maintain or improve health and in some cases, to slow down the deterioration by increasing participant's perception about self efficacy defined as an ability to control and manage various features of osteoarthritis.

Eva Ekvall Hansson, Malin Jönsson-Lundgren, Anne-Marie Ronnheden, Eva Sörensson, et al (2010)¹³ conducted a study to see the effectiveness of educational programme for clients with osteoarthritis in primary health care settings. Educational programme included the variables of quality of life, physical function, wellbeing and effective coping. Researchers found that there was practicable in primary health care settings to improve the functional ability of the clients with osteoarthritis.

Rikke H Moe, Espen A Haavardsholm, Margreth Grotle, Eldri Steen, et al (2011)⁸⁵ conducted a study in view of preparing the concised education for clients with osteoarthritis. Involved the 12 clients with different joint osteoarthritis and interviewed about their needs towards information, attitudes and expectations to complete the education programme. With the help of these data reviewed the

literatures and formed a osteoarthritis team including patient for developing a multidisciplinary educational programme (MEP) for osteoarthritis. After a proper review, final MEP was formed as a 3-5 hour programme. Researchers told that MEP is a suitable programme for osteoarthritis clients to improve their self-management.

Marlene Fransen, Lisa Bridgett, Lyn March, Damian Hoy, et al (2011)⁸⁶ conducted a study regarding the epidemiology of osteoarthritis in Asia. Most of the disability involved in hip and knee osteoarthritis physically related to age as well as physical activities. Found the obesity is the other major modifiable risk factor increased the risk of osteoarthritis occurring. Emphasized the information to osteoarthritis clients about the cost-effective preventive strategies to lead a quality of life.

Wu S F, Kao M J, Wu M P, Tsai M W, et al (2011)⁸⁷ conducted a study to assess the effects of an osteoarthritis self-management programme. Out of 205 samples 114 were selected as intervention group and 91 kept as controlled group. The outcome measured with self efficacy, relief from pain, medical consultations, pain and disability. After 8 weeks of treatment, there was a good improvement in arthritis self efficacy, pain and other symptoms. The findings of the study was self-management programme improved arthritis related self-efficacy and pain beliefs.

Skou S T, Odgaard A, Rasmussen J O, Roos E M (2012)⁸⁸ conducted a study regarding group education and exercise was feasible in osteoarthritis of knee and hip. The main purpose was to explore the feasibility of such an initiative (Good Life with osteoarthritis in Denmark (GLA: D) in people with mild to moderate knee and/or hip osteoarthritis related pain. It was a pilot study with a 36-patient cohort and then three-month follow-up. The treatment consisted mainly of two 1.5-hour sessions of patient education followed by six weeks of individualized supervised

neuromuscular exercises on the basis of the previously published NEuroMuscular Exercise programme. The primary seen was pain on a visual analogue scale (0-100). Secondary outcomes were Euro-Quality-of-Life - 5 Dimensional form (EQ-5D), Arthritis Self-Efficacy Scale (ASES), 30-second chair stand test, timed 20-meter walk and body mass index. And also compliance was registered. Thirty-four (94%) of the participants completed the follow-up. There were clear improvements ($p < 0.05$) in the primary outcome pain (-16 mm), in time given in the 20-meter walk test (-0.7 s), in EQ-5D (0.053), in ASES (7.3) and in the number of complete chair stands (1.4). Compliance was more in relation to both the patient education and also exercise. The pilot study revealed that the intervention is feasible and that it is also possible to implement GLA:D in clinical care. Introduction of GLA: D nationwide can improve the adherence to clinical guidelines and the quality of care for knee and hip osteoarthritis.

Davis A M, Mackay C (2013)⁸⁹ conducted a study on osteoarthritis year in review: outcome of rehabilitation. This review in regarding seminal publications of rehabilitation interventions of osteoarthritis since April 2012. Medline in process, Embase, CINAHL and Cochrane databases were used to search from April 2012 to February 2013 for English language publications using the key words osteoarthritis, rehabilitation, physiotherapy, physical therapy, and exercise. Studies of rehabilitation intervention studies included randomized trials. Twenty-five studies were explored for inclusion and grouped thematically. The short-term benefits (i.e., to 3 months) exercises were demonstrated for pain, stiffness, function, balance, biomarkers, and executive function and dual task performance (related to falling) in people having knee osteoarthritis. Aspects like 890-nm radiation, interferential current, short wave diathermy, ultrasound and neuromuscular functional electrical stimulation never

demonstrated benefit over sham controls with knee osteoarthritis. Spa therapy improved pain during a course of treatment in people with knee and hand osteoarthritis. Supervised self-management was based on cognitive therapy principles resulted in improvement. Shock absorbing insoles when compared to normal footwear minimally improved knee pain to a little extent but not function and not decreased knee load. Neuromuscular and motor training improved functional level of those with total hip replacement. Accelerated weight-bearing and rehabilitation (8 versus 11 weeks) was found to be safe and effective at 5 years followed by matrix autologous chondrocyte implantation for cartilage defects seen in the knee. Exercise exists as a mainstay of conservative management though studies reported only short-term outcomes. Self-management strategies were beneficial in knee osteoarthritis and physical modalities with spa therapy demonstrated only very short-term effects.

Kjeken I, Darre S, Slatkowsky-Cristensen B, Hermann M, et al (2013)⁹¹ conducted a explorative study regarding self-management strategies which supported the performance of daily activities in hand osteoarthritis (HOA). Self-management strategies were identified from semi-structured interviews, in which 125 participants explained their strategies, application of devices or equipment, and advised they, would give to individuals with hand osteoarthritis concerning how to manage their daily living. The participants made a sum of 483 statements, which were divided into 27 discrete strategies, and again grouped into 13 broader strategies within three categories which included general behavioural strategies, hand osteoarthritis which were to specific behavioural strategies, and also cognitive strategies. People having and osteoarthritis employed a wide variety of self-management strategies which support performance of daily activities, in which application of assistive devices and adaptation to activity were the mostly reported strategies. Researchers also stated that

patient-suggested self-management strategies which should be included in written information material and also in patient education programmes, which is essential to be developed in cooperation with patient representatives and then made available for patients as soon as they are diagnosed.

Thomas M J, Moore A, Roddy E, Peat G (2013)⁹² conducted a study of primary care consultation among older population having symptomatic foot osteoarthritis. Eleven participants of (6 females, 5 males) age 56-80 years, who had radiographically diagnosed with symptomatic foot osteoarthritis consulted a general practitioner since 12 months for foot pain were sampled. Semi-structured interviews identified the nature of the problem, dependent behaviors, and consultation. Verbatim transcripts were also analyzed using the interpretative phenomenological analysis. The study showed that the decision to consult was mostly the effect of a complex process, difficulty in day-to-day roles and the effect on family and work colleagues, and also a reluctance to be fragile or ageing self to the world. Self-management was commonly negotiated with multimorbidities. With help the participants often felt that they received limited information, and that treatment was prescription of analgesics. In conclusion the experience of primary care never appeared to move beyond 'arthritis' and an emphasis on pharmacological treatment was not appreciated.

Helminen E E, Sinikallio S H, Valjakka A L, Väisänen-Rouvali R H, et al (2013)⁹³ conducted a study to assess the effectiveness of a cognitive-behaviour intervention for pain in knee osteoarthritis. 108 clients having clinical symptoms of knee osteoarthritis were included. After assess the severity of osteoarthritis with the help of WOMAC scale, samples divided in to 2 groups as controlled and intervention group. For intervention group given a cognitive-behavioral intervention 6 weekly as group. As post-test WOMAC level was assessed. And self-reported pain and physical

function were assessed as secondary outcome. Mal adoptive pain and disability were managed by using self-help techniques.

Paul B J, Rahim A A, Bina T, Thekkekara R J (2013)⁹⁴ conducted a study based on prevalence and factors associated with osteoarthritis. This study included all individuals who were 15 years and above, in a rural place of Calicut District in North Kerala. In Phase 1 details included demographic characteristics, major co-morbidities and musculoskeletal aches and pains were elicited. Phases 2 and 3 evaluated and diagnosed the subjects further. Predictors for Rheumatic musculoskeletal disorder (RMSD) were identified using binary logistic regression analysis. There were 4999 individuals included in this study. The prevalence rate of RMSD was 24.9 percentage (95% CI 23.73; 26.12%). Females were 50.7 percentage of the population; 5.1% of the respondents were illiterates and 80.9 percentage belonged to low-income groups. The subjects were affected with diabetes mellitus of 4.1 percentage and hypertension of 5.4 percentage. The factors which were predicted for RMSD in the population were female sex, age, illiteracy, marital status, low-income group, vegetarian diet, current alcohol consumption, current tobacco use, history of injuries or accidents, diabetes mellitus and hypertension. Symptom-related ill-defined rheumatism (10.39%) which was followed by osteoarthritis (3.85%) was the mostly seen in the Phase 3 rheumatological evaluation. The researchers suggested that there is an immediate need to introduce modifications in lifestyle in high-risk groups and initiate rehabilitation for those affected. Also added told that community rheumatology in primary health care settings seen in rural areas must be strengthened by employing national programs which addressed RMSD at the grassroots level.

SUMMARY

The review of literature for present study includes introduction, basics about Osteoarthritis, and self help techniques like activities of daily living, exercise, diet, weight control, non drug pain relief measures, rest and relief from stress on joint, socialization and importance of self management of Osteoarthritis,

CHAPTER - III

MATERIALS AND METHODS

Introduction:

This chapter describes the design and research methodology that was adopted to assess the effectiveness of video teaching intervention on self-help techniques of elderly osteoarthritis. It also included detailed description of the research approach, research design, sample recruitment, research settings, instruments, data collection procedure, ethical procedures to be included in the data analysis procedures.

3.1 Research Approach:

Quantitative Research Approach: It is a formal, objective, systematic process for gathering information about the problem. In quantitative research study, variables are preselected and defined by the investigator, the data is collected and quantified that is translated in number and then statistically analyzed, often with the view to develop cause and effect relationship among the variables.⁹⁵ By using quantitative research approach, researcher assessed the efficacy of video teaching intervention on self-help techniques of Osteoarthritis elderly. So data was collected on self-care knowledge, self-care practice and severity of osteoarthritis in pre and post implementation of video teaching programme, through score based questionnaire and checklists and established the cause and effect relationship.

3.2 Research Design:

The research design is the master plan mentioning the methods and procedures for collecting and analyzing the needed information in a research study.⁹⁵

Quasi experimental design:

Quasi experimental design involves the manipulation of independent variable to observe the effect on dependent variable and establishing a relation between interventions and outcomes.⁹⁵

Time Series Design:

This design is useful when the experimenter wants to measure the effects of a treatment over a long period of time. The experimenter would continue to administer the treatment and measure the effects for a number of times during the course of the experiment.¹⁴ In current study through time series design, the researcher identified the self-care knowledge, self-care practice and severity of Osteoarthritis among elderly with osteoarthritis. And implemented the video teaching programme on self-help technique of osteoarthritis and emphasized them to practice in day today life regularly. Post-test was conducted after 15 days. As well as severity level of Osteoarthritis was measured 3 times with an every 15 days of intervals.

Experimental Group - O₁ → X → O₂ → X → O₃ → X → O₄

O₁ – Pre-assessment of self-care knowledge, self-care practice and severity of

Osteoarthritis among elderly with Osteoarthritis.

X – Intervention of video teaching programme on self-help technique of Osteoarthritis.

O₂ - Post-assessment of self-care knowledge, self-care practice and severity of

Osteoarthritis among elderly with Osteoarthritis.

O₃ and O₄ - Post-assessments of severity of Osteoarthritis among elderly with

Osteoarthritis.

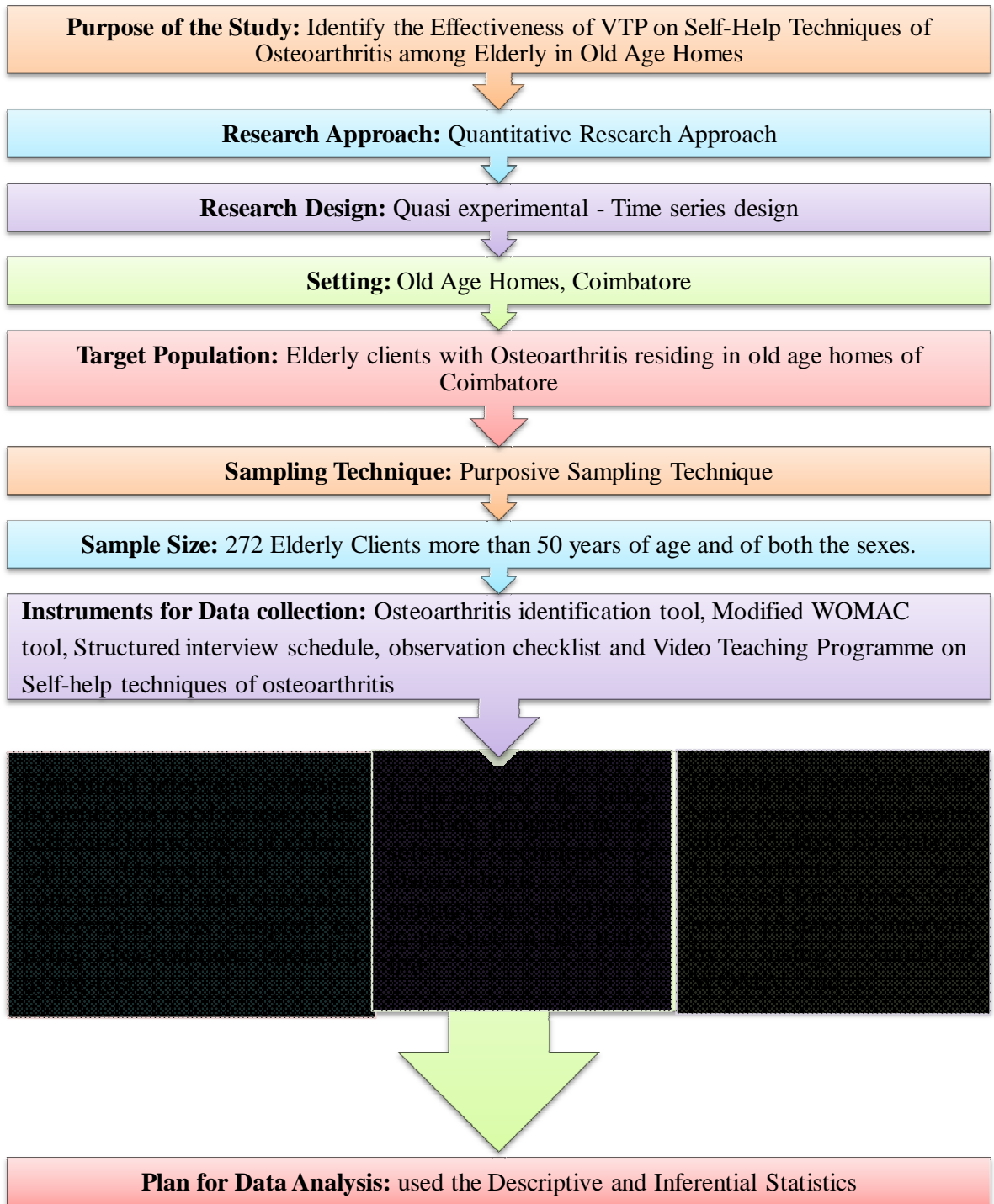


Figure 3.1: Schematic representation of the study design

3.3. Setting of the study:

Setting of the study is researchers make decisions about where to conduct a study based on the nature of the research question and the type of information needed to address it.¹⁴

This study was conducted in Vanaprastha Seniors Citizen's Complex, Dhyanaprastha Seniors Citizen's Complex, Pyramid Seniors Citizen's Complex, Ram Aravindar Home for the Aged, Villa Carmel Grace Truely an Elder Care Center, Shankara Seva Sadanam Senior Citizen's Complex, Neyam Old Age Home, Mother Teresa Old Age Home and St Thomas Old Age Home were located less than 15km away from the Coimbatore Gandhipuram Bus Stand. These old age homes taking care for the old people, who have no one else to care for them, they are provided with shelter, food, clothing and medical care and in some old age homes, care is provided for a fee. Approximately 40 – 80 numbers of old age people are residing in each old age homes (**Annexure I**).

3.4 Population:

A population is all the individuals or objects with common and defining characteristics. The target population is the aggregate of case about which the researcher would like to generalize.¹⁴ The target populations were the elderly clients with Osteoarthritis residing in old age homes of Coimbatore city within a radius of 15 kilometers from Gandhipuram bus stand.

3.5 Sampling:

Sampling is the process of selecting a portion of the population to represent the entire population.¹⁴

3.5.1. Sample Size:

The investigator whose objective it is to generalize the sample results to the population will need to sample from the target population and must decide how large the same will produce sufficient data to allow for generalization. Here an approximate formula (Cochran 1977) is a statistical procedure was used to estimate how large sample is needed to identify the effectiveness of video teaching programme on self-help techniques of Osteoarthritis.

$$n = \frac{Z\alpha^2 (p \times q)}{d^2}$$

$Z\alpha^2 = 1.645$; it is standard deviation score for 90% set interval.

$p =$ assumed or estimated proportion of osteoarthritis clients 39% (0.39) based on a findings of previous study on Osteoarthritis done by M K Sharma et al (2007)⁴ in Chandigarh.

$$q = 1 - p (1 - 0.39 = 0.61)$$

$d =$ Margin error, i.e. 5% (0.05)

$$n = \frac{(1.645)^2 \times 0.39 (1 - 0.39)}{(0.05)^2}$$

$$n = \frac{2.706 \times 0.39 \times 0.61}{0.0025}$$

$$n \cong 258$$

Considering the attrition rate as 6% another 16 members included in the study.

Total sample size = 274

3.6 Criteria for sample selection:

Inclusion Criteria:

The sample who fulfilled the following criteria were recruited for the study

- Clients more than 50 years of age including both the sex.
- Clients with mild to severe Osteoarthritis.
- Able to understand and speak Tamil.
- Willing to participate in the study.

Exclusion Criteria:

- Other types of arthritis.
- Affected with extremely severe Osteoarthritis.
- Elderly with Dementia, any other psychiatric illnesses and physical disability.

3.7. Sampling Technique:

Under the non probability sampling, purposive sampling technique was adopted to select the Osteoarthritis clients among elderly for this study, where the researcher decided purposely to select subjects who are judged to be typical in the population.

3.8. Instruments for Data Collection:

- a. Osteoarthritis identification tool used to identify the clients with Osteoarthritis among elderly population.
- b. Modified WOMAC tool used to identify the severity of Osteoarthritis. It consists of parameters like pain, stiffness of joint and physical function.
- c. Structured interview schedule and observational checklist are used to assess the self-care management of clients with Osteoarthritis.

1. Structured Interview Schedule : It has section A & B

Section A – Consisted of Demographic Variables such as name, age, sex, educational status, previous occupation, type of diet, BMI, history of chronic illness, duration of joint pain and using of any assistive devices.

Section B – Consisted of 34 items to assess the self-care knowledge of the osteoarthritis clients. It has 8 subsections such as,

- | | |
|---|-----|
| 1. Basics about Osteoarthritis | - 6 |
| 2. Activities of daily living | - 2 |
| 3. Exercise | - 5 |
| 4. Diet | - 3 |
| 5. Weight control | - 3 |
| 6. Non drug pain relief measures | - 8 |
| 7. Rest and relief from the stress on joint | - 5 |
| 8. Socialization | - 2 |

Each knowledge item has 4 options. All the items has one correct response. Thus the total knowledge score was 34.

2. Observational Checklist: It helps to observe the self-care practice of the osteoarthritis clients. It consisted of 32 items and has 6 subsections, such as

- | | |
|---|-----|
| 1. Activities of daily living | - 7 |
| 2. Exercise | - 5 |
| 3. Diet | - 5 |
| 4. Non drug pain relief measures | - 9 |
| 5. Rest and relief from stress on joint | - 4 |
| 6. Socialization | - 2 |

Each item has 2 maximum score. Thus the total practice score was 64 (**Annexure VIII**).

3. Video Teaching Programme on self-help techniques of Osteoarthritis, it has a information about Osteoarthritis and self-help techniques like activities of daily living, exercise, diet, weight control, non drug pain relief measures, rest and relief from stress on joints and socialization (**Annexure-IX and XIV**) .

3.9. Scoring and interpretation:

Based on the percentage of scores, the level of knowledge was graded in to five categories.

Grade	Actual Score	Percentage of Score
1. Very Poor	1 - 7	< 21%
2. Poor	8 - 14	21 to 40%
3. Average	15 - 20	41 to 60%
4. Good	21 - 27	61 to 80%
5. Excellent	28 – 34	> 80%

Based on the percentage of scores, the level of practice was graded in to three categories.

Grade	Actual Score	Percentage of Score
1. Not Adoptive	1 - 21	< 34%
2. Partially adoptive	22 - 43	34 to 67%
3. Fully Adoptive	44 - 64	>67%

3.10. Validity and Reliability of the tool:

3.10.1. Validity:

Content validity concerns the degree to which an instrument has an appropriate sample of items for the construct being measured and adequately covers the construct domain. Content validity is relevant for both affective measures and cognitive measures.¹⁴

Tool used for this study was validated by Orthopaeditions, Community Medicine Physicians, Medical Surgical Nursing Specialists, Community Health Nursing specialist, and Statistician. Out of 9 experts, 7 of them validated the tool **(Annexure VI)**.

The tool was modified according to the suggestions and recommendations of the experts. Validated tool was translated into Tamil and again translated into English to test the correctness of the tool. Data was collected by using Tamil tool.

3.10.2. Reliability:

Reliability is the degree of consistency or dependability with which an instrument measures an attribute.¹⁴

The research tool can be considered internally consistent if all the sub parts of the tool are measuring the same characteristics or phenomena. One of the most primitive approaches of assessing the internal consistence is the split half technique.⁹⁵

Reliability of the structured interview schedule and observational checklist on self-care management of Osteoarthritis was tested by implementing these tools on 27 osteoarthritis clients who were residing in Mother Teresa Old Age Home, Pooliyakulam, Coimbatore, other than the sample area. Split half method with spearman brown formula was used to find out the reliability of the tool ($r^1 = 0.655$).

Equivalence consensus measures of interrater reliability for observational coding involve having two or more trained observers watching an event simultaneously and independently recording data according to the instruments instructed.

The most widely used statistics in this situation is Multirater Kappa when more than two raters are independently rating the same thing.¹⁴

The reliability was computed by using following equation:

$$r = \frac{\text{Number of agreement}}{\text{No of agreement} + \text{No of disagreements}}$$

Video teaching programme on self-help techniques of Osteoarthritis was validated with consensus measures of interrater reliability by the experts. Multirater Kappa was used to find out the acceptable level of kappa. (Multirater Kappa value is 0.86).

3.11.Ethical Clearance:

Ethical clearance application was applied and obtained to Institutional Human Ethics Committee in PSG Institute of Medical Sciences and research (PSG IMS&R), Coimbatore. PSG IMS&R Institutional Ethical committee is one of the few Asian Institutions to be recognized and accredited by the SIDCER (Strategic Initiative for Developing Capacity in Ethical Review) of the WHO (**Annexure - II**).

Consent from Subjects: Consent was obtained from osteoarthritis clients after providing information like the purpose of the study, procedure, benefits and confidentiality (**Annexure - VII**).

3.12.Pilot Study Report

The pilot study was conducted to test the validity, practicability of the tool and feasibility to conduct the study. Pilot study was conducted in Mother Teresa Old Age Home, Pooliyakulam, with the sample size of 27 for 2 months. First identified the elderly with osteoarthritis by using osteoarthritis identification tool. Informed consent was obtained from the elderly with Osteoarthritis and their severity level was assessed by using modified WOMAC tool. Extremely severe Osteoarthritis clients were excluded from the study. Structured interview schedule in tamil was used to assess the self-care knowledge of elderly with Osteoarthritis and concealed and non concealed observation was adopted to assess the self-care abilities of elderly with Osteoarthritis by using observational checklist as pre-test. Implemented the video teaching programme on self-help techniques of Osteoarthritis for 25 minutes and asked them to practice in day today life. Conducted post-test with same pre-test instruments after 15 days. Severity of Osteoarthritis was assessed for 3 times with every 15 days of intervals by using modified WOMAC index.

Pilot study findings showed that most of the patients gained adequate knowledge on self-help techniques of Osteoarthritis and shown their improvement in practice in different assessment once after the implementation of video teaching programme. Post-test self-care practice and knowledge of osteoarthritis clients significantly correlated to a higher extend ($r^1 = 0.655$). There was a significant association between osteoarthritis clients knowledge with demographic variables like education, previous occupation, type of diet and usage of any assistive devices for ambulation, whereas there is a no significant association with age and duration of joint pain. There was a significant association between the patients practice scores when compared to the age, sex, educational status, type of previous occupation, body mass index, history of

chronic illness, duration of joint pain and usage of any assistive devices of demographic variables. There was a significant difference between the pre and post knowledge and practice as well as in pre and post assessment on severity of osteoarthritis. As per the practice of self-help techniques, reduces the severity of osteoarthritis gradually and significantly.

Changes brought after pilot study

Asked the osteoarthritis clients to perform the exercises as group either in morning or in evening as compulsorily in common place at old age home.

3.13. Data Collection Procedure

- Permission was obtained from the Head of the person in old age home **(Annexure –I)**.
- Identified the elderly with Osteoarthritis by using Osteoarthritis identification tool.
- Informed consent was obtained from the elderly with Osteoarthritis.
- Severity level of Osteoarthritis was assessed by using modified WOMAC Index.
- Structured interview schedule in tamil was used to assess the self-care knowledge of elderly with Osteoarthritis and concealed and non concealed observation was adopted to assess the self-care abilities of elderly with Osteoarthritis by using observational checklist as pre-test.
- Implemented the video teaching programme on self-help techniques of Osteoarthritis for 25 minutes and asked them to practice in day today life.
- Post-test was conducted after 15 days of interval with same pre-test instruments. Severity of Osteoarthritis was assessed for 3 times with every 15 days of intervals by using modified WOMAC tool.

3.14. Data Analysis Plan

The collected data were organized, tabulated and analyzed by using descriptive statistics like frequency, percentage, mean and standard deviation. The Inferential statistics like Chi-square was adopted to find the association between the demographic variables of osteoarthritis clients and their self-care knowledge and practice, to find the relationship between self-care knowledge and practice Correlation co-efficient was used. To find out the difference between pre and post-test score of self-care management and severity of osteoarthritis paired 't' test was adopted. And also one way repeated measure ANOVA was used to measure the significant difference between the pre and post severity of osteoarthritis.

3.15 Summary:

This chapter dealt with the methods and designs adopted for the study. It included the research approach, design, research setting, sample and sampling technique, tool used in research with these validity and reliability, pilot study report, data collection procedure and the plan for data analysis.

CHAPTER – IV

DATA ANALYSIS AND INTERPRETATION

Analysis is a “process of organizing and synthesizing data in such a way that research questions can be answered and hypothesis tested”.¹⁴

This chapter dealt with the analysis and interpretation of data collected from 272 osteoarthritis clients by using purposive sampling from old age homes in Coimbatore to assess the effectiveness of video teaching intervention on self-help techniques to clients with osteoarthritis. The data were coded and analyzed as per the objectives of the study under the following headings;

Section A: Distribution of osteoarthritis clients

- Distribution of elderly as per the prevalence of osteoarthritis.
- Distribution of osteoarthritis clients according to their demographic variables.

Section B: Assessment of self-care knowledge of the clients with osteoarthritis

- Area-wise distribution of osteoarthritis clients according to their level of knowledge regarding self-care.
- Area-wise comparison of pre and post-test knowledge of clients with osteoarthritis.

Section C: Assessment of self-care practice of the clients with osteoarthritis

- Area-wise distribution of osteoarthritis clients according to their level of practice regarding self-care.
- Area-wise comparison of pre and post-test practice of clients with osteoarthritis.

Section D: Distribution of osteoarthritis clients according to their severity level of osteoarthritis.

Section E: Testing of Hypothesis

- Association between the pre-test knowledge and practice with demographic variables of the clients with osteoarthritis.
- Comparison of pre and post-test knowledge and practice of the clients with osteoarthritis.
- Correlation between the knowledge and practice of clients with osteoarthritis regarding self-care.
- Comparison of pre and post assessment on severity of osteoarthritis.

SECTION – A

Table 4.1: Distribution of elderly as per the prevalence of osteoarthritis

N=596

S. No	Category of Elderly	No of Elderly	Percentage
1.	Elderly with Osteoarthritis	283	47.48
2.	Elderly not having the complaints of osteoarthritis	313	52.52

Table 4.2: Distribution of elderly with osteoarthritis

N=283

S. No	Category of Osteoarthritis Elderly	No of Elderly	Percentage
1	Elderly with extreme severe osteoarthritis	9	3.12
2	Eligible elderly with complaints of mild to severe osteoarthritis	274	96.82
3	Elderly participated in the study	272	99.27
4	Elderly drop out from the study	2	0.73

Distribution of elderly as per the prevalence of osteoarthritis shows that, out of 596 elderly, 283 (47.48%) had the symptoms of osteoarthritis and 313 (52.52%) elderly were not having the complaints of osteoarthritis (Table 4.1).

Distribution of elderly with osteoarthritis shows among 283 elderly 9 (3.12%) of them had the extreme severe symptoms of osteoarthritis and 274 (96.92%) of elderly had the complaints of mild to severe symptoms of osteoarthritis so I selected

them as my samples. Out of these 274 elderly 272 (99.27%) were participated in the study and only 2 (0.73%) clients were not able to participate in the study due to their personal reasons of their son in abroad met accident so they want to go and see him. The prevalence rate of osteoarthritis was 47.48 percentage among elderly in selected 9 old age homes from Coimbatore (Table 4.2).

Distribution of osteoarthritis clients according to demographic variables

Table 4.3: Distribution of osteoarthritis clients according to their demographic variables

n = 272

S.No	Demographic variables	Frequency	Percentage
1	Age (in years)		
1.1	50 - 60 years	26	10
1.2	61 - 65 years	66	24
1.3	66 - 70 years	85	31
1.4	71 - 75 years	59	22
1.5	76 - 80 years	34	12
1.6	> 80 years	2	1
2.	Sex		
2.1	Male	125	46
2.2	Female	147	54
3.	Educational status		
3.1	Uneducated	67	25
3.2	Primary education	70	26
3.3	Secondary education	73	27

3.4	Graduate	55	20
3.5	Post graduate	7	2
4.	Type of previous occupation		
4.1	Manual work	70	26
4.2	Semi manual work	107	39
4.3	Clerical work	64	24
S.No	Demographic variables	Frequency	Percentage
5.	Type of diet		
5.1	Vegetarian	91	33
5.2	Non vegetarian	181	67
6.	BMI Classification		
6.1	Underweight	0	-
6.2	Normal weight	48	18
6.3	Over weight	102	37
6.4	Obesity	122	45
7.	History of chronic illness		
7.1	Coronary artery disease	31	11
7.2	Diabetes mellitus	46	17
7.3	Diabetes mellitus with coronary artery disease	16	6
7.4	Systemic hypertension	13	5
7.5	Diabetes mellitus with systemic hypertension	14	5
7.6	Nil	152	56

8.	Duration of joint pain		
8.1	Less than 1 year	0	-
8.2	1-3 years	9	3
8.3	3-5 years	51	19
8.4	More than 5 years	212	78
9.	Usage of any assistive devices for ambulation		
9.1	Yes	34	13
9.2	No	238	87

Distribution of osteoarthritis clients according to their age shows that the highest percentage (31%) of clients aged between 66 - 70 years and the lowest percentage (1%) of the clients were in the age group of above 80 years of age (Table 4.3 & Fig.4.1).

Distribution of osteoarthritis clients according to their sex shows that the highest percentage (54%) of clients were female than the male (46%) (Table 4.3 & Fig.4.2).

Distribution of osteoarthritis clients according to their educational status shows that the highest percentage (27%) of clients had secondary education, 25 percentages of clients were uneducated and only 2 percentages of clients had post graduate education (Table 4.3 & Fig.4.3).

Distribution of osteoarthritis clients according to their previous occupation shows that highest percentage (39%) of clients were had semi manual work, 26 percentage of clients were manual workers and only 11 percentage of clients had executive job (Table 4.3 & Fig.4.4).

Distribution of osteoarthritis clients according to their type of diet shows that highest percentage (67%) of clients was non vegetarians and 33 percentages of clients were vegetarians (Table 4.3 & Fig.4.5).

Distribution of osteoarthritis clients according to their BMI shows that highest percentage (45%) of clients under the BMI classification of obese. None of them were under the classification of underweight (Table 4.3 & Fig.4.6).

Distribution of osteoarthritis clients according to their history of other chronic illness shows that 56 percentages of clients had history of any chronic illness. 44 percentages of clients had history of illness like Coronary Artery Disease (11%), Diabetes Mellitus (17%), Diabetes Mellitus with Coronary Artery Disease (6%), Systemic Hypertension (5%) and Diabetes Mellitus with Systemic Hypertension (5%) (Table 4.3 & Fig.4.7).

Distribution of osteoarthritis clients according to their history about duration of joint pain shows that 78 percentages of clients had history of joint pain more than 5 years. Rest of them had the complaints of joint pain within 5 years. No one had history of joint pain less than one year (Table 4.3 & Fig.4.8).

Distribution of osteoarthritis clients according to usage of assistive devices for ambulation shows that only 13 percentages of clients were adopted the assistive devices for mobilization and 87 percentages of clients were not adopted any recommended assistive devices (Table 4.3 & Fig.4.9).

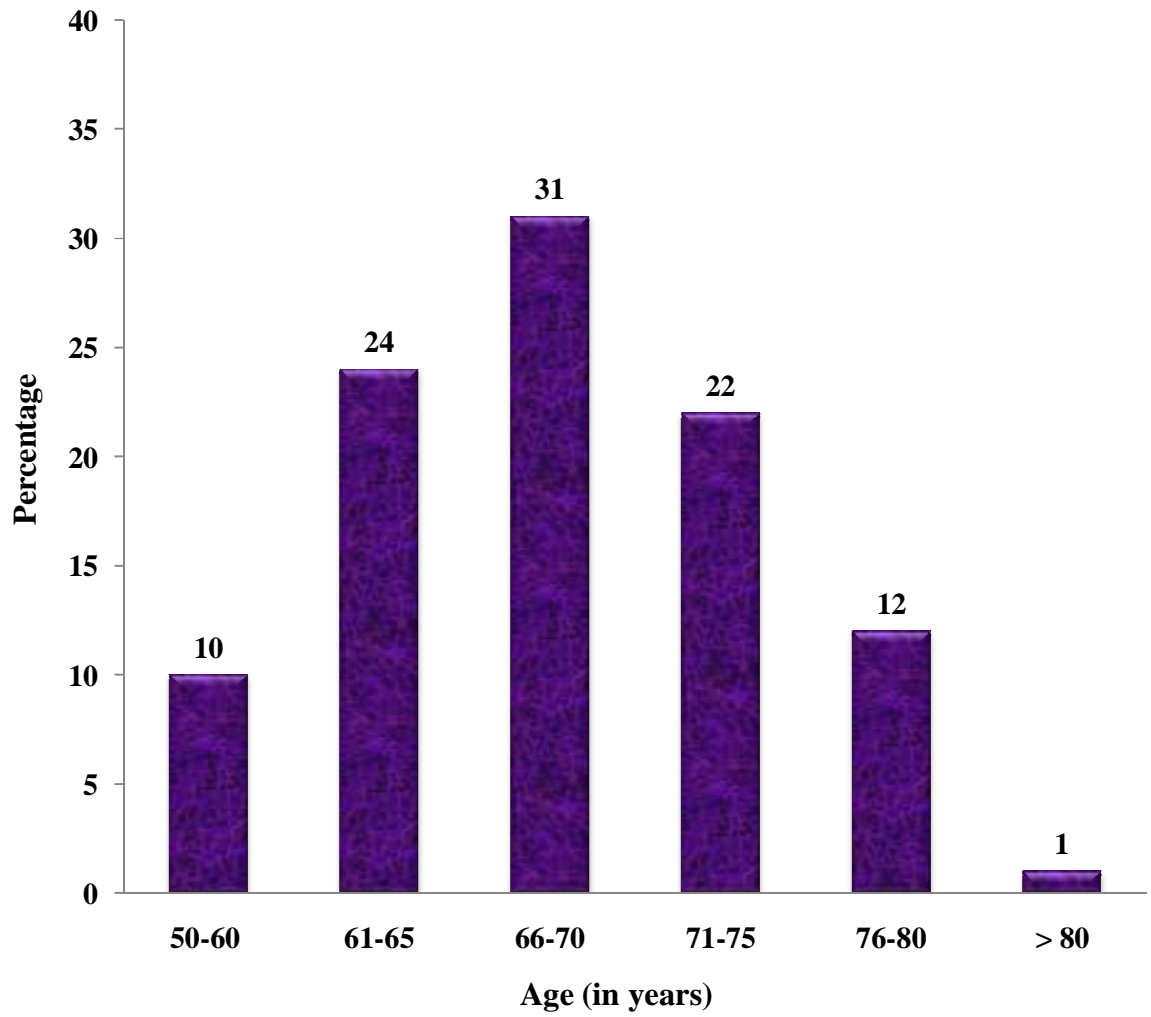


Figure 4.1: Percentage wise distribution of osteoarthritis clients according to their age

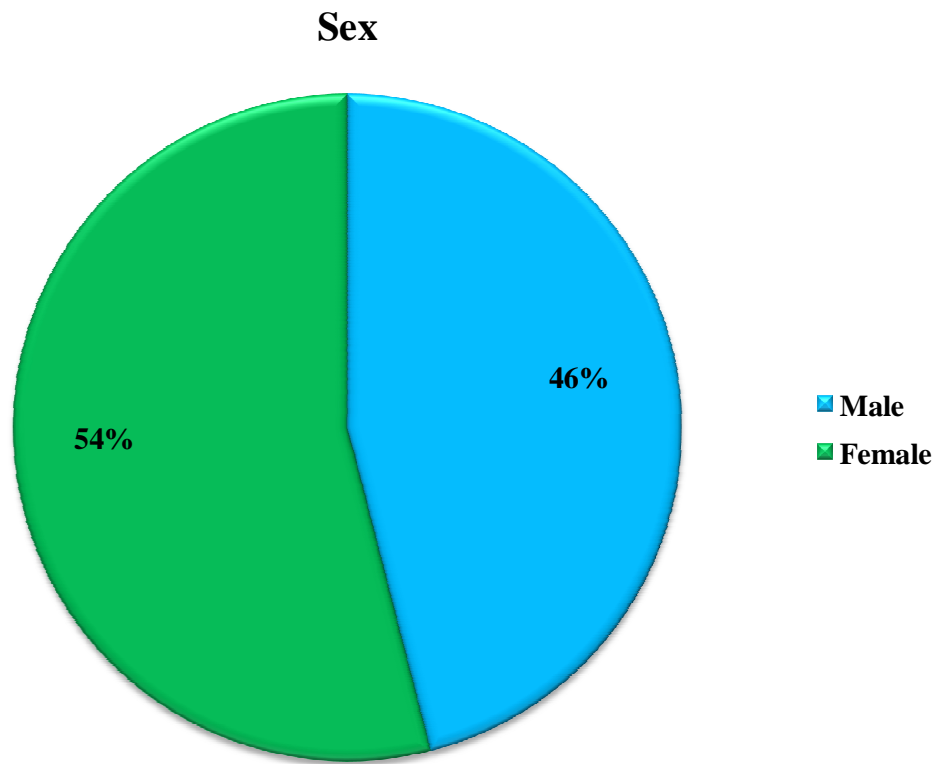


Figure 4.2: Percentage wise distribution of osteoarthritis clients according to their sex

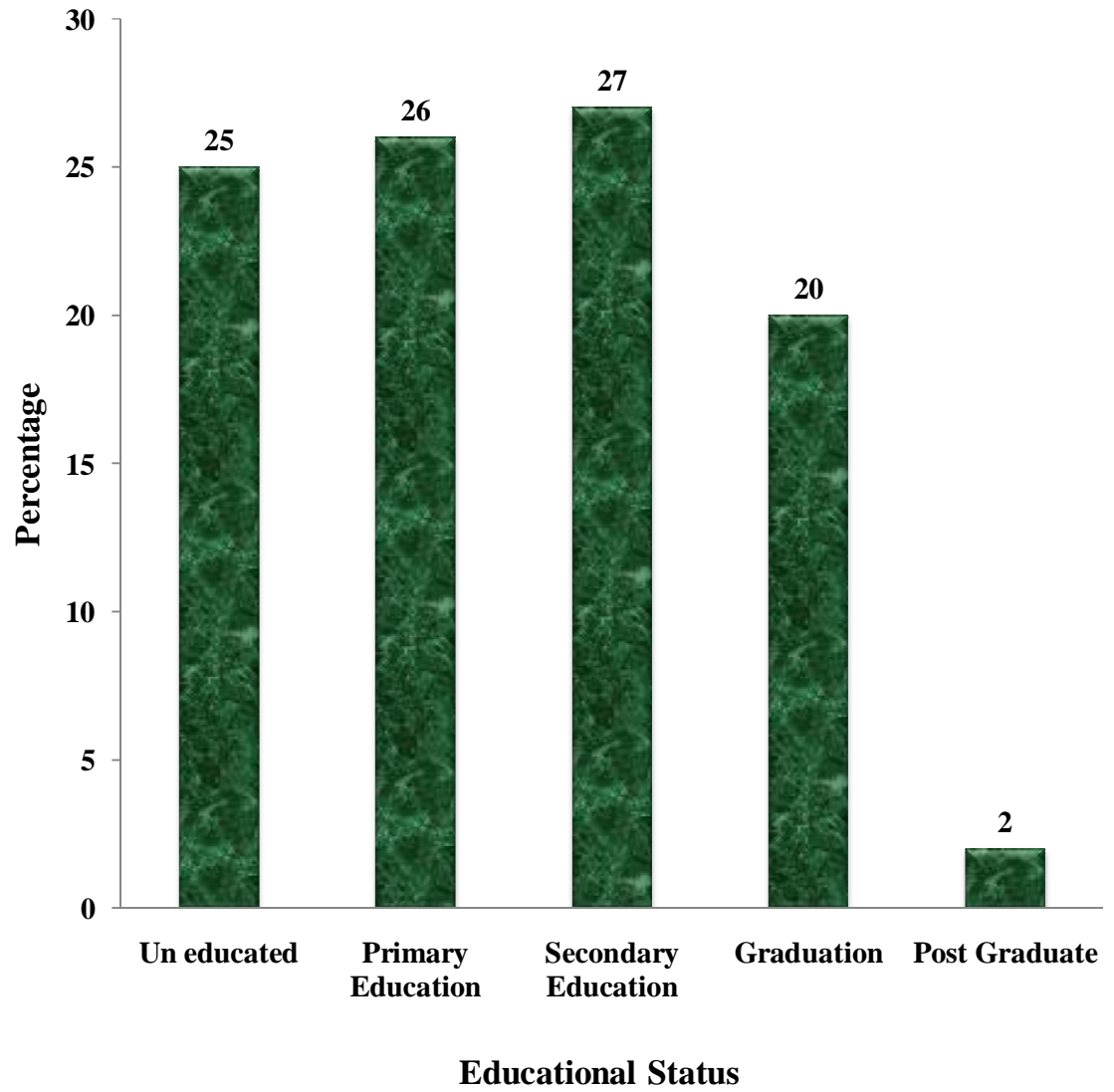


Figure 4.3: Percentage wise distribution of osteoarthritis clients according to their educational status

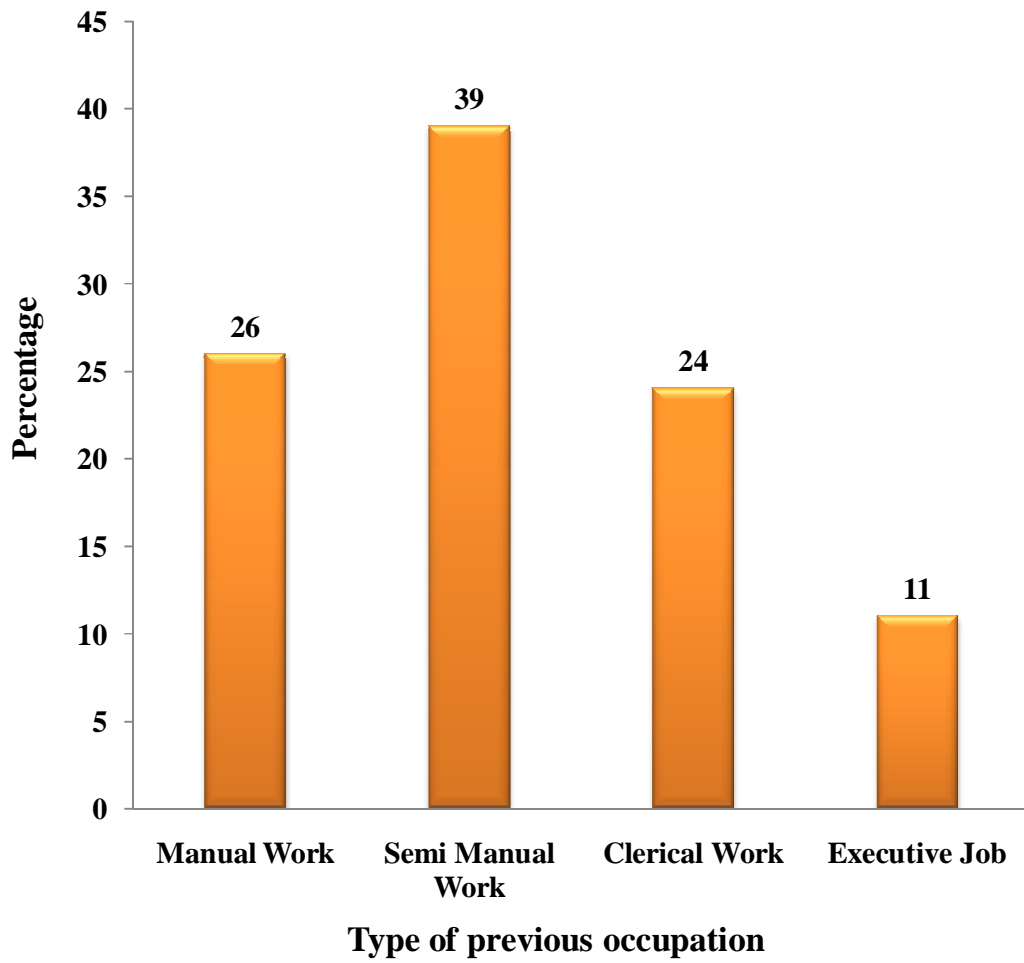
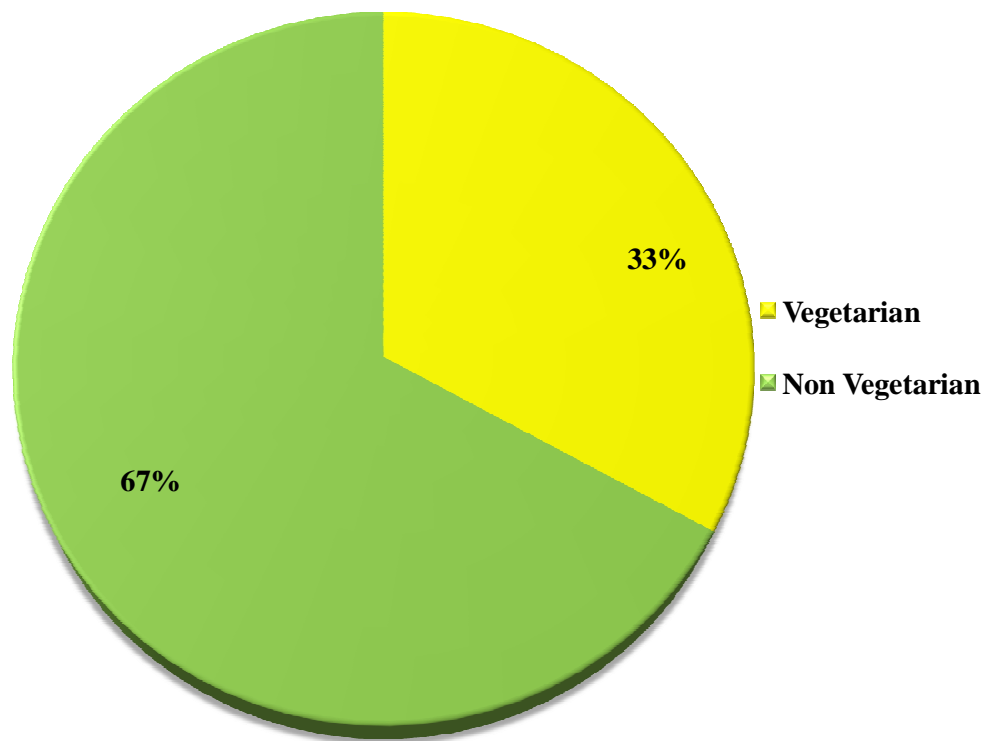


Figure 4.4: Percentage wise distribution of osteoarthritis clients according to their previous occupation



**Figure 4.5: Percentage wise distribution of osteoarthritis clients according to
Type of diet**

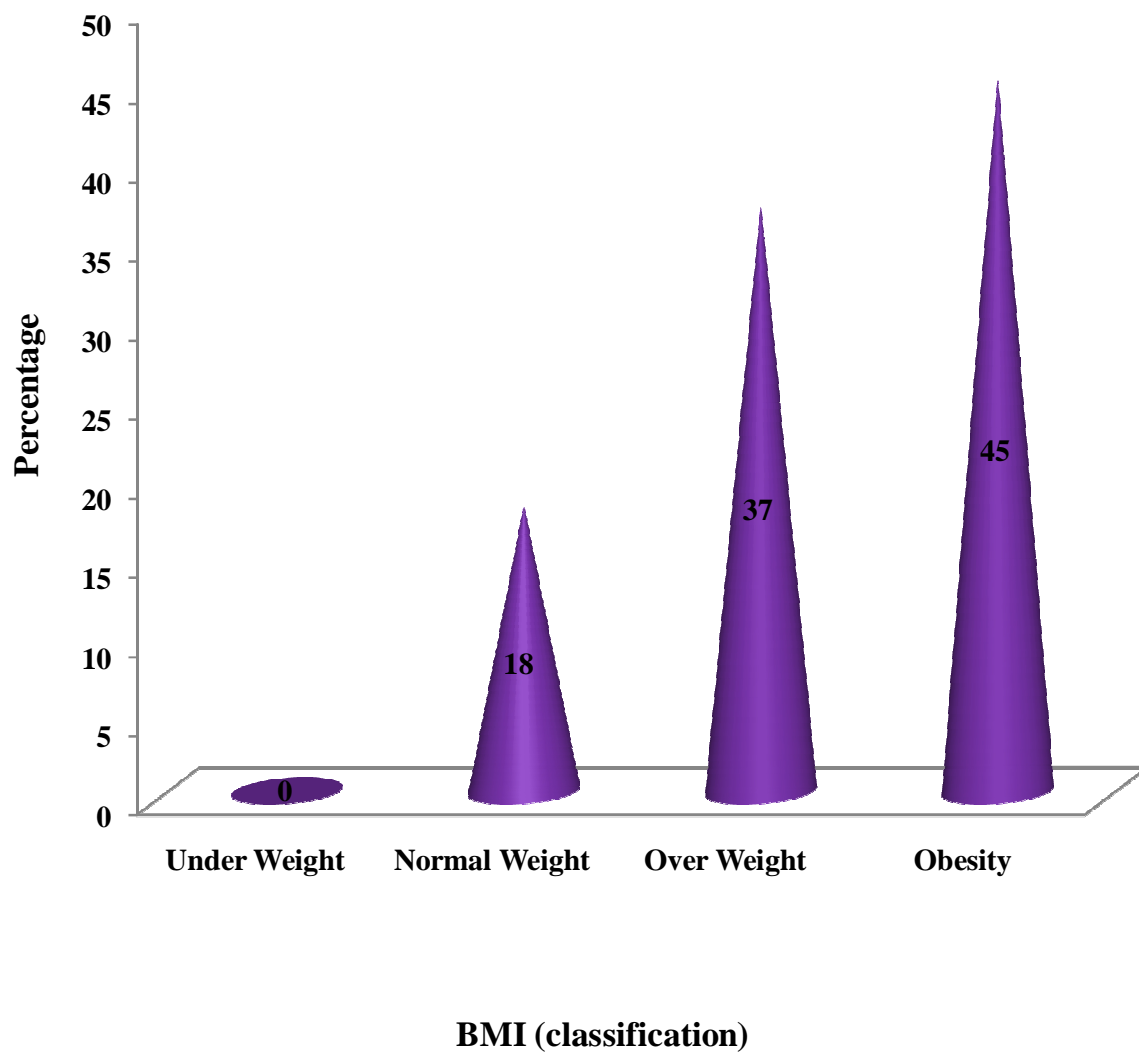


Figure 4.6: Percentage wise distribution of osteoarthritis clients according to their BMI Classification

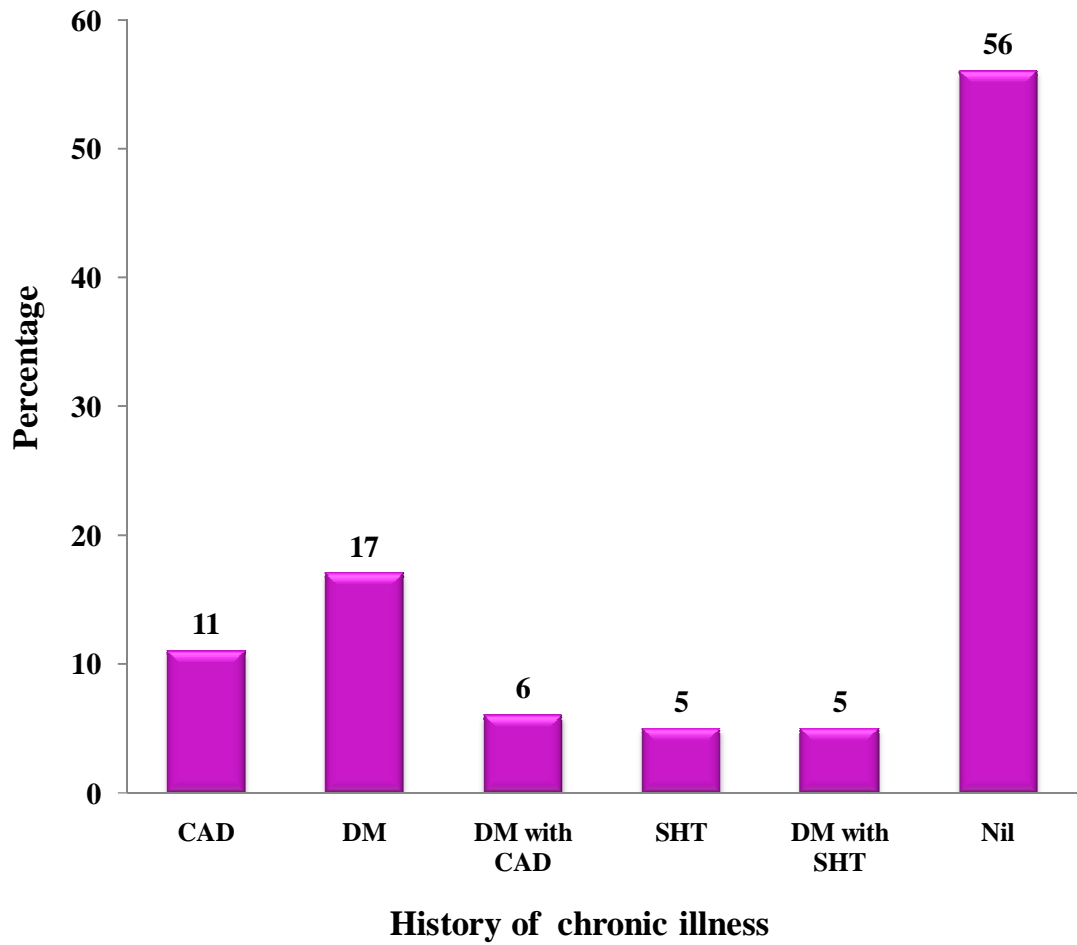


Figure 4.7: Percentage wise distribution of osteoarthritis clients according to history of chronic illness

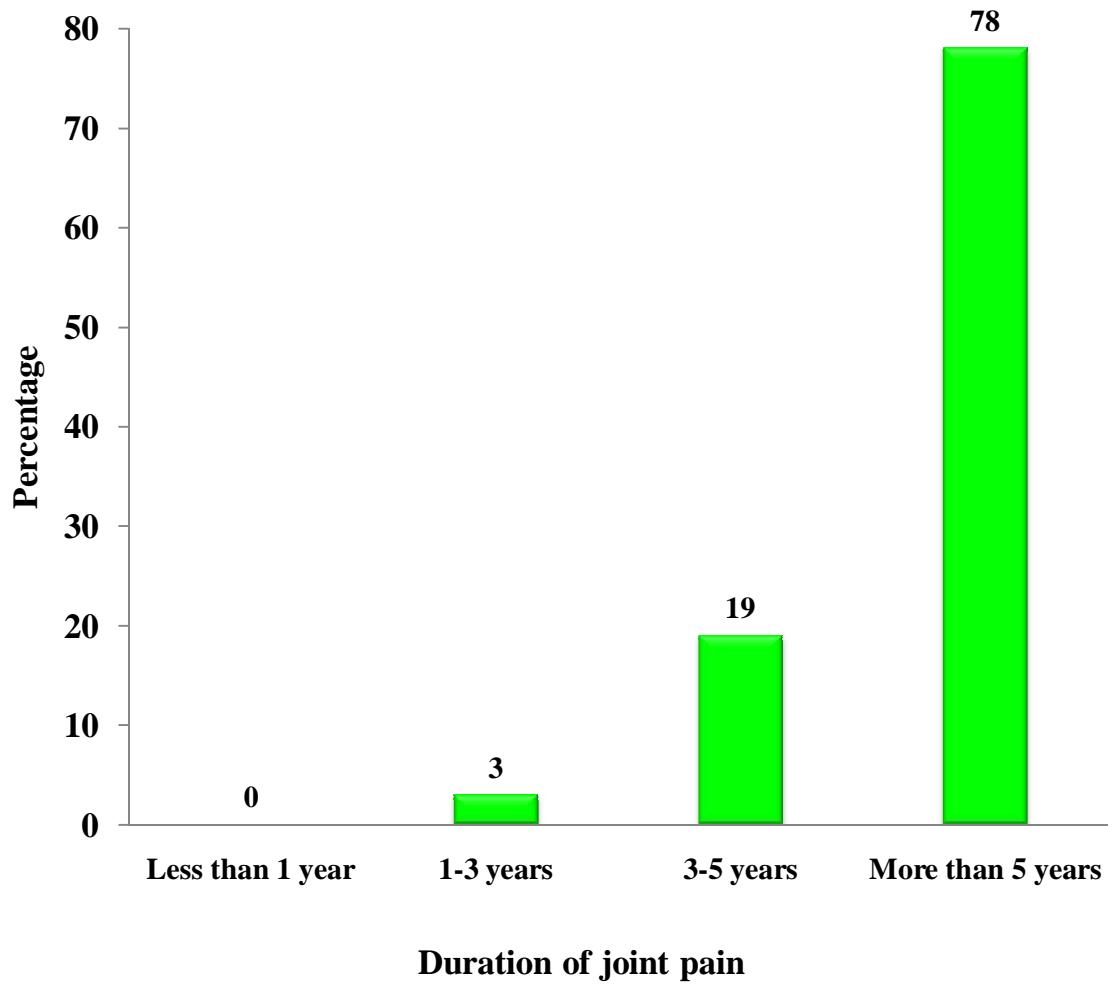


Figure 4.8: Percentage wise distribution of osteoarthritis clients according to their duration of joint pain

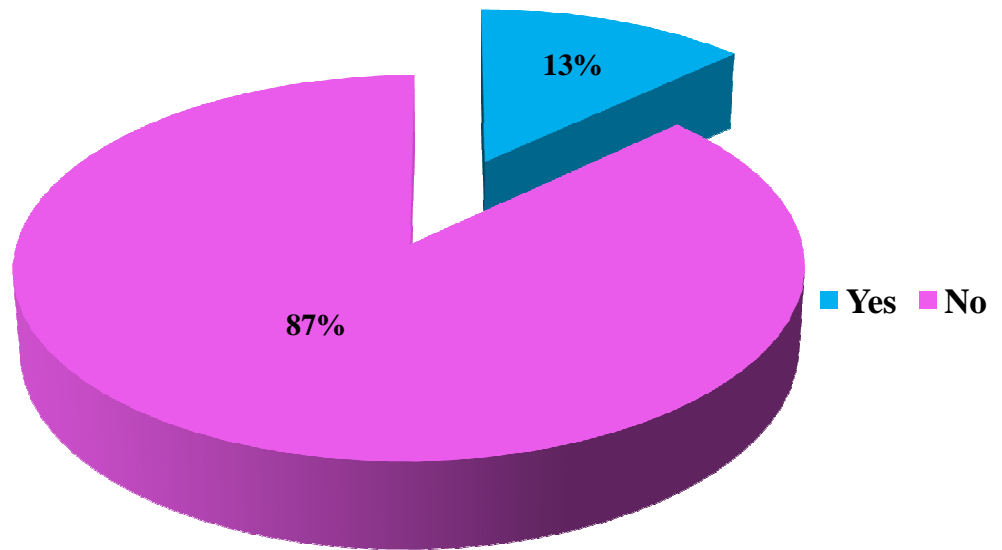


Figure 4.9: Percentage wise distribution of osteoarthritis clients according to their usage of assistive devices for ambulation

SECTION – B

Assessment of self-care knowledge of the clients with osteoarthritis

Table 4.4: Area-wise distribution of osteoarthritis clients according to their level of knowledge regarding self-care

n= 272

S. No	Self-help technique areas	Level of Knowledge																			
		Very Poor				Poor				Average				Good				Excellent			
		Pre-test		Post-test		Pre-test		Post-test		Pre-test		Post-test		Pre-test		Post-test		Pre-test		Post-test	
		No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
1.	Basics about Osteoarthritis		-	-	-	113	42	-	-	110	40	2	1	36	13	96	35	13	5	174	64
2.	Activities of Daily Living	-	-	-	-	-	-	-	-	96	35	-	-	-	-	-	-	176	65	272	100
3.	Exercise	2	1	-	-	161	59	-	-	101	37	14	5	8	3	167	61	-	-	91	34
4.	Diet	-	-	-	-	130	48	-	-	22	8	16	6	108	40	43	16	12	4	213	78
5.	Weight Control	-	-	-	-	12	4	-	-	-	-	8	3	204	75	6	2	56	21	258	95
6.	Non drug pain relief measures	-	-	-	-	242	89	-	-	30	11	26	9	-	-	160	59	-	-	86	32
7.	Rest and relief from the stress on joint	120	44	-	-	145	53	-	-	7	3	80	29	-	-	160	59	-	-	32	12
8.	Socialization	8	3	-	-	-	-	-	-	203	75	47	17	-	-	-	-	61	22	225	83
	Over all	16	6	-	-	100	37	-	-	71	26	24	9	45	16	79	29	40	15	169	62

Area-wise distribution of osteoarthritis clients according to their level of knowledge regarding self-care shows that, overall highest percentage (37%) of clients had poor knowledge in pre-test and 62 percentages of clients had excellent knowledge in post-test. The highest percentage (42%) of clients had poor knowledge in pre-test on basics about osteoarthritis where as 64 percentage of clients had excellent knowledge in post-test.

The highest percentage of clients had excellent knowledge in the aspect of activities of daily living in pre-test (65%) and post-test (100%) respectively. For the aspect of exercise the highest percentage (59%) of clients had poor knowledge in pre-test and in post-test 61 percentage of clients had good knowledge. The highest percentage of clients (48%) had poor knowledge in pre-test for the component of diet and in post-test 78 percentage of clients had excellent knowledge. For the component of weight control 95 percentage of clients had excellent knowledge in post-test, whereas 75 percentage of clients had good knowledge in pre-test. Highest percentage (59%) of clients had good knowledge in post-test and 89 percentage of clients had poor knowledge in pre-test for the aspect of non drug pain relief measures. For the component of rest and relief from the stress on joint, 59 percentage of clients had good knowledge in post-test and in pre-test 53 percentage of clients had poor knowledge. 75 percentage of clients had average knowledge on socialization in pre-test, where as 83 percentage of clients had excellent knowledge in post-test. In overall only 15 percentage of clients had excellent knowledge in pre-test, where as in post-test 62 percentage of clients had excellent knowledge (Table 4.4).

Table 4.5: Area-wise mean, SD and mean percentage of pre and post-test knowledge scores of clients with osteoarthritis

n= 272

S. No	Self-help technique areas	Max. Score	Knowledge Score						Difference in Mean %
			Pre-test			Post-test			
			Mean	S.D	Mean %	Mean	S.D	Mean %	
1.	Basics about Osteoarthritis	6	2.813	0.837	46.883	4.805	0.720	80.083	33.200
2.	Activities of Daily Living	2	1.647	0.477	82.350	2	0	100	17.650
3.	Exercise	5	2.423	0.563	48.460	4.287	0.522	85.740	37.280
4.	Diet	3	1.449	0.545	48.300	2.783	0.412	92.767	44.467
5.	Weight Control	3	2.162	0.472	72.067	2.949	0.126	98.300	26.233
6.	Non drug pain relief measures	8	2.629	0.672	32.863	5.813	1.043	72.663	39.800
7.	Rest and relief from the stress on joint	5	1.467	0.541	29.340	3.824	0.614	76.480	47.140
8.	Socialization	2	1.195	0.487	59.750	1.820	0.385	91	31.250
	Over all	34	15.785	4.594	52.502	28.281	3.822	87.129	34.628

Area-wise mean, SD and mean percentage of pre and post-test knowledge of Osteoarthritis clients shows that in pre-test, out of 34 maximum obtainable scores the mean score was 15.785 ± 4.594 which is around 52.502% of total score revealing, average knowledge of clients on self-help techniques of osteoarthritis.

Further area-wise knowledge of clients in pre-test shows that highest percentage (82.35%) of mean score obtained for activities of daily living and 72.067 percentage of mean score for the area of weight control shows clients had good knowledge in these aspects. The lowest means of 1.467 ± 0.541 which is 29.34 percentage and 2.629 ± 0.672 which is 32.86 percentage of the total score for the aspects of rest and relief from the stress on joint and non drug pain relief measures respectively, shows

poor knowledge in these aspects. In all other areas the percentage of mean score was above 40, revealing average knowledge of osteoarthritis clients on self-help technique.

However the area-wise overall knowledge scores in post-test shows that out of 34 maximum obtainable scores the mean score was 28.281 ± 3.822 , which is around 87.129 percentage of the total score revealing excellent knowledge of clients on self-help techniques of osteoarthritis.

Area-wise post-test knowledge of clients shows that highest mean score 2.949 ± 0.126 which is 98.3 percentage of the total score for the aspect of weight control, reveals excellent knowledge. Whereas in non drug pain relief measures clients had the lowest mean score 5.813 ± 1.043 , which is 72.663% of total score reveals good knowledge on this aspect. In all other areas, the percentage of mean score was above 80 showing excellent knowledge of osteoarthritis clients on self-help techniques of osteoarthritis.

Further, difference in mean percentage to effect the efficiency of the Video Teaching Programme on the self-help techniques of osteoarthritis shows that, the highest percentage of mean difference in knowledge (47.14%) was on the aspect of rest and relief from stress on joint and lowest percentage of mean difference (17.65%) was on the aspect of activities of daily living. The overall average mean percentage difference in knowledge was 34.628 percentage.

It seems that video teaching programme on self-help techniques of osteoarthritis was improved the knowledge level of osteoarthritis clients.

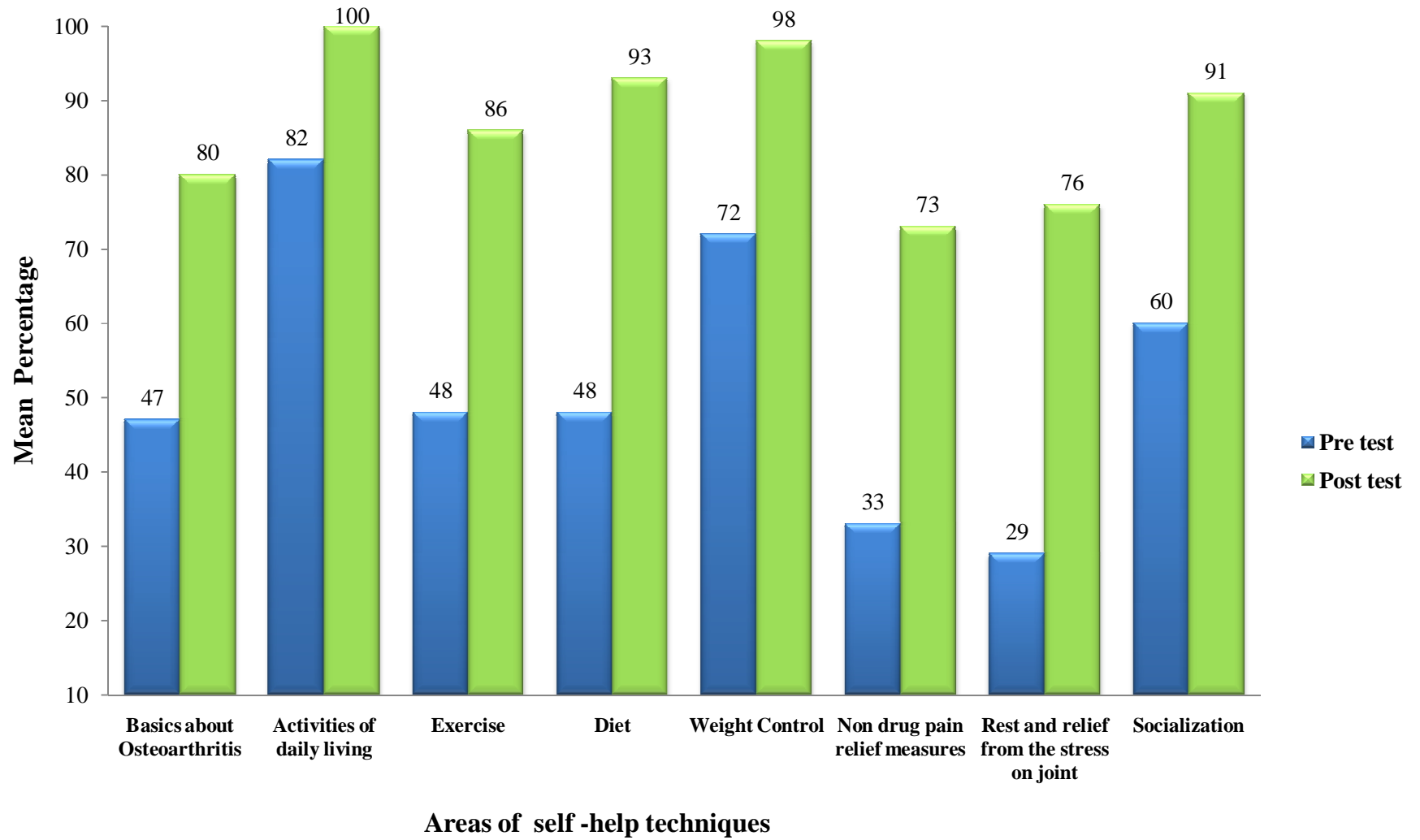


Figure 4.10: Area-wise pre and post-test knowledge of clients with osteoarthritis

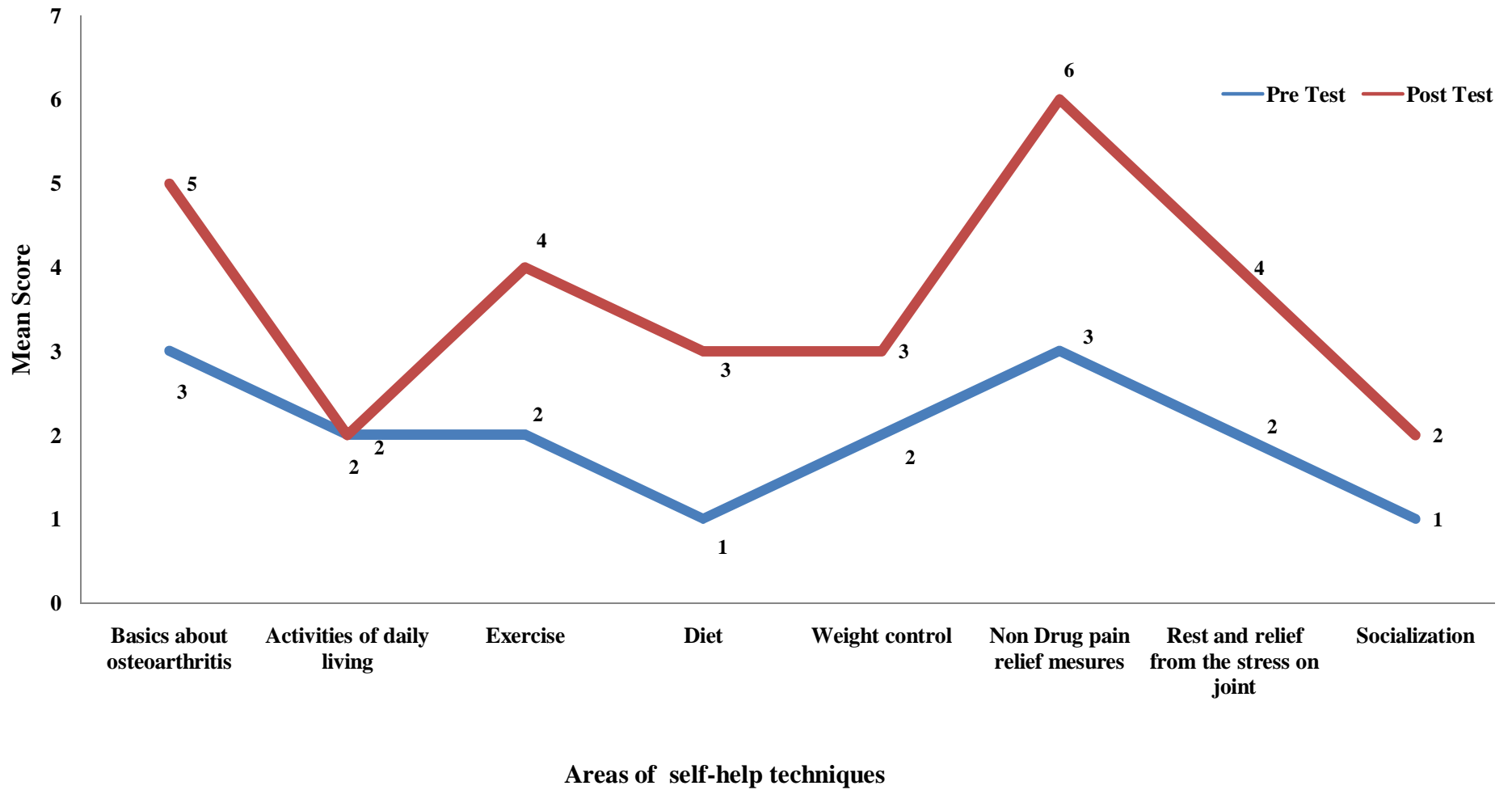


Figure 4.11: Comparison of pre and post-test mean knowledge scores of clients with osteoarthritis

SECTION – C

Assessment of self-care practice of the clients with osteoarthritis

Table 4.6: Area-wise distribution of osteoarthritis clients according to their level of self-care practice

n= 272

S. No	Self-help technique areas	Level of Practice											
		Not Adoptive Practice				Partially Adoptive Practice				Fully Adoptive Practice			
		Pre-test		Post-test		Pre-test		Post-test		Pre-test		Post-test	
		No	%	No	%	No	%	No	%	No	%	No	%
		1.	Activities of Daily Living	0	0	0	0	268	99	0	0	4	1
2.	Exercise	272	100	0	0	0	0	40	15	0	0	232	85
3.	Diet	0	0	0	0	174	64	6	2	98	36	266	98
4.	Non drug pain relief measures	191	70	0	0	81	30	7	3	0	0	265	97
5.	Rest and relief from the stress on joint	0	0	0	0	260	96	4	1	12	4	268	99
6.	Socialization	0	0	0	0	226	83	0	0	46	17	272	100
	Over all	71	28	0	0	168	62	9	3	27	10	263	97

Area-wise distribution of osteoarthritis clients according to their level of practice regarding self-care of osteoarthritis shows that, overall highest percentage (62%) of clients had partially adoptive practice in pre-test, where as 97 percentage of clients had fully adoptive practice in post-test it reveals the effectiveness of video teaching programme on self-help techniques of osteoarthritis. All the clients were not adopted exercise in pre-test where as in post-test 85 percentage of clients were fully adopted the practice of exercise.

In post-test 97 percentage of clients adopted non drug pain relief measure but in pre-test it was 70 percentage. For the aspect of proper dietary practice 64 percentage of clients adopted partially in pre-test where as in post-test it was 98 percentages, it shows that clients fully adoption in proper dietary practice. In other aspects like activities of daily living, rest and relief from stress on joint and in socialization, more than 85 percentage clients had full adoptive practice in post-test, but there was a partially adoptive practice in pre-test.

Table 4.7: Area-wise mean, SD and mean percentage of pre and post-test practice scores of clients with osteoarthritis

n= 272

S. No	Self-help technique areas	Max. Score	Practice Score						Difference in Mean %
			Pre-test			Post-test			
			Mean	S.D	Mean %	Mean	S.D	Mean %	
1.	Activities of Daily Living	14	7	1.170	50	12.912	0.976	92.229	42.229
2.	Exercise	10	1.702	0.455	17.020	7.478	0.903	74.780	57.760
3.	Diet	10	6.180	0.929	61.800	8.224	0.773	82.240	20.440
4.	Non drug pain relief measures	18	6.077	0.849	33.761	15.496	1.313	86.089	52.328
5.	Rest and relief from the stress on joint	8	3.952	0.829	49.400	6.596	0.675	82.450	33.050
6.	Socialization	4	2.169	0.375	54.225	3.813	0.386	92.325	41.100
	Over all	64	27.08	4.607	44.368	54.519	5.031	85.019	41.151

Area-wise mean, SD and mean percentage of pre and post-test practice of osteoarthritis clients in pre-test, shows that out of 64 maximum obtainable scores the mean score was 27.08 ± 4.607 which is around 44.368 percentage of the total score,

revealing clients had partially adoptive practice on self-help techniques of osteoarthritis.

Further area-wise pre-test practice of osteoarthritis clients shows that highest mean score 6.180 ± 0.929 which is around 61.8 percentage of the total score for the aspect of dietary practice shows partially adoptive practice, where as the lowest mean score 1.702 ± 0.455 which is around 17.02 percentage of the total score for exercise reveals non adoptive practice. In other areas like activities of daily living, non drug pain relief measures, rest and relief from stress on joint and in socialization the mean percentage score was between 33 and 54 percentage, shows the partial adoptive practice of self-help technique in these aspects during pre-test.

However in post-test, the overall practice scores shows that out of 64 maximum obtainable scores, the mean score was 54.519 ± 5.031 which is around 85.019 percentage of the total score, revealing fully adoptive practice of client on self-help techniques of osteoarthritis.

Area-wise post-test practice of clients shows the highest percentage of mean score around 92 percentage was obtained by the osteoarthritis clients for the aspects of activities of daily living and socialization respectively, it reveals fully adoptive practice. Around 82 percentage of mean score was obtained by the osteoarthritis clients for the aspects of dietary practice and rest and relief from stress on joint respectively shows fully adoptive practice in post test.

For the aspect of non drug pain relief measures, the mean score was 15.496 ± 1.313 which is around 86.089 percentage of the total score reveals fully adoptive practice. The low mean percentage (74.78%) was obtained for the aspect of exercise shows osteoarthritis clients need more motivation on this aspect.

Further, difference in mean percentage to effect the efficiency of the video teaching programme on the self-help techniques of osteoarthritis shows that the

highest percentage of mean difference in practice (57.76%) was on the aspect of exercise and lowest percentage of mean difference (20.44%) was on the aspect of diet. The overall average mean percentage difference in practice was 41.151 percentage, it might be associated with the explanation and demonstration of self-help technique through video is effective.

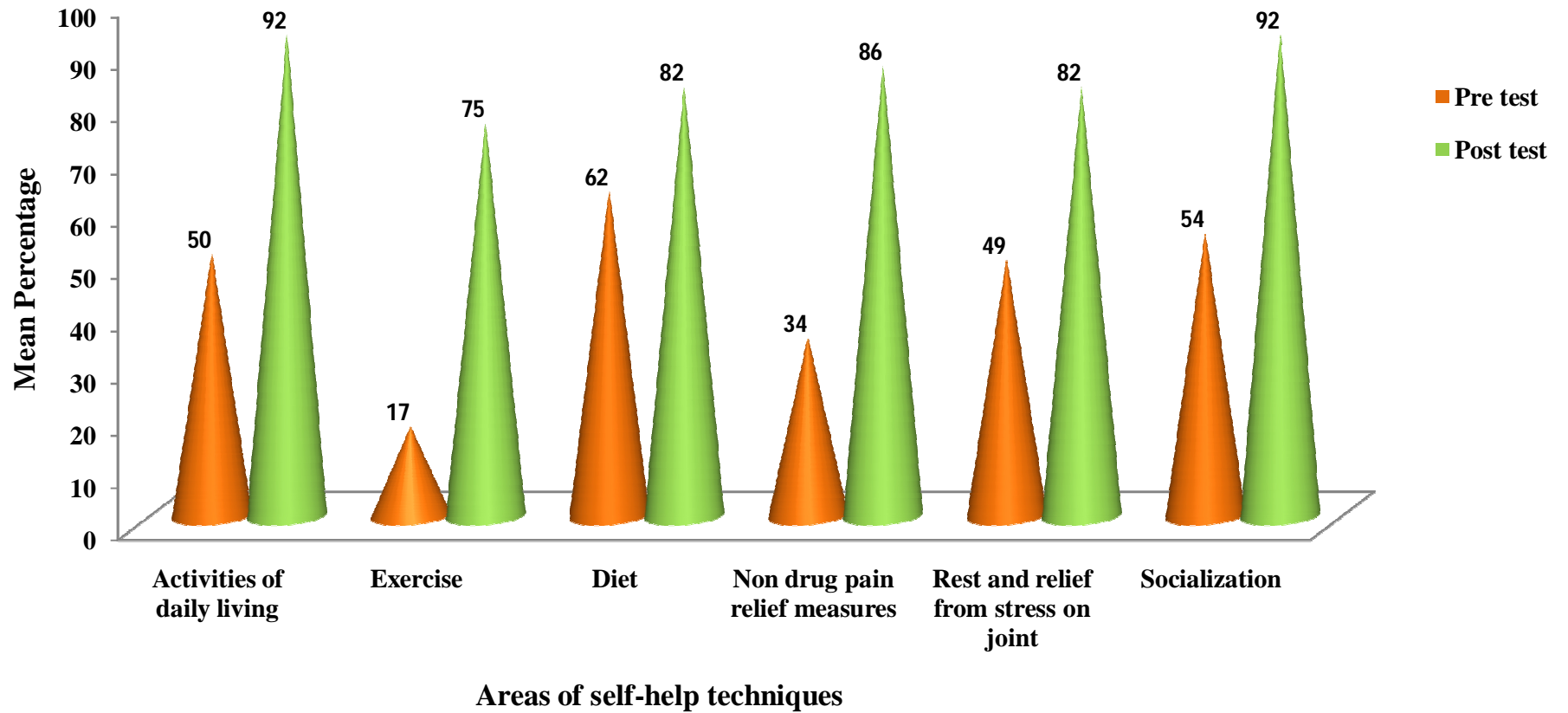


Figure 4.12: Area-wise pre and post-test practice of clients with osteoarthritis

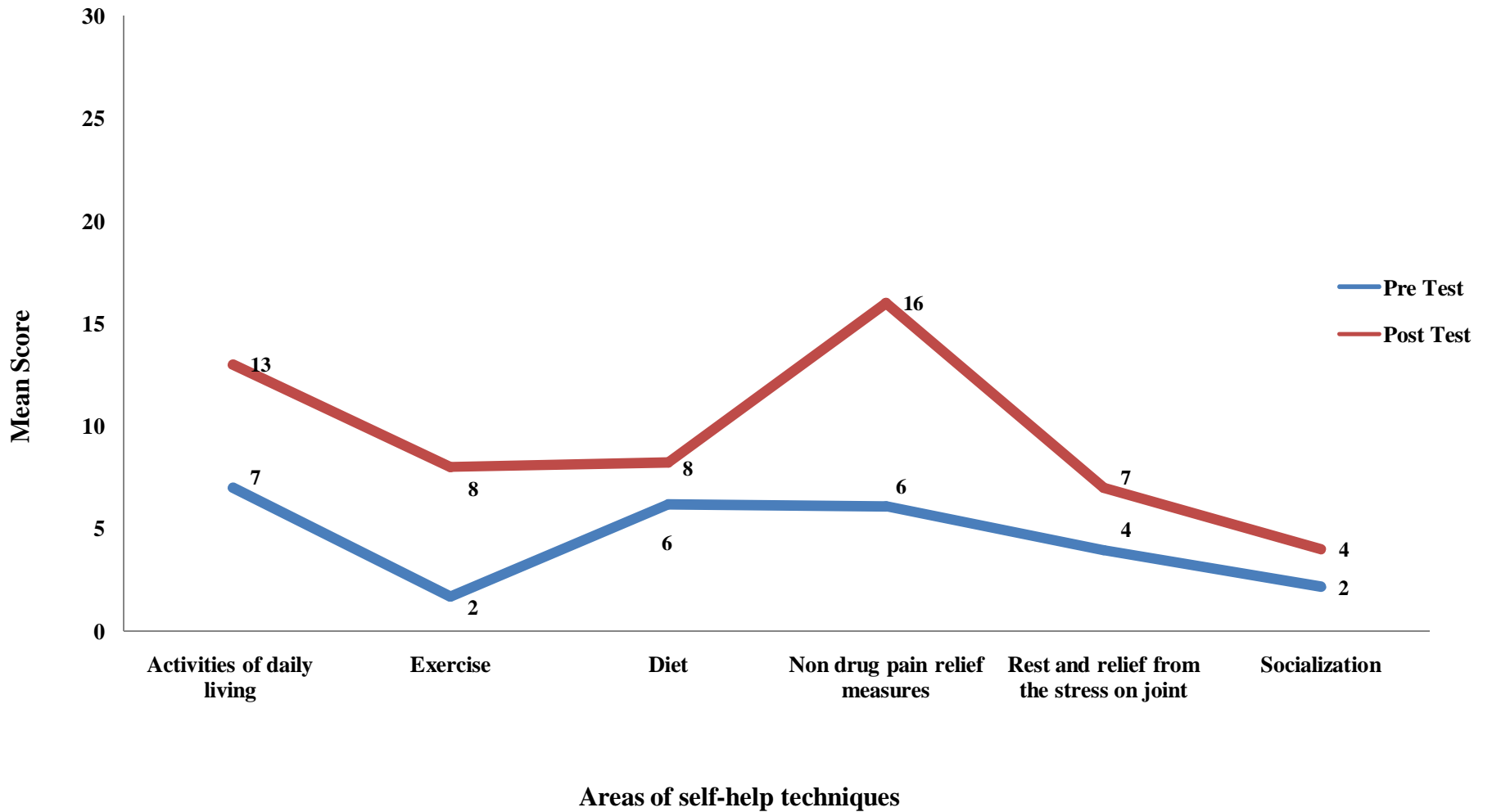


Figure 4.13: Comparison of pre and post-test mean practice scores of clients with osteoarthritis

SECTION - D

Table 4.8: Distribution of clients with osteoarthritis according to their severity of osteoarthritis

n = 272

Sl. No.	Severity Assessments	Level of Severity					
		Mild		Moderate		Severe	
		No	%	No	%	No	%
1	Pre-test assessment	-	-	7	3	265	97
2	1 st post assessment	-	-	174	64	98	36
3	2 nd post assessment	15	5	209	77	48	18
4	3 rd post assessment	202	74	56	21	14	5

Distribution of clients with osteoarthritis clients according to their severity level of osteoarthritis shows that in pre-test, 97 percentage of clients were had severe level of osteoarthritis and only 3 percentage had moderate level. Where as in 1st post assessment 64 percentage of clients had moderate level of osteoarthritis and 36 percentage of clients had severe level of osteoarthritis. In 2nd post assessment 77 percentage of clients had moderate level of severity, 5 percentage of clients came to mild level of severity and 18 percentage of clients still had severe level of osteoarthritis. In 3rd post assessment 74 percentage of clients (202 nos.) came to mild level of severity through fully adaptation of self-help technique and only 5 percentage were still in severe level of osteoarthritis.

SECTION – E

TESTING OF HYPOTHESIS

Assess the effectiveness of video teaching programme intervention on self-help techniques of osteoarthritis among osteoarthritis clients by using χ^2 test, Co-relation Co-efficient, paired 't' test and One way repeated measures ANOVA (One way repeated measures analysis of variance).

The hypothesis is;

- H₁: There is a significant association between pre-test self-care knowledge and demographic variables of the clients with osteoarthritis.
- H₂: There is a significant association between pre-test self-care practice and demographic variables of the clients with osteoarthritis.
- H₃: There is a significant difference between pre and post-test self-care knowledge of clients with osteoarthritis.
- H₄: There is a significant difference between pre and post-test self-care practice of clients with osteoarthritis.
- H₅: There is a significant relation between post-test self-care knowledge and practice of clients with osteoarthritis.
- H₆: There is a significant difference between the pre and post assessment on severity of osteoarthritis.

Association between the pre-test knowledge and practice score with demographic variables of the clients with osteoarthritis

H₁: There is a significant association between pre-test self-care knowledge and demographic variables of the clients with osteoarthritis.

Chi-square test (χ^2) was used to find the association between knowledge score and demographic variables of clients with osteoarthritis.

Table 4.9: Association between pre-test self-care knowledge and demographic variables of the clients with osteoarthritis.

S. No	Demographic Variables	d.f	χ^2 Value
1.	Age (in years)	5	62.039*
2.	Sex	1	11.091*
3.	Educational status	4	102.662*
4.	Type of previous occupation	3	26.280*
5.	Type of diet	1	0.694
6.	BMI (Classification)	3	7.898*
7.	History of chronic illness	5	19.456*
8.	Duration of joint pain	3	1.853*
9.	Usage of any assistive devices for ambulation	1	31.834*

*P < 0.05 – Significant

Association between pre-test self-care knowledge and demographic variables of the clients with osteoarthritis reveals that, there was a major association between the knowledge scores when compared to demographic variables like age, sex, educational status, type of previous occupation, body mass index, history of chronic

illness and usage of any assistive devices of demographic variables. This findings can be interpreted that the mean score difference in knowledge related to these demographic variables were true difference and the hypothesis is accepted.

Whereas there was no significant association found between the knowledge scores when compared to the variables like type of diet and duration of joint pain. Hence this finding can be concluded that the means score difference related to these demographic variables were not true difference, so the hypothesis is rejected in these aspects.

H₂: There is a significant association between pre-test self-care practice and demographic variables of the clients with Osteoarthritis.

Chi-square test (χ^2) was used to find the association between practice score and demographic variables of clients with osteoarthritis.

Table 4.10: Association between pre-test self-care practice and demographic variables of the clients with osteoarthritis.

S. No	Demographic Variables	d.f	χ^2 Value
1.	Age (in years)	5	28.727*
2.	Sex	1	7.211*
3.	Educational status	4	45.199*
4.	Type of previous occupation	3	35.471*
5.	Type of diet	1	2.158
6.	BMI (Classification)	3	12.563*
7.	History of chronic illness	5	14.319*
8.	Duration of joint pain	3	11.072*
9.	Usage of any assistive devices for ambulation	1	8.538*

*P< 0.05 - Significant

Association between pre-test self-care practice and demographic variables of the clients with osteoarthritis reveals that there was a major association between the patients practice scores when compared to the demographic variables like age, sex, educational status, type of previous occupation, body mass index, history of chronic illness, duration of joint pain and usage of any assistive devices. Thus it can be concluded that the difference in the mean score related to these demographic variables were true difference and the hypothesis is accepted.

Whereas there was no significant association found between the practice scores when compared with the variable of type of diet. Hence it can be interpreted that the difference in mean scores related to type of diet pattern was not true difference and the hypothesis is rejected to only this aspect.

Comparison of pre and post-test knowledge and practice of clients with osteoarthritis

H₃: There is a significant difference between pre and post-test self-care knowledge of clients with osteoarthritis.

Paired ‘t’ test was calculated to find the difference between pre and post-test self-care knowledge of clients with osteoarthritis.

Table 4.11: Difference between pre and post-test self-care knowledge of clients with osteoarthritis

S.No	Area-wise knowledge items	‘t’ Value
1.	Basics about Osteoarthritis	61.417*
2.	Activities of Daily Living	12.154*
3.	Exercise	59.104*
4.	Diet	42.413*
5.	Weight Control	29.166*
6.	Non drug pain relief measures	77.148*
7.	Rest and relief from the stress on joint	61.024*
8.	Socialization	21.185*

df = 271, *p < 0.05 – Significant

To analyze the difference between pre and post-test knowledge the Paired ‘t’ test was used on various aspects of self-help techniques of osteoarthritis such as basics about osteoarthritis, activities of daily living, exercise, diet, weight control, non drug pain relief measures, rest and relief from the stress on joint and socialization shows highly significant difference. Hence it can be concluded that there was highly significant difference between the pre and post-test self-care knowledge score of osteoarthritis clients and video teaching programme on self-help techniques of osteoarthritis is highly effective.

H₄: There is a significant difference in pre and post-test self-care practice of clients with osteoarthritis.

Paired 't' test was calculated to find the difference between pre and post self-care practice of clients with osteoarthritis.

Table 4.12: Difference between pre and post-test self-care practice of clients with osteoarthritis

S.No	Area-wise practice items	't' Value
1.	Activities of daily living	134.114*
2.	Exercise	131.390*
3.	Diet	53.003*
4.	Non drug pain relief measures	128.698*
5.	Rest and relief from the stress on joint	80.246*
6.	Socialization	52.922*

df = 271, *p < 0.05 – Significant

To analyze the difference in pre and post-test practice Paired 't' test was used on different aspects of self-care such as activities of daily living, exercise, diet, non drug pain relief measures, rest and relief from the stress on joint and socialization shows highly significant difference. Hence it can be concluded that there was highly significant difference between pre and post-test self-care practice of osteoarthritis clients and video teaching programme on self-help technique of osteoarthritis is highly effective.

Correlation between the self-care knowledge and practice of clients with osteoarthritis

H₅: There is a significant relation between post-test self-care knowledge and practice of clients with osteoarthritis.

Table 4.13: Correlation between post-test knowledge and practice of clients with osteoarthritis regarding self-care

S. No	Variables	'r' - Value
1.	Post-test Knowledge and Practice	0.882*

Karl Pearson's co-relation co-efficient analysis between knowledge and practice score of the post-test shows significant positive relationship between knowledge and practice ($r = 0.882$), which reveals the highly positive relation in self-care knowledge and practice.

Comparison between pre and post assessment on severity of osteoarthritis

H₆: There is a significant difference between the pre and post assessment on severity of osteoarthritis.

Table 4.14: Significant difference in severity of osteoarthritis in pre and post assessment

S. No	Variables	't' - Value
1	Pre-test and 1 st post-test of WOMAC Index	139.643*
2	Pre-test and 2 nd post-test of WOMAC Index	142.713*
3	Pre-test and 3 rd post-test of WOMAC Index	208.123*

df = 271, $p < 0.05$ – Significant*

To analyze the severity of osteoarthritis Paired 't' test was calculated, findings shows that there was an increasing significant difference between pre and 1st post-test

of WOMAC index, pre and 2nd post test of WOMAC index as well as pre and 3rd post-test of WOMAC index. Hence it can be concluded that highly significant difference between the pre and post severity level of osteoarthritis and the hypothesis is accepted. However the practice of self-help technique reduced the severity of osteoarthritis gradually and significantly.

Table 4.15: Difference in severity of osteoarthritis in pre and post assessment by using one way repeated measures ANOVA

Source	d.f.	SS – Sum of Squares	MSS – Mean Sum Square	F - Ratio
Between Process	3	217874.538	72624.846	3109.073*
Within Process (Error Sum of Square)	1084	25321.321	23.359	
Total	1087	243195.859		

* Significant at $p < 0.0001$

The above ANOVA table depicts that there was a significant improvement in the observation of reduction in severity of osteoarthritis after implementation of video teaching programme on self-help techniques of osteoarthritis by the researcher and by the persistent practice of the clients.

4.16 Summary

This chapter dealt with the analyses of data collected from 272 Osteoarthritis clients. Both descriptive and inferential statistics were used to analyses the data. Data were presented through tables and diagrams and described the findings.

CHAPTER – V

DISCUSSION AND LIMITATIONS

By using quantitative research approach, studied the effectiveness of video teaching intervention on self-help techniques of Osteoarthritis on elderly from 9 old age homes between April 2012 and December 2013. By using survey design identified the Osteoarthritis clients from old age population by using Osteoarthritis identification tool and time series design was adopted to identify the self-care knowledge, self-care practice and severity of Osteoarthritis among elderly with Osteoarthritis. And then implemented the video teaching programme on self-help technique of Osteoarthritis and emphasized them to practice in day today life regularly. Post-test was conducted after 15 days. As well as severity level of Osteoarthritis was measured again 2 times with 15 days intervals. The collected information were arranged, tabulated and analysed by using descriptive and inferential statistics and presented in the form of tables, diagrams and descriptions.

5.1 DISCUSSION:

This chapter attempts to discuss the findings of the study as per the objectives.

Distribution of elderly with osteoarthritis:

Distribution of elderly as per the prevalence of osteoarthritis shows that, out of 596 elderly, 283 (47.48%) had the symptoms of osteoarthritis. Among 283 elderly, 9 (3.12%) of them had the extreme severe symptoms of osteoarthritis and 274 (96.92%) clients had the complaints of mild to severe symptoms of osteoarthritis. Out of these 274 clients 272 (99.27%) were participated in the study. The prevalence rate of osteoarthritis was 47.48 percentage among elderly in selected 9 old age homes from Coimbatore. Whereas **M K Sharma et al**⁴ who observed from their study that the prevalence of osteoarthritis was 39 percentage in Chandigarh.

Distribution of Osteoarthritis Clients According to Demographic Variables

Distribution of osteoarthritis clients according to their age shows that the highest percentage (31%) of clients aged between 66 -70 years and the lowest percentage (1%) of the clients were in the age group of above 80 years of age.

Sharma M K et al⁴ who also observed from their study that the highest percentage (66.6%) of clients under the age group of 65-74 years.

Distribution of osteoarthritis clients according to their sex shows that the highest percentage (54%) of clients were female than the male (46%). This finding is consistent with a study done by **Sharma MK et al⁴** and **Akihiro Sudo et al⁵** that osteoarthritis was more in females as compared to males. Similar finding from **Murphy et al** (2008) that half of community dwelling womens (57%) and men (43%) older than age 65 have the osteoarthritis.

Distribution of osteoarthritis clients according to their previous occupation shows that highest percentage (39%) of clients were had semi manual work, 26 percentage of clients were manual workers and only 11 percentage of clients had executive job. This finding was consistent with the study done by **Kathryn Burks⁸⁰** that prolonged activity or staying in one position for prolong period were the factors made the Osteoarthritis clients symptoms worse. **Ilias Vrezas et al⁷³** also observed from their study that prevalence of heavy occupational manual or materials handling was more among clients with osteoarthritis, so suggested to take suitable work measures to reduce the heavy loads lifting and carrying.

Distribution of osteoarthritis clients according to their BMI classification shows that highest percentage (45%) of clients under the BMI classification of obese and none of them were under the classification of underweight. **Sharma M.K et al⁴** also observed from their study that prevalence of osteoarthritis was 100 percentage among elderly who was under BMI classification of obese.

Distribution of osteoarthritis clients according to their history of other chronic illness shows that 56 percentages of clients were not had any chronic illness. 44 percentages of clients were had history of illness like Coronary Artery Disease (11%), Diabetes Mellitus (17%), Diabetes Mellitus with Coronary Artery Disease (6%), Systemic Hypertension (5%) and Diabetes Mellitus with Systemic Hypertension (5%). **Paul B J et al**⁹⁴ also observed from their study that 4.1 percentage of Diabetes Mellitus and 5.4 percentage of Hypertensive patients affected with osteoarthritis.

Distribution of osteoarthritis clients according to their history of duration of joint pain shows that 78 percentages of clients had history of joint pain more than 5 years. Rest of them had the complaints of joint pain within 5 years. **Thiem U et al**²¹ also stated that there is a typical relationship between age and pain among osteoarthritis clients as increased age the prevalence rate of osteoarthritis also increasing.

Distribution of osteoarthritis clients according to usage of assistive devices for ambulation shows that only 13 percentages of clients were adopted the assistive devices for mobilization and 87 percentages of clients were not adopted any recommended assistive devices. Whereas **Kjeken I et al**⁷⁴ who observed from their study that assistive technology usage rate was 92% of Osteoarthritis participants and their comfort with assistive technology usage also high and significantly improved their activity performance.

Assessment of self-care knowledge of the clients with osteoarthritis

Area-wise distribution of osteoarthritis clients according to their level of knowledge regarding self-care

Area-wise distribution of osteoarthritis clients according to their level of knowledge regarding self-care shows that, overall highest percentage (37%) of clients had poor knowledge in pre-test and 62 percentages of clients had excellent knowledge in post-test. **Smith et al**⁸⁴ also recommended that education to osteoarthritis patients about the management of osteoarthritis, pain reduction, functional improvement, disability reduction and progression of the disease reduction are designed to improve their health status.

Area-wise pre and post-test knowledge of clients with osteoarthritis

Area-wise mean, SD and mean percentage of pre and post-test knowledge scores of Osteoarthritis clients shows that in pre-test, out of 34 maximum obtainable scores the mean score was 15.785 ± 4.594 which is around 52.502 percentage of the total score revealing, average knowledge of clients on self-help techniques of osteoarthritis. Whereas in post-test after implementation of video teaching programme on self-help techniques of osteoarthritis, the overall mean score was 28.281 ± 3.822 which is around 87.129 percentage of the total score. In same way **Rikke H Moe et al**⁸⁵ also recommended the need to developing a educational programme to clients with osteoarthritis for improving their self-care management.

Further area-wise pre-test knowledge of clients shows that highest percentage (82.35%) of mean score obtained for activities of daily living. **Felson D T et al**⁹⁶ also stated that 80 percentage of people with osteoarthritis have some degree of limitation in movement and 25 percentage of them cannot able to perform their principle activities of daily life.

72.067 percentage of mean score for the area of weight control shows clients had good knowledge in these aspects. **Martin K R et al**⁷⁷ reported from their study that in both gender clients with knee osteoarthritis and body mass have positively associate with knee osteoarthritis.

The lowest mean was 1.467 ± 0.541 which is 29.34 percentage and 2.629 ± 0.672 which is 32.86 percentage of the total score for the aspects of rest and relief from the stress on joint and non drug pain relief measures respectively, shows poor knowledge in these aspects. In all other areas the percentage of mean score was above 40, revealing average knowledge of osteoarthritis clients on self-help technique. To improve the self-help technique knowledge **Kathryn Burks**⁸⁰ recommended from his study that the osteoarthritis client who has a severity level from mild to moderate may refer them to programmed exercise activities, insisting them to use any assistive devices and educating the self-help measures like heat and cold application, relaxation techniques to clients with osteoarthritis pain.

The area-wise overall knowledge scores in post-test shows that out of 34 maximum obtainable scores the mean score was 28.281 ± 3.822 , which is around 87.129 percentage of the total score revealing excellent knowledge of clients on self-help techniques of osteoarthritis. This finding is supported by **Smith et al**⁸⁴ that, the aim to educate osteoarthritis patients about the management of osteoarthritis were reduction of pain, improving function, decreasing disability and reduces the progression of the disease.

Area-wise post-test knowledge of clients shows that highest mean score 2.949 ± 0.126 which is 98.3 percentage of total score for the aspect of weight control reveals excellent knowledge. In same way **Cicuttinin et al**⁹⁷; **Sharma M K et al**⁴; **Felson et al**⁹⁸ and **Sturner et al**⁹⁹ also stated that overweight patients, with knee

osteoarthritis could be benefitted from weight reduction as well as it has been associated with pain reduction and improvement of joint mobility.

The lowest mean score 5.813 ± 1.043 , which is 72.663 percentage of total score reveals good knowledge in the aspect of non drug pain relief measures. In same way **Craig R Denegar et al**⁶⁵ also concluded from his study that 48 percentage of subjects preferred heat therapy to manage their osteoarthritis pain and 24 percentage of subjects preferred cold therapy and also stated heat and cold application can be consider in the management of Osteoarthritis pain.

In all other areas, the percentage of mean score was above 80 revealing excellent knowledge of self-help techniques of osteoarthritis. In same way **Kathryn Burks**⁸⁰ also stated that good level of pain management and ability of mobilization to maintain effective life style are need to be discussed while giving care to osteoarthritis clients.

Assessment of self-care practice of the clients with osteoarthritis

Area-wise distribution of Osteoarthritis clients based on their level of self-care practice

Area-wise classification of osteoarthritis clients according to their level of practice regarding self-care of osteoarthritis shows that, overall highest percentage (62%) of clients had partially adoptive practice in pre-test, where as 97 percentage of clients had fully adoptive practice in post-test it reveals the effectiveness of video teaching programme on self-help techniques of osteoarthritis. This finding is supported by the study findings of **Albert et al**⁸³ that 20 percentage of osteoarthritis subjects adopted the self-care management and demonstrated the benefits over their osteoarthritis severity as well as verbally there was reduction in their pain level.

Area-wise mean, SD and mean percentage of pre and post-test practice scores of clients with osteoarthritis

The lowest mean score 1.702 ± 0.455 which is around 17.02 percentage of the total score for practice of exercise reveals non adoptive practice. **Vincent K R⁴¹** also stated that occurring, advancing and severity of osteoarthritis is directly associated with reduction in muscle strength and alteration in joint physiology.

In other areas like activities of daily living, non drug pain relief measures, rest and relief from stress on joint and socialization the mean percentage score was between 33 and 54 percentage, shows the partial adoptive practice of self-help technique in pre-test assessment. **Recunijk K G¹⁰⁰** also stated that pain together with joint stiffness, instability; joint swelling and muscle weakness leads to physical and psychological disability and impairment of quality of life as well as individuals with hip or knee osteoarthritis have difficulty with Activities of Daily Living such as walking, stair climbing and home keeping.

The overall practice score in post-test shows the out of 64 maximum obtainable scores, the mean score was 54.519 ± 5.031 which is around 85.019% of the total score, revealing fully adoptive practice of client on self-help techniques of osteoarthritis. In same way **Fernandas L et al⁶⁹** also recommended similarly that complete management of osteoarthritis includes, clients concerning, examination, general health approach, patient examination, physical activity, life style modification, controlling weight and adaptation of assistive technology as well as occupational modifications.

Area-wise post-test practice of osteoarthritis clients shows the highest percentage of mean score (around 92%) was for the aspects of activities of daily living and socialization respectively, it reveals fully adoptive practice. In same way **Golam Nobil M D et al¹¹** also observed from their study that the osteoarthritis

patients, who received NSAID, exercise and Activities of Daily Living instructions were improved their health status more significantly than those who were not advised. **Brenda W J H Penninx**²² also observed from his study that, the incidence of ADL disability among older adults with osteoarthritis can be reduced by providing aerobic and resistance exercise. Findings of the study also consistent with the study findings of effect of multimorbidity of osteoarthritis clients can be managed by active management of depression, socialization and disability in movement (**Wilkie R et al**).²⁹

Around 82 percentage of mean score was obtained for the aspects of dietary practice and rest and relief from stress on joint respectively by the osteoarthritis clients shows fully adoptive practice in post-test. **Kjeken I et al**⁹¹ also found out from their study that using a wide variety of self-management strategies to support performance of daily activities in which use of assistive devices and activity adaptation were the most frequently reported strategies.

The mean score was 15.496 ± 1.313 which is around 86.089 percentage of the total score reveals fully adoptive practice of osteoarthritis clients on non drug pain relief measures. **Porcheret M et al**⁸¹ also said that adopted intervention of heat and ice application in their study was 84 percentage as primary treatment for knee pain to older adults.

The low mean percentage (74.78%) was obtained for the aspect of exercise shows need more motivation on this aspect for osteoarthritis clients. **Minor M et al**¹⁰¹ also recommended during conference presentation that promotion of moderate aerobic exercise with 50-70 percentage of maximum heart rate for at least 30 minutes three times a week to achieve health benefits in the hip and knee joints. In same way **Brosseau L et al**⁶² also said that walking is a type of exercise that produces benefits in the aerobic component. **Xuewen Wang et al**⁵⁵ also concluded from their study that

low calorie diet. With the inclusion exercise practicing, shown the advantages benefit on their strongest in muscle and quality life style.

Distribution of osteoarthritis clients according to their severity of osteoarthritis

Distribution of osteoarthritis clients according to their severity level of osteoarthritis shows that in pre-test, 97 percentage of clients were had severe level of osteoarthritis and only 3 percentage had moderate level. Where as in 1st post assessment 64 percentage of clients had moderate level of osteoarthritis and 36 percentage of clients had severe level of osteoarthritis. In 2nd post assessment 77 percentage of clients had moderate level of severity, 5 percentage of clients came to mild level of severity and 18 percentage of clients still had severe level of osteoarthritis. In 3rd post assessment 74 percentage of clients (202 nos.) came to mild level of severity through fully adaptation of self-help technique and only 5 percentage were still in severe level of osteoarthritis. The same method of assessment also observed from the study done by **Sadosky A B et al**¹⁸ that identifying osteoarthritis along with their severity could be advantage to client and care providers while planning the care towards reduction of pain and achieving functional ability. This findings consistent with the review suggested by the **Broosseau et al**⁵⁸ that physical performance and diet modification are better options for pain relief and improvement in functional status of osteoarthritis obese clients.

Association between the pre-test knowledge and practice and demographic variables of the clients with osteoarthritis

Association between pre-test self-care knowledge and demographic variables of the clients with osteoarthritis:

There was a highly significant association between osteoarthritis clients' knowledge and demographic variables of age, sex, educational status, type of previous occupation, body mass index, history of chronic illness and usage of any assistive devices. **Akihiro Sudo et al**⁵ also concluded from their study increased body weight, female gender and advanced age were highly related with risk for osteoarthritis.

Association between pre-test self-care practice and demographic variables of the clients with osteoarthritis:

There was a significant association between the osteoarthritis clients and demographic variables of age, sex, educational status, type of previous occupation, body mass index, history of chronic illness, duration of joint pain and usage of any assistive devices of demographic variables. Similarly **Sharma M K**⁴ also discussed from the Gupta S.J's statement that the osteoarthritis is the common joint disease among older people aged 65 years and above. **Jenson L K**⁷¹ also associated hip osteoarthritis with physical work and found strong evidenced relation between heavy lifting (10-20kg and duration at least 10-20years) and hip Osteoarthritis. The study findings also supported by a report of **Akihiro Sudo et al**⁵ that a 1kg/m² increase in BMI will raise the risk of knee osteoarthritis by 22 percentage and 1 year increase in age will raise the risk of knee osteoarthritis by 9 percentage.

Comparison between the pre and post-test knowledge and practice scores of the clients with osteoarthritis

Difference between pre and post-test self-care practice of clients with osteoarthritis:

To analyze the difference between pre and post-test practice, paired 't' test was used on different aspects of self-care of osteoarthritis such as activities of daily living, exercise, diet, non drug pain relief measures, rest and relief from the stress on joint and socialization shows highly significant difference. Hence it can be concluded that there was a highly significant difference between the pre and post-test self-care practice of osteoarthritis clients and video teaching programme on self-help technique of osteoarthritis is highly effective. The findings of the study consistent with the study undertaken by **Elizabeth et al**³⁸ results shows that there was a significant increase of self-efficacy by adopting lower extremity exercise and walking. **Jonathan Daniel Stevenson and Richard Roach**²⁶ also similarly recommended the practice of exercise and non pharmacological methods to manage this disabling disease.

Correlation between the self-care knowledge and practice of clients with osteoarthritis

Karl Pearson's co-relation co-efficient analysis between knowledge and practice score of the post-test shows significant positive relationship between knowledge and practice ($r= 0.882$), which reveals the highly positive relation in self-care knowledge and practice. The finding is consistent with a study done by **Topp et.al (2000)** shows that there was a direct relation between the quadriceps strength and reduction and severity of osteoarthritis among osteoarthritis in knee clients. As well as advised the clients to adopt the some exercises or simple walk to add the joint strength and flexibility.

Comparison between pre and post assessment on severity of osteoarthritis

Significant difference in severity of osteoarthritis in pre and post assessment

Paired 't' test was calculated to analyse the severity of osteoarthritis, shows that there was an increasing significant difference between pre and 1st post-test of WOMAC index, pre and 2nd post-test of WOMAC index as well as pre and 3rd post-test of WOMAC index. Hence it can be concluded that there was a highly significant difference between the pre and post severity level of osteoarthritis and the hypothesis is accepted. However the practice of self-help technique reduced the severity of osteoarthritis gradually and significantly. In same way **Maggo Aastha et al**³⁷ also observed from their study that greater improvement in WOMAC scores and VAS as compared with experimental and control groups after the regular osteoarthritis intervention.

Difference in severity of osteoarthritis in pre and post assessment by using one way repeated measures ANOVA

There was a significant improvement in the observation of reduction in severity of osteoarthritis after implementation of video teaching programme on self-help techniques of osteoarthritis by the researcher and by the persistent practice of the clients. In same way **Kjeken I et al**⁹¹ also stated that self-management strategies need to be included in written information material and patient education programmes which should be developed in co-operation with patient representative and made available for osteoarthritis patients soon after they are diagnosed.

5.2 LIMITATIONS

- Samples recruited exclusively from the 9 old age homes each one need to be concentrated continuously for first 2 weeks to initiate the intervention effectively.
- Because of the difference in mood and physical health some elderly were not able to perform better their self-care practices consistently.
- Initially elderly were skeptical in signing the consent form because of unknown fear. This problem was rectified with the help of in charge persons in old age home who really highlighted the advantages of intervention of the study.
- Though it was ensured that the osteoarthritis clients recruited for the study was encouraged to practice osteoarthritis exercises as group, there was a little lack of cooperation among elderly in 3 old age homes.

5.3 Summary

This chapter dealt with the findings of the study discussed with related supportive findings and limitations of the study.

CHAPTER – VI

SUMMARY, CONCLUSION, IMPLICATIONS AND RECOMMENDATIONS

6.1 SUMMARY

By using quantitative research approach, studied the effectiveness of video teaching intervention on self-help techniques of Osteoarthritis among elderly from 9 old age homes between April 2012 and December 2013. By using survey design identified the 272 osteoarthritis clients from old age population by using osteoarthritis identification tool and time series design was adopted to identify the self-care knowledge, self-care practice and severity of osteoarthritis among elderly with osteoarthritis. And then implemented the video teaching programme on self-help technique of osteoarthritis and emphasized them to practice in day today life regularly. Post-test was conducted after 15 days. As well as severity level of osteoarthritis was measured again 2 times with 15 days intervals. The collected information were arranged, tabulated and analyzed by using descriptive and inferential statistics.

The findings were summarized as follows,

Findings related to demographic variables.

- Highest percentage (31%) of clients aged between 66 -70 years and majorities (54%) of them were female.
- Highest percentage (27%) of clients had secondary education and majority (39%) of them was semi manual workers.
- 67 percentage of clients were non vegetarians and highest percentage (45%) of clients under the BMI classification of obese.
- 56 percentages of clients were not had any chronic illness. 78 percentages of clients had history of joint pain more than 5 years and only 13 percentages of clients were adopted the assistive devices for mobilization.

Assessment of self-care knowledge of the clients with osteoarthritis:

- Area-wise distribution of osteoarthritis clients according to their level of knowledge regarding self-care shows that, overall highest percentage (37%) of clients had poor knowledge in pre-test and 62 percentage of clients had excellent knowledge in post-test.
- Area-wise mean, SD and mean percentage of pre and post-test knowledge scores of osteoarthritis clients shows that in pre-test, out of 34 maximum obtainable scores the mean score was 15.785 ± 4.594 which is around 52.502 percentage of the total score revealing, average knowledge of clients on self-help techniques of osteoarthritis. Where as in post-test the mean score was 28.281 ± 3.822 , which is around 87.129 percentage of the total score revealing excellent knowledge of clients on self-help techniques of osteoarthritis.

Assessment of self-care practice of the clients with osteoarthritis:

- Area-wise distribution of osteoarthritis clients based on their level of self-care practice shows that, overall highest percentage (62%) of clients had partially adoptive practice in pre-test. Where as in post-test, 97 percentage of clients had fully adoptive practice it reveals the effectiveness of video teaching programme on self-help techniques of osteoarthritis.
- Area-wise mean, SD and mean percentage of pre and post-test practice of osteoarthritis clients shows that in pre-test, out of 64 maximum obtainable scores the mean score was 27.08 ± 4.607 which is around 44.368 percentage of the total score, revealing clients had partially adoptive practice on self-help techniques of osteoarthritis. Whereas the means score was in post-test, 54.519 ± 5.031 which is around 85.019 percentage of the total score, revealing fully adoptive practice of client on self-help techniques of osteoarthritis.

Distribution of osteoarthritis clients according to their severity of osteoarthritis:

- Distribution of osteoarthritis clients according to their severity level of osteoarthritis shows that, in pre-test, 97 percentage of clients were had severe level of osteoarthritis and only 3 percentage had moderate level. Where as in post-test 74 percentage of clients (202 nos.) came to mild level of severity through fully adaptation of self-help techniques and only 5 percentage were still in severe level of osteoarthritis.

Association between the pre-test knowledge and practice with demographic variables of the clients with osteoarthritis:

- There was a significant association between the clients knowledge and demographic variables like age, sex, educational status, type of previous occupation, body mass index, history of chronic illness and usage of any assistive devices.
- There was a significant association between the clients practice when compared to the demographic variables of age, sex, educational status, type of previous occupation, body mass index, history of chronic illness, duration of joint pain and usage of any assistive devices.

Comparison between the pre and post-test knowledge and practice of the clients with osteoarthritis:

- To evaluate the difference in pre and post-test knowledge and practice scores paired 't' test was calculated on different aspects of self-help techniques of osteoarthritis shows the highly significant difference. Hence it can be concluded that video teaching programme on self- help techniques of osteoarthritis is highly effective as well as it influenced their knowledge and practice.

Correlation between the self-care knowledge and practice of clients with osteoarthritis:

- Karl Pearson's co-relation co-efficient analysis done between knowledge and practice score of the post-test shows the significant highly positive relationship between knowledge and practice ($r= 0.882$).

Comparison between pre and post assessment on severity of osteoarthritis:

- Paired 't' test was calculated to analyse the severity of osteoarthritis, shows that there was an increasing significant difference between pre and 1st post-test of WOMAC index, pre and 2nd post-test of WOMAC index as well as pre and 3rd post-test of WOMAC index. Hence it can be concluded that there is a highly significant difference between the pre and post severity level of osteoarthritis and the hypothesis is accepted. However the practice of self-help technique reduced the severity of osteoarthritis gradually and significantly.
- Identified the difference in severity of osteoarthritis in pre and post assessment by using one way repeated measure ANOVA shows that, there is a significant improvement in the observation on severity of osteoarthritis after implementation of video teaching programme on self-help techniques of osteoarthritis by the researcher and by the persistent practice of the clients.

6.2 CONCLUSION:

Osteoarthritis is a common disorder in all population and overall prevalence is same in men and women. Osteoarthritis cannot be cured but it can be controlled. The primary responsibility of nurse is to create awareness and explain about self-care management of disease, which will develop positive attitude and learn to practice according to the standard level. By using quantitative research approach, studied the effectiveness of self-help techniques of Osteoarthritis among elderly from 9 old age homes between April 2012 and December 2013. In this study majority of the clients

had inadequate level of knowledge about the self-care management of osteoarthritis. After implementation of video teaching programme on self-help technique of osteoarthritis, majority of the clients had excellent knowledge and fully adoptive practice of self-care management as well as reduced the severity of osteoarthritis gradually and significantly.

6.3 STRENGTH OF THE STUDY

- The study included a large sample size.
- The results of the study are generalizable to most of the old age people because diverse populations were included and the most commonly performing routine procedures were studied.
- Prepared a video on self-help techniques with demonstration and adequate explanations it can be easily adaptable to people with more than 30 years of age.

6.4 IMPLICATIONS

This study has implications for,

Nursing practice

- The findings of the study may help the nursing ppersonnels working in hospital and community knowing about the self-help techniques of Osteoarthritis and helps in planning and implementation of health teaching.
- Nurses need to update their knowledge on various treatment options available for osteoarthritis to care the osteoarthritis clients effectively.
- Nurses need to focus on the prevention of obesity through weight control especially those with knee osteoarthritis could be benefitted from weight reduction.

- All patients should be given general instruction about the disease and encourage them to do some lifestyle alterations that might lessen symptoms and remain physically fit.
- Patient education about osteoarthritis social support and health related counseling are all beneficial aspects for helping osteoarthritis population.
- Adaptation of Arthritis Foundation published information to educate the patient on self-help techniques.

Nursing education

- Continuing nursing education should be organized periodically on recent inventions in self-help techniques of osteoarthritis.
- Medical – Surgical Nursing curriculum should include self-care managements for chronic conditions as a unit, and competencies of students in assessment of severity and patient education on self-care should be strengthened.
- Special training can be given to nurses who are all working in orthopedic nursing unit and in orthopedic rehabilitation centre.

Nursing Administration

- Nurse administrators should ensure regular education to osteoarthritis clients as a routine in orthopedic nursing unit and in rehabilitation centre.
- Nurse administrators concentrate on the proper selection, placement and effective utilization of the nurses in all areas, giving opportunities for creativity, creating interest and enhancing ability in educating osteoarthritis patients.

Nursing Research

- This study helps the nurse researchers to develop insight into the development of intervention module for osteoarthritis clients towards promotion of quality of life and prevention of osteoarthritis related problems.

- This study finding helps the nurse researchers to conduct a research study on effectiveness of each aspect of self-help techniques of osteoarthritis as need based.

6.5 RECOMMENDATIONS

- The study on prevention and early symptoms management of osteoarthritis also warrants additional research.
- Interventional study can be done based on disease progression and patients need, could help the patient as well as healthcare providers to develop an individualized treatment plan.
- A comparative study on pharmacological and non pharmacological pain management of osteoarthritis can be studied.
- A study can be undertaken in hospital settings.
- Longitudinal study can be undertaken for identifying the associate factors of osteoarthritis.
- A similar study can be done to adult at or above 30 years of age as preventive aspects.
- A comparative study can be conducted between clients with osteoarthritis and rheumatoid arthritis about the effectiveness of self-help technique.
- A comparative study can be undertaken to compare the findings of rural and urban clients with osteoarthritis.
- A study can be concentrated to obese clients to prevent the signs and symptoms of osteoarthritis.
- A similar study can be undertaken longitudinally with the same intervention to assess the complete outcome of osteoarthritis symptoms.

6.6 SUMMARY

This chapter has dealt with the summary of the study, conclusions, implications in nursing field and recommendations for future studies.

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ANNEXURE – I

PERMISSION LETTER - A

From;

M.D. Anuratha, M.Sc (N),
Associate Professor,
PSG College of Nursing,
Avinashi Road,
Coimbatore – 641 004.

To;

Sr. Bensita,
Mother Teresa Old Age Home,
Missionaries of Charity,
Pooliyakulum,
Coimbatore.

Respected Sir,

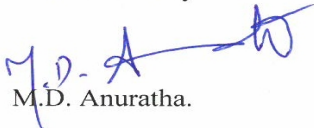
Sub: Permission Request - Conducting Research Study in

Mother Teresa Old Age Home - Reg

I am M.D. Anuratha, M.Sc (N), Associate Professor, working in PSG College of Nursing, Coimbatore. I want to do my Ph.D Project on “Effectiveness of Video Teaching Programme on Self Help Techniques of Osteoarthritis among Elderly”. In this regard I want to collect and teach the information on Self Care of Osteoarthritis among Elderly People. So, I humbly request to provide permission to conduct the study in your setting.

Thanking you,

Yours faithfully


M.D. Anuratha.

*gives permission to do
the study.
S. Bensita m.c.*

MISSIONARIES OF CHARITY.
Ramanathapuram Post,
Puliakulam,
COIMBATORE-641 048

ANNEXURE – I
PERMISSION LETTER - B



Vanaprastha

Seniors Citizen's Complex,
Kasthuri Naiken Palayam, Vadavalli PO, Coimbatore - 641041
© 2401177, 2401270 E-mail : av_ramaswamy@hotmail.com

To,

April 26,2011

Mrs. M.D. Anuratha, M.Sc. (N),

Associate Professor,

PSG College of Nursing,

Avinashi Road,

Coimbatore – 641 004

Sub: Your request for permission to conduct a Research Study at our complex.

Ref: Your Letter dated Nil and your today's telephonic discussion with the undersigned.

Dear Mrs. Anuratha,

Your aforesaid request has been examined in consultation with the Chairman Vanaprastha and we would like to confirm that your Ph.D Project on the topic "Effectiveness of Video Teaching Programme on Self-Help techniques of Osteoarthritis among Elderly" can be done at Vanaprastha, DhyanaPrastha and the Pyramid complex.

We would request you to kindly inform us in advance about the schedule of your study program indicating the dates so as to enable us to make the necessary arrangements here.

Thanking You,

Yours Sincerely,

(V.Padmanabhan)

ANNEXURE – I
PERMISSION LETTER - C

From;

M.D. Anuratha, M.Sc (N),
Associate Professor,
PSG College of Nursing,
Avinashi Road,
Coimbatore – 641 004.

To;

Sister Incharge
St. Thomas Old Age Home,
Inside Alvernia School,
Ramanathapuram,
Coimbatore.

Respected Sir,

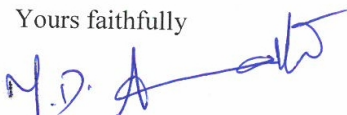
Sub: Permission Request - Conducting Research Study in

St. Thomas Old Age Home - Reg

I am M.D. Anuratha, M.Sc (N), Associate Professor, working in PSG College of Nursing, Coimbatore. I want to do my Ph.D Project on “Effectiveness of Video Teaching Programme on Self Help Techniques of Osteoarthritis among Elderly”. In this regard I want to collect and teach the information on Self Care of Osteoarthritis among Elderly People. So, I humbly request to provide permission to conduct the study in your setting between September 2012 and March 2013.

Thanking you,

Yours faithfully



M.D. Anuratha.

*Given Permission for conducting
Study*

Sr. Ely Thomas

MATRON

**St. Thomas Home For
The Aged,
Coimbatore - 641 045.**

ANNEXURE – I

PERMISSION LETTER - D



RAM ARAVINDAR HOME FOR THE AGED

43/85, Maharani Avenue, Fifth Phase, Vadavalli, Coimbatore - 641 041
Ph: 0422- 2426420 Mobile: 98941 22753, E-Mail: m.madasamy@rediffmail.com



Date: 26.09.2012

To,

Mrs. M. D. Anuratha,
Associate Professor,
PSG College of Nursing
Peelamedu,
Coimbatore- 641 004.

Dear Mrs. Anuratha,

I would like to confirm that your Ph.D. (Nursing) project on the topic "Effectiveness of Video Teaching Programme on Self Help Techniques of Osteoarthritis among Elderly" can be done at our Ram Aravindar Home for the aged between October 2012 and February 2013.

I would request you to call us in advance to make the necessary arrangements here.

Thank you

Your's Sincerely

M. Uthay

Ram Aravindar Charitable Trust

CHAIRMAN & PRESIDENT

ANNEXURE – I
PERMISSION LETTER - E

From;

M.D. Anuratha, M.Sc (N),
Associate Professor,
PSG College of Nursing,
Avinashi Road,
Coimbatore – 641 004.

To;

Mr. R. Padmanabhan and Mrs. P. Kalyani
Founder Trustee,
Neyam Oldage Home,
3, K. K. R. Nagar,
Vadavalli Post, Coimbatore 641041

Respected Madam,

**Sub: Permission Request - Conducting Research Study in
Neyam Oldage Home - Reg**

I am M.D. Anuratha, M.Sc (N), Associate Professor, working in PSG College of Nursing, Coimbatore. I want to do my Ph.D Project on “Effectiveness of Video Teaching Programme on Self Help Techniques of Osteoarthritis among Elderly”. In this regard I want to collect and teach the information on Self Care of Osteoarthritis among Elderly People. So, I humbly request to provide permission to conduct the study in your setting between October 2012 and July 2013.

Thanking you,

Yours faithfully

M.D. Anuratha.

Permitted to conduct
For ABHAYA TRUST

Trustee

For ABHAYA TRUST

Trustee

Treasurer

ANNEXURE – I

PERMISSION LETTER - F

VILLA CARMEL GRACE

(A Unit of Carmelite Sisters of St.Teresa - Kerala Province)

34, Shaj Liberty Garden, T.V.S. Nagar, Thadagam Road, Coimbatore - 641 025.
Phone : 0422 - 2404756

From ,

Sr. Angel Mary,
Villa Carmel Grace,
34, Shaj Liberty Garden,
Luna Nagar, Thadagam Road,
Coimbatore.

To,

M.D. Anuratha, M.Sc (N),
Associate Professor,
PSG College of Nursing,
Avinashi Road,
Coimbatore-641 004.

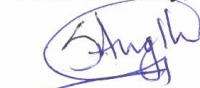
Respected Madam,

Sub: Permission Granted- Conducting Research Study at Villa Carmel Grace.

I have considered your request to do your PhD Project on “Effectiveness of Video Teaching Programme on Self Help Techniques of Osteoarthritis among Elderly” and I found your request genuine .Hence with great pleasure I welcome you to conduct your study Programme in our Home.

Thanking you,

Yours faithfully,



Sr. Angel Mary.CSST

" VILLA CARMEL GRACE Truly an Elder Care Center "

ANNEXURE – I

PERMISSION LETTER - G

SHANKARA SEVA SADANAM

(Project of Sree Dharma Sastha Trust)

Senior Citizen's Complex, Opp. Vanaprastha,
Kasthurinaicken Palayam, Vadavalli PO, Coimbatore - 641 041
Phone : E_mail : sreedharmasasthatrust@yahoo.com

Ref :

Date : 01.06.13

To,

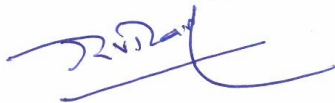
M. D. Anuratha,
Associate Professor,
PSG College of Nursing,
Peelamedu,
Coimbatore – 641004

Dear Madam,

I would like to conform that your Ph. D. Nursing study on the topic “Effectiveness of Video Teaching Programme (VTP) on Self help Technique of Osteoarthritis among Elderly” can be done at our Sankara Seva Sadanam, Home for Senior Citizen, Vadavalli.

Thanking you

Your Sincerely,



ANNEXURE – II

ETHICS PERMISSION LETTER – A



PSG Institute of Medical Sciences & Research Institutional Human Ethics Committee

POST BOX NO. 1674, PEELAMEDU, COIMBATORE 641 004, TAMIL NADU, INDIA
Phone : 91 422 - 2598822, 2570170, Fax : 91 422 - 2594400, Email : psgethics2005@yahoo.co.in

PROPOSAL NUMBER : 11/087

PROJECT TITLE :
A study to assess the effectiveness of video teaching programme on self-help techniques of osteoarthritis among elderly in Old Age Homes, Coimbatore, Tamil Nadu

NAME OF THE INVESTIGATOR/s : Ms M D Anuratha

NAME OF THE GUIDE/S : Dr N Kokilavani

WAIVER OF CONSENT : No

REVIEW TYPE : Exempt

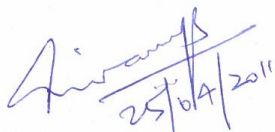
DATE OF THE MEETING : N/A

DECISION : Approved

APPROVAL DATE : 25.04.2011

VALIDITY OF THE APPROVAL : One year

CONTINUING PANEL REVIEW : Not Needed


25/04/2011

Dr Y S Sivan
Member - Secretary
Institutional Human Ethics Committee



ANNEXURE – II

ETHICS PERMISSION LETTER – B



PSG Institute of Medical Sciences & Research Institutional Human Ethics Committee

POST BOX NO. 1674, PEELAMEDU, COIMBATORE 641 004, TAMIL NADU, INDIA
Phone : 91 422 - 2598822, 2570170, Fax : 91 422 - 2594400, Email : psgethics2005@yahoo.co.in

PROPOSAL NUMBER : 11/087

PROJECT TITLE :
A study to assess the effectiveness of video teaching programme on self-help techniques of osteoarthritis among elderly in Old Age Homes, Coimbatore, Tamil Nadu

NAME OF THE INVESTIGATOR/s : Ms M D Anuratha

NAME OF THE GUIDE/S : Dr N Kokilavani

WAIVER OF CONSENT : No

REVIEW TYPE : Exempt

DATE OF THE MEETING : N/A

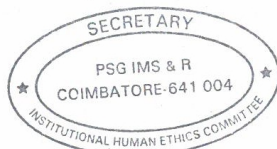
DECISION : Approval renewed

APPROVAL DATE : 25.04.2012

VALIDITY OF THE APPROVAL : One year

CONTINUING PANEL REVIEW : Not Needed

Dr Y S Sivan
Member - Secretary
Institutional Human Ethics Committee



ANNEXURE – II

ETHICS PERMISSION LETTER – C



PSG Institute of Medical Sciences & Research Institutional Human Ethics Committee

POST BOX NO. 1674, PEELAMEDU, COIMBATORE 641 004, TAMIL NADU, INDIA
Phone : 91 422 - 2598822, 2570170, Fax : 91 422 - 2594400, Email : psgethics2005@yahoo.co.in

April 22, 2013

To
Mrs M D Anuratha
Associate Professor
PSG College of Nursing
Coimbatore

The Institutional Human Ethics Committee, PSG IMS & R, Coimbatore -4, has reviewed your proposal on 18th April, 2013 in its expedited review meeting held at College Council Room, PSG IMS&R, between 1.30 pm and 2.30 pm, and discussed your application to renew the study entitled:

"A study to assess the effectiveness of video teaching programme on self-help techniques of osteoarthritis among elderly in old age homes, Coimbatore, Tamil Nadu"

The following documents were received for review:

1. Application for renewal
2. Status report of the study

After due consideration, the Committee has decided to renew the approval for the above study.

The members who attended the meeting held on at which your proposal was discussed, are listed below:


Name	Qualification	Responsibility in IHEC	Gender	Affiliation to the Institution Yes/No	Present at the meeting Yes/No
Dr P Sathyan	DO, DNB	Clinician, Chairperson	Male	No	Yes
Dr S Bhuvaneshwari	M.D	Clinical Pharmacologist Member – Secretary	Female	Yes	Yes
Dr Sudha Ramalingam	M.D	Epidemiologist Alt. Member – Secretary	Female	Yes	Yes
Dr Y S Sivan	Ph D	Member – Social Scientist	Male	Yes	Yes
Dr D Vijaya	Ph D	Member – Basic Scientist	Female	Yes	Yes

The renewal is valid for one year (From 25.04.2013 to 24.04.2014).

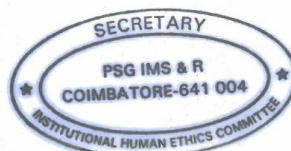
This Ethics Committee is organized and operates according to Good Clinical Practice and Schedule Y requirements.

Non-adherence to the Standard Operating Procedures (SOP) of the Institutional Human Ethics Committee (IHEC) and national and international ethical guidelines shall result in withdrawal of approval (suspension or termination of the study). SOP will be revised from time to time and revisions are applicable prospectively to ongoing studies approved prior to such revisions.

Yours truly,


Dr S Bhuvaneshwari
Member - Secretary

Proposal No. 11/057



Page 1 of 1

ANNEXURE – III

LETTER SEEKING EXPERTS OPINION AND SUGGESTIONS FOR THE CONTENT VALIDITY

From
Mrs. M.D. Anuratha,
Associate Professor,
PSG College of Nursing,
Peelamedu,
Coimbatore - 04.

To

Respected Sir / Madam,

Sub : Expert opinion on Content Validity of the Tool

I Mrs. M.D. Anuratha, M.Sc(N) working as a Associate Professor in PSG College of Nursing, I have enrolled Ph.D. (Nursing) programme in Adhiparasakthi College of Nursing, Melmaruvathur under The Tamil Nadu Dr.MGR Medical University. I am going to conduct a study on “Assess the Effectiveness of Video Teaching Programme on Self-Help Techniques of Osteoarthritis among Elderly in Old Age Homes, Coimbatore, Tamilnadu” as a fulfillment of Ph.D. in Nursing Programme.

The Objectives of the study are:

1. To identify the clients affected with Osteoarthritis among elderly.
2. To assess the self-care among elderly with Osteoarthritis.
3. To implement the Video Teaching Programme on Self-Help Techniques of Osteoarthritis
4. To assess the effectiveness of Video Teaching Programme on Self-Help Techniques of Osteoarthritis.
5. To associate the self-care knowledge and practice with demographic variables of clients with osteoarthritis.
6. To compare the self-care practice in relation to knowledge of the clients with osteoarthritis.

I request your kind opinion on content validity of the tool. I would be obliged if you would kindly go through the tool and give your valuable suggestions for the same.

Thanking you,

Yours Sincerely,

(Mrs. M.D. Anuratha)

ANNEXURE - IV

CRITERIA CHECKLIST FOR VALIDATION OF THE TOOL

Instruction

Kindly review the items in the structured Interview Schedule and Observation Checklist to assess the self care management of Osteoarthritis. Kindly give your suggestions regarding accuracy, relevance and appropriateness of the content. Kindly tick mark (✓) against specific columns. If there are any suggestions or corrections please mention in the remarks column.

Validation of tool to identify the clients with osteoarthritis

Item	Very Relevant	Relevant	Need Modification	Not Relevant	Remarks
1					
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Validation of Modified WOMAC (Western Ontario and McMaster Universities)

Osteoarthritis Index tool

Item	Very Relevant	Relevant	Need Modification	Not Relevant	Remarks
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Validation of demographic variables

Item	Very Relevant	Relevant	Need Modification	Not Relevant	Remarks
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9					

Validation of knowledge questionnaire

Item	Very Relevant	Relevant	Need Modification	Not Relevant	Remarks
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Validation of practice checklist

Item	Very Relevant	Relevant	Need Modification	Not Relevant	Remarks
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**EVALUATION CRITERIA FOR THE VALIDITY OF VIDEO TEACHING
PROGRAMME CONTENT ON SELF CARE MANAGEMENT OF
OSTEOARTHRITIS AMONG ELDERLY**

INSTRUCTIONS

The expert is requested to go through the criteria listed below for the evaluation of the Video Teaching Programme Content on self-care management of Osteoarthritis. In the criteria checklist there are two main response column for **Agree (A)** and **Disagree (D)**. One remarks column for enter the remarks.

S.NO	CRITERIA	Agree	Disagree	REMARKS
1.	<p>Objectives Formulation of Objectives 1.1. General objectives is comprehensive in terms of</p> <ul style="list-style-type: none"> <input type="checkbox"/> Knowledge <input type="checkbox"/> Understanding <input type="checkbox"/> Application 			
2.	<p>Content Selection of the content 2.1. Is the content</p> <ul style="list-style-type: none"> • Appropriate • Adequate • Accurate 			
3.	<p>Organization of the content 3.1. Is the content organized in a logical sequence?</p>			
4.	<p>Presentation 4.1. Does the content have</p> <ul style="list-style-type: none"> <input type="checkbox"/> An introduction <input type="checkbox"/> General objectives 			

	✚ Content outline			
5.	<p>Language</p> <p>5.1. Is the language used, easy to follow?</p> <p>5.2. The terminologies used are defined clearly?</p> <p>5.3. Does the language grammatically sound?</p>			
6.	<p>Practicability and Feasibility</p> <p>6.1. Does the Video Teaching Programme contain the answers to the questions asked in Interview Schedule and Checklist?</p> <p>6.2. Does the content motivate the participants?</p> <p>6.3. Does the content presented in a interesting manner?</p> <p>6.4. Does the content provide adequate information?</p> <p>6.5. Does the content permits self learning?</p>			

**OVERALL EVALUATION OF VIDEO ON SELF-HELP TECHNIQUES OF
OSTEOARTHRITIS**

Video on self-help techniques of osteoarthritis	Agree	Disagree

ANNEXURE - V

CERTIFICATE FOR CONTENT VALIDITY

This is to certify that the tool developed by Mrs. M.D. Anuratha on “Assess the Effectiveness of Video Teaching Programme on Self-Help Techniques of Osteoarthritis among Elderly in Old Age Homes, Coimbatore”, has been validated by me and found appropriate. She can proceed with this tool to conduct the research study.

Name:

Designation:

**Date :
Expert**

Signature of the

Seal

ANNEXURE - VI

LIST OF EXPERTS VALIDATED CONTENT AND CERTIFICATES

- 1. Prof. Dr. S. Madhavi,
Principal,
KMCH College of Nursing,
Avinashi Road,
Coimbatore – 14.**

- 2. Dr. Prasanna Baby,
Principal,
College of Nursing,
Madurai Medical College,
Madurai – 625 020.**

- 3. Dr. Jayarani Premkumar,
Professor,
Medical Surgical Nursing Department,
College of Nursing, CMCH,
Vellore.**

- 4. Dr. Sudha Ramalingam,
Associate Professor,
PSG Center for Molecular Medicine & Therapeutics,
PSG IMS&R,
Peelamedu,
Coimbatore -04**

- 5. Dr. V. Shyam Sundar,
Professor of Orthopaedics,
PSG Hospitals,
Peelamedu,
Coimbatore -04.**

- 6. Dr. D. Manivannan,
Principal,
Chithirai College of Nursing,
Madurai – 9.**

- 7. Dr. G. M. Muhammad,
Associate Professor,
Community Medicine Department,
PSG IMS&R,
Peelamedu,
Coimbatore -04**

ANNEXURE - VI

VALIDITY CERTIFICATE - A

CERTIFICATE FOR CONTENT VALIDITY

This is to certify that the tool developed by Mrs. M.D. Anuratha on “Assess the Effectiveness of Video Teaching Programme on Self Help Techniques of Osteoarthritis among Elderly in Old Age Homes, Coimbatore”, has been validated by me and found appropriate. She can proceed with this tool to conduct the research study.

Name: Prof. Dr. S. Madhavi

Designation: Principal

Date : 30.05.2012



Signature of the Expert

The Principal,
K.M.C.H. College of Nursing,
P.B. No : 3209, Avanashi Road,
Coimbatore - 641 014.

Seal

ANNEXURE - VI
VALIDITY CERTIFICATE - B

CERTIFICATE FOR CONTENT VALIDITY

This is to certify that the tool developed by Mrs. M.D. Anuratha on "Assess the Effectiveness of Video Teaching Programme on Self Help Techniques of Osteoarthritis among Elderly in Old Age Homes, Coimbatore", has been validated by me and found appropriate. She can proceed with this tool to conduct the research study.

Name: Dr. PRASANNABABY

Designation: Principal
College of Nursing
Madurai Medical
College

Date: 30-8-2011. Madurai
625020

Prasanna
30/8/11
Signature of the Expert
DR. PRASANNABABY, M.Sc(N), M.A., Ph.d(N),
PRINCIPAL,
College Of Nursing,
Madurai
Seal

ANNEXURE - VI

VALIDITY CERTIFICATE - C

CERTIFICATE FOR CONTENT VALIDITY

This is to certify that the tool developed by Mrs. M.D. Anuratha on "Assess the Effectiveness of Video Teaching Programme on Self Help Techniques of Osteoarthritis among Elderly in Old Age Homes, Coimbatore", has been validated by me and found appropriate. She can proceed with this tool to conduct the research study.

Name: *Dr. Jayaraj Premkumar*

Designation: *Professor*

Date: *15/2/11*

Jayaraj
Signature of the Expert

Seal

ANNEXURE - VI

VALIDITY CERTIFICATE – D

CERTIFICATE FOR CONTENT VALIDITY

This is to certify that the tool developed by Mrs. M.D. Anuratha on “Assess the Effectiveness of Video Teaching Programme on Self Help Techniques of Osteoarthritis among Elderly in Old Age Homes, Coimbatore”, has been validated by me and found appropriate. She can proceed with this tool to conduct the research study.

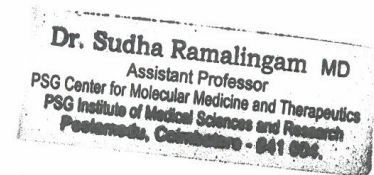
Name: Dr. Sudha Ramalingam

Designation: Assistant Prof.

Date: 23/3/12


Signature of the Expert

Seal



ANNEXURE - VI

VALIDITY CERTIFICATE – E

CERTIFICATE FOR CONTENT VALIDITY

This is to certify that the tool developed by Mrs. M.D. Anuratha on “Assess the Effectiveness of Video Teaching Programme on Self Help Techniques of Osteoarthritis among Elderly in Old Age Homes, Coimbatore”, has been validated by me and found appropriate. She can proceed with this tool to conduct the research study.

Name: V. Shyam Sundar

Designation: Professor

Date: 24/2/12



Signature of the Expert
Dr. V. Shyam Sundar, MS Ortho.,
Professor of Orthopaedics
PSG Hospitals
Peelamedu, Coimbatore-641 004.
Reg. No. 58579.

ANNEXURE - VI

VALIDITY CERTIFICATE – F

CERTIFICATE FOR CONTENT VALIDITY


This is to certify that the tool developed by Mrs. M.D. Anuratha on “Assess the Effectiveness of Video Teaching Programme on Self Help Techniques of Osteoarthritis among Elderly in Old Age Homes, Coimbatore”, has been validated by me and found appropriate. She can proceed with this tool to conduct the research study.

Name: Dr. D. MANIVANNAN

Designation: PRINCIPAL

Date: 27/4/12




Signature of the Expert
PRINCIPAL
CHITHIRAI COLLEGE OF NURSING
MADURAI - 9
Seal

ANNEXURE - VI
VALIDITY CERTIFICATE – G

CERTIFICATE FOR CONTENT VALIDITY

This is to certify that the tool developed by Mrs. M.D. Anuratha on “Assess the Effectiveness of Video Teaching Programme on Self Help Techniques of Osteoarthritis among Elderly in Old Age Homes, Coimbatore”, has been validated by me and found appropriate. She can proceed with this tool to conduct the research study.

Name: Dr. G. M. Muhammad

Designation: Associate professor

Date: 30.05.2012


Signature of the Expert

Seal

ANNEXURE – VII

INFORMED CONSENT FORM - A

I (write name of the investigator(s) here), M.D. ANURATHA, am carrying out a study on the topic: A Study to Assess the Effectiveness of Video Teaching Programme on Self-Help Techniques of Osteoarthritis Among Elderly in Old Age Homes, Coimbatore, Tamil Nadu. as part of my / our research project being carried out under the aegis of the Department of: MEDICAL AND SURGICAL NURSING.

(Applicable to students only): My research guide is: Dr. N. Kokilavani, Principal, Adhiparasakthi College of Nursing

The justification for this study is: To improve the Self-Help Techniques of Osteoarthritis Among Elderly

The objectives of this study are:

8. To identify the clients affected with Osteoarthritis among elderly.
9. To assess the self-care among elderly with Osteoarthritis.
10. To implement the Video Teaching Programme on Self-Help Techniques of Osteoarthritis
11. To assess the effectiveness of Video Teaching Programme on Self-Help Techniques of Osteoarthritis.
12. To associate the self-care knowledge and practice with demographic variables of clients
with osteoarthritis.
13. To compare the self-care practice in relation to knowledge of the clients with osteoarthritis.

Sample size: 272.

Study volunteers / participants are (specify population group & age group): Old age people, more than 50 years of age

Location: Old Age Homes, Coimbatore

We request you to kindly cooperate with us in this study. We propose collect background information and other relevant details related to this study. We will be carrying out:

Initial interview (specify approximate duration):__30__ minutes.

Health education sessions: Number of sessions: _1_. Approximate **duration** of each session: 25 mts.

Final interview (specify approximate duration):__30__ mts. If **photograph** is taken, purpose: to attach in dissertation.

Benefits from this study: Reduce the severity of osteoarthritis among elderly and improving their self-care ability through implementing video teaching programme on self-help techniques of osteoarthritis.

Risks involved by participating in this study: Nil

How the **results** will be used: Helping for health care people and also old age people

If you are uncomfortable in answering any of our questions during the course of the interview / biological sample collection, **you have the right to withdraw from the interview / study at anytime.** You have the freedom to retract from study. Kindly be assured, your refusal to participate or withdrawal at any stage, if you so decide, will not result in any form of compromise or discrimination in the services offered nor would it attract any penalty. You will continue to have access to the regular services offered to a patient. You will **NOT** be paid any remuneration for the time you spend with us for this interview / study. The information provided by you will be kept in strict confidence. Under no circumstances shall we reveal the identity of the

respondent or their families to anyone. The information that we collect shall be used for approved research purposes only. You will be informed about any significant new findings - including adverse events, if any, – whether directly related to you or to other participants of this study, developed during the course of this research which may relate to your willingness to continue participation.

Consent: The above information regarding the study, has been read by me/ read to me, and has been explained to me by the investigator/s. Having understood the same, I hereby give my consent to them to interview me. I am affixing my signature / left thumb impression to indicate my consent and willingness to participate in this study (i.e., willingly abide by the project requirements).

Signature / Left thumb impression of the Study Volunteer / Legal Representative:

Signature of the Interviewer with date:

Witness:

ANNEXURE – VII

ஒப்புதல் படிவம் - B

ம. த. அனூராதா ஆகிய நான் பி. எஸ். ஜி. செவிலியர் கல்லூரியில் துணை பேராசிரியராக பணி புரிகிறேன். மேலும் நான் தமிழ்நாடு டாக்டர் எம். ஜி. ஆர். மருத்துவ பல்கலைக்கழகத்தில் பகுதி நேரமாக பி. எச். டி. பட்டபடிப்பு படிக்கிறேன். நான் படிக்க மேற்கொண்ட ஆய்வு முதியோர்களுக்கிடையே ஆஸ்டியோ ஆர்த்ரைட்டிஸ்கான சுயபராமரிப்பு முறைகளைப் பற்றிய ஒளிபதிவு கல்வியின் பயன்பாட்டை பற்றி அறிதல்.

என்னுடைய ஆராய்ச்சியின் சிறப்பம்சம் என்னவென்றால் இந்த ஒளிபதிவு கல்வியின் முடிவில் முதியவர்கள் ஆஸ்டியோ ஆர்த்ரைட்டிஸின் சுயபராமரிப்பை குறித்து தேவையான அறிவைப் பெறுவார்கள். மேலும் இதைக் குறித்து விழிப்புணர்வு ஏற்படுவதால் தினசரி வாழ்க்கை முறையை மேம்படுத்திக் கொள்ள உதவுகிறது.

ஆகையால் என்னுடைய இந்த ஆராய்ச்சியில் பங்குபெற வேண்டுமென தாழ்மையுடன் கேட்டுக் கொள்கிறேன். தங்களைப்பற்றி சேகரிக்கப்படும் அனைத்து தகவல்களும் ரகசியமாக வைக்கப்படும் என்பதையும், ஆராய்ச்சியின் பணிக்கு மட்டுமே பயன்படுத்தப்படும் என்பதையும் தெரிவித்துக் கொள்கிறேன். ஆராய்ச்சியின் போது தங்களுக்கு எந்தவொரு இடையூறு ஏற்பட்டாலும் ஆராய்ச்சியிலிருந்து விலகிகொள்ளலாம் என்பதையும் தெரிவித்துக் கொள்கிறேன். தங்களுடைய ஒத்துழைப்புக்கு மிக்க நன்றி.

இப்படிக்கு

தங்கள் உண்மையுள்ள

ம. த. அனூராதா

மேலே குறிப்பிட்டுள்ள தகவல்களை படித்தும் / கேட்டும் தெரிந்து
கொண்டேன். ஆராய்ச்சியைப்பற்றிய முழு விபரங்களும்
ஆராய்ச்சியாளர்களால் எனக்கு விவரிக்கப்பட்டது. இந்த ஆய்வில்
பங்குபெற முழு மனதுடன் சம்மதிக்கிறேன். என்னுடைய சம்மதத்தை
கையெழுத்து / இடதுகைரேகை வைத்து உறுதிபடுத்துகிறேன்.

பங்கேற்பாளரின் அடையாளம் எண்:

கையொப்பம் / இடதுகைரேகை:

சாட்சியாளர் கையொப்பம்:

தேதி:

ANNEXURE – VIII (ENGLISH TOOL – A)

TOOL TO IDENTIFY THE CLIENTS WITH OSTEOARTHRITIS

This section helps to identify the clients with Osteoarthritis based on the following subjective and objective data. These data helps to select the samples for the study purpose.

- Name of the Old age Home : _____
- Name of the Client : _____
1. Sex : _____
 2. Age of the client : _____
 3. Previous occupation : _____
 4. (If Female) Attained menopause at the age of : _____
 5. Body weight : _____ Kg.
 6. Affected Joints : _____
 7. Pain : _____ (present (or) absent)
 8. Duration of joint pain : _____
 9. Stiffness increases with activity : _____ (present (or) absent)
 10. Stiffness relieved by rest : _____ (present (or) absent)
 11. Swelling on the Joint : _____ (present (or) absent)
 12. Peripheral bone growth (Heberden's Nodes/Bouchard's Nodes on small joints): _____ (present (or) absent)
 13. Feeling of hotness on Joint : _____ (present (or) absent)
 14. Redness of the skin over the joint : _____ (present (or) absent)
 15. Other symptoms of rash or fever : _____ (present (or) absent)

Index of Osteoarthritis

Modified Osteoarthritis - WOMAC Scale to assess the severity of osteoarthritis

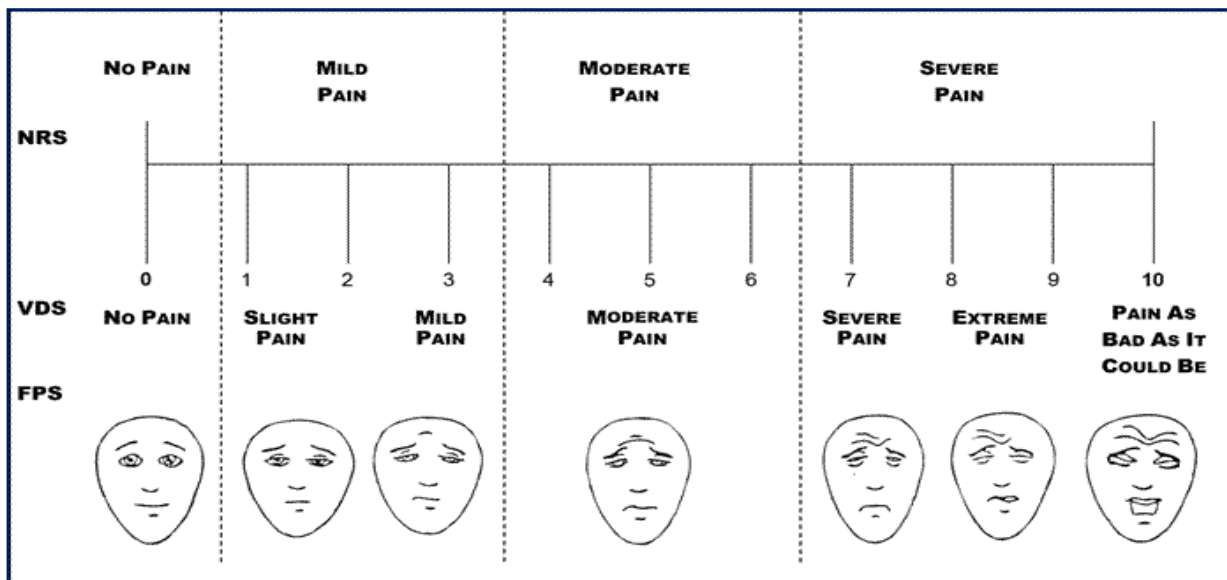
Parameters	Severity of Osteoarthritis				
	None 0	Slight 1	Moderate 2	Severe 3	Extreme 4
Pain: (During) (1) Walking (2) Stair climbing (3) Nocturnal (4) Rest (5) Weight bearing					
Stiffness: (1) Morning stiffness (2) Stiffness occurring later in the day					
Disturbed Physical function: (1) Descending stairs (2) Ascending stairs (3) Rising from sitting (4) Standing (5) Bending to floor (6) Walking on flat (7) Going shopping (8) Wearing Dress (9) Removing dress (10) Lying in bed (11) Rising from bed (12) Sitting on Chair (13) Getting on or off toilet (14) Heavy domestic duties (15) Light domestic duties					

Interpretation:

- Minimum total score: 0
- Maximum total score: 88
- Minimum pain subscore: 0
- Maximum pain subscore: 20
- Minimum stiffness subscore: 0
- Maximum stiffness subscore: 8
- Minimum physical function subscore: 0
- Maximum physical function subscore: 60

Severity of Osteoarthritis	Score
None	0
Slight	1-22
Moderate	23-44
Severe	45-66
Extreme	67-88

**Verbal Descriptor Scale used to Assess Pain during
assessment of severity level of Osteoarthritis**



TOOL TO ASSESS THE SELF-CARE MANAGEMENT OF OSTEOARTHRITIS AMONG ELDERLY

Instruction to the Interviewer:

The interviewer is requested to ask the following items to the respondents. She reads the various options mentioned under the corresponding questions, allow the respondents to answer, repeat the options till they understand. She then places a tick mark (✓) on the answer stated by the respondents.

Instruction to the respondent:

Dear participant, I would like you to answer the items related to your demographic data and knowledge regarding self-care management of Osteoarthritis. Kindly respond to each one. And your self care practice will be observed directly and indirectly. Your answers and responses will be kept confidentially.

Section A - Demographic Data

Instruction to Participant: This section requires some personal information. Each item has few options. Please tell the correct answer which is suitable to you.

Name of the Old Age Home:

Name:

1. Age (in years)

1.1. 50-59

1.2. 60-65

1.3. 66-70

1.4. 71-75

1.5. 76-80

1.6. >80

2. Sex

2.1. Male

2.2. Female

3. Educational Status

3.1. Un educated

3.2. Primary education (1st – 5th standard)

3.3. Secondary education (6th – 12th standard)

3.4. Graduate

3.5. Post graduate

4. Previous Occupation:

4.1. Manual Work

4.2. Semi Manual Work

4.3. Clerical Work

4.4. Executive Work

5. Type of Diet

- 5.1. Vegetarian
- 5.2. Non vegetarian

6. BMI Classification:

- 6.1. Underweight
- 6.2. Normal weight
- 6.3. Overweight
- 6.4. Obesity

7. Any other chronic illness

- 7.1. Yes
- 7.2. No.

If yes, Specify _____

8. Duration of joint pain

- 8.1. Less than 1 year
- 8.2. 1-3 years
- 8.3. 3-5 years
- 8.4. More than 5 years

9. Usage of any assistive devices for ambulation

- 9.1. Yes
- 9.2. No

If Yes Specify _____

SECTION B- KNOWLEDGE ITEMS
ASSESS THE SELF- CARE KNOWLEDGE OF CLIENT WITH
OSTEOARTHRITIS

Instruction to participant

This section includes items in statement form related to knowledge on self-care management of Osteoarthritis. The statement is incomplete and has 4 options out of which you are requested to state the option you think is correct. Each correct item carries **one mark**.

I. Basics about Osteoarthritis

1. The meaning of Osteoarthritis is
 - 1.1. Acute pain in joint
 - 1.2. Progressive disorder of the joint
 - 1.3. Congenital deformity of joint
 - 1.4. Fracture in joint
2. Osteoarthritis most often occurs in
 - 2.1. Knees, hip, hands and spine
 - 2.2. Ankle, neck, chest and shoulder
 - 2.3. Feet, chest, shoulder and head.
 - 2.4. All part of the body.
3. Osteoarthritis is more common in
 - 3.1. Male
 - 3.2. Female
 - 3.3. Both the sexes
 - 3.4. Children
4. Early sign of osteoarthritis is
 - 4.1. Joint ache after physical work
 - 4.2. Stiffness of joints
 - 4.3. Swelling of joints
 - 4.4. Bleeding from the joints

5. Later sign of Osteoarthritis is
 - 5.1. Pain and stiffness of joints
 - 5.2. Swelling of joints
 - 5.3. Bleeding from the joints
 - 5.4. Fracture in joints

6. The following are the treatment approaches of osteoarthritis, EXCEPT
 - 6.1. Exercise
 - 6.2. Weight control
 - 6.3. Rest and relief from stress on joints
 - 6.4. More work to joints.

II. Activities of Daily Living

7. The severity of symptoms of Osteoarthritis affects greatly the client's
 - 7.1. Digestion
 - 7.2. Speaking ability
 - 7.3. Voiding pattern
 - 7.4. Daily activity level

8. The best way to improve the level of daily activity with Osteoarthritis is
 - 8.1. Ritual
 - 8.2. Hygienic practice
 - 8.3. Regular exercise
 - 8.4. Adequate socialization

III. Exercise

9. The main purpose of doing exercise by Osteoarthritis client is
 - 9.1. To become taller
 - 9.2. To become young
 - 9.3. To keep strong and limber
 - 9.4. To improve the visual and hearing ability.

10. The following are the types of exercise recommended for clients with osteoarthritis, EXCEPT
 - 10.1. Breathing exercises
 - 10.2. Muscle strengthening exercises
 - 10.3. Aerobic conditioning exercises
 - 10.4. Range of motion exercises

11. To strengthen the muscle all exercises are recommended, EXCEPT
 - 11.1. Tensing the muscles
 - 11.2. Walking
 - 11.3. Weight bearing
 - 11.4. Bending a painful joints

12. People with Osteoarthritis in weight bearing joint should avoid the activities like
 - 12.1. Jogging and playing Tennis
 - 12.2. Walking and climbing steps
 - 12.3. Long duration of rest and sleep
 - 12.4. Yoga and Meditation

13. The main purpose of the range of motion exercises is
 - 13.1. To improve lung function
 - 13.2. To improve the digestion
 - 13.3. To prevent stiffening of joints
 - 13.4. To improve visual ability

IV. Diet

14. The main purpose of right diet control of Osteoarthritis client is
 - 14.1. To control the weight gain
 - 14.2. To improve the body weight
 - 14.3. To improve the muscle function
 - 14.4. No specific reason

15. The type of diet can be taken by Osteoarthritis client is
 - 15.1. High calorie and fat rich diet
 - 15.2. Low calorie and low fat diet
 - 15.3. Low protein and low carbohydrate diet
 - 15.4. Less vitamins and low carbohydrate diet.
16. The best way to meet the calorie requirement by clients with Osteoarthritis is
 - 16.1. Taking high fiber and complex carbohydrate diet.
 - 16.2. Taking fat rich diet
 - 16.3. Taking protein rich diet
 - 16.4. Taking minerals rich diet

v. Weight Control

17. Increased body weight of a person with Osteoarthritis will have complaints of
 - 17.1. Joint stress/pain
 - 17.2. Long duration of sleep
 - 17.3. Excessive appetite
 - 17.4. Frequency of urine
18. The following are the advantages of controlling body weight of Osteoarthritis client, EXCEPT
 - 18.1. Reduces stress on weight bearing joints
 - 18.2. Limits further injury
 - 18.3. Increases mobility of joints
 - 18.4. Induces more sleep
19. The best methods for reducing body weight is
 - 19.1. Fried food and adequate sleep
 - 19.2. Rest and sleep
 - 19.3. Adequate sleep and full diet.
 - 19.4. Diet control and regular exercise

VI. Non Drug Pain Relief Measures

20. The best method to relieve the Osteoarthritis pain without medicine is
 - 20.1. Heat and cold application
 - 20.2. Adequate sleep and rest
 - 20.3. Adequate and balanced diet
 - 20.4. Increase the mobility

21. The following are the different ways of heat application, EXCEPT
 - 21.1. Splint
 - 21.2. Warm towels
 - 21.3. Hot packs
 - 21.4. Warm bath or shower.

22. The duration of heat and cold application is
 - 22.1. 10 minutes
 - 22.2. 20 minutes
 - 22.3. 30 minutes
 - 22.4. 1 hour

23. The main purpose of heat application on joint is
 - 23.1. To reduce the inflammation
 - 23.2. To increase blood flow
 - 23.3. To numb the sore area
 - 23.4. To shape the joint.

24. The main purpose of cold application on joint is
 - 24.1. To reduce inflammation
 - 24.2. To reduce movement
 - 24.3. To increase blood circulation
 - 24.4. To warm the joint

25. Effect of combining the heat or cold application with the use of cream is
 - 25.1. Likelihood of burns
 - 25.2. Likelihood stiffness
 - 25.3. Likelihood muscle damage
 - 25.4. Likelihood fluid collection

26. The reason of maintaining proper body posture is

26.1. To good physical structure

26.2. To get sleep

26.3. To reduce pain

26.4. To strengthen muscle

27. Changing positions regularly will decrease the

27.1. Rest and sleep

27.2. Stiffness of muscles and joints

27.3. Body weight

27.4. Loss of appetite.

VII. Rest and Relief from the Stress on Joint

28. The reason of taking adequate rest and sleep for osteoarthritis client is

28.1. To minimize the pain

28.2. To increase body weight

28.3. To reduce the body weight

28.4. To improve the blood circulation.

29. The following are the best way to improve the sleep, EXCEPT

29.1. Enough exercise in day

29.2. Avoiding beverages at night

29.3. Keeping bed room dark

29.4. Taking a warm coffee at night.

30. The main reason to relieve the stress on joint is

30.1. To prevent stiffness of joint

30.2. To relieve the pain in joint

30.3. To prevent weakness of joint

30.4. None

31. The following things can be used to reduce pain on joints and improve the walking ability, EXCEPT

31.1. Shoes, chapels, canes

31.2. Hot pack, cold pack, moist towel

31.3. Canes, splints, walkers

31.4. Cold pack, shoes, chapels

32. The main reason of using largest and strongest joints and muscles while lifting things is to

- 32.1. Lift heavy objects
- 32.2. Avoid injury and strain on joints.
- 32.3. Avoid weight gain.
- 32.4. Increase flexibility of joints.

VIII. Socialization

33. The main reason of Osteoarthritis clients involving in the social activity is

- 33.1. To distract the mind from pain
- 33.2. To avoid loneliness
- 33.3. To pass the time
- 33.4. To become strong person.

34. The best measure can be done for good health is

- 34.1. Taking over rest
- 34.2. Watching TV
- 34.3. Taking more amount of diet
- 34.4. Positive attitude towards health.

SECTION C – PRACTICE ITEMS

Assess the self-care practice of clients with Osteoarthritis

Instruction to Investigator:

This section includes some of the items related to self-care practice of clients with Osteoarthritis. Make a direct and indirect observation of clients and grade their performance as per the rating scale.

S.No	Practice Items	Fully Adoptive (2)	Partially Adoptive (1)	Not Adoptive (0)
I	<p>Activities Of Daily Living without others help</p> <ol style="list-style-type: none"> 1. Brushing the teeth 2. Bathing 3. Dressing 4. Grooming 5. Toileting 6. Eating 7. Walking 			
II	<p>Exercise</p> <ol style="list-style-type: none"> 8. Warms up before exercise 9. Strengthens the muscles 10. Walks regularly 11. Performs range of motion to the entire joint. 12. Takes rest in-between each exercise. 			
III	<p>Diet</p> <ol style="list-style-type: none"> 13. Takes low calorie diet 14. Takes low fat diet 15. Includes grains and vegetables in diet 			

S.No	Practice Items	Fully Adoptive (2)	Partially Adoptive (1)	Not Adoptive (0)
	16. Reduces intake of milk and dairy products 17. Avoids intake of heavy food.			
IV	Non Drug Pain Relief Measures 18. Applies Heat / Cold application while getting pain. 19. Not applies heat / cold for more than 20 minutes. 20. Allows skin to return to normal temperature before repeating application. 21. Not combines heat or cold application with the use of cream. 22. Not allows joint overly cold. 23. Avoids use of pillow under knee while sleep. 24. Avoids flexion of neck while sleep. 25. Avoids sitting for long period 26. Changes positions regularly.			
V	Rest And Relief from Stress on Joints 27. Sleeps 8-10 hours at night. 28. Avoids coffee / Tea at bed time 29. Adopts any relaxation measures. 30. Uses supportive devices properly.			
VI	Socialization 31. Has good communication with others 32. Volunteer to work			

ANNEXURE – VIII (TAMIL – B)

ஆஸ்டியோ ஆர்த்ரைடீஸை கண்டறியும் முறை

இந்த பகுதியில் ஆஸ்டியோ ஆர்த்ரைடீஸினால் பாதிக்கப்பட்டவர்களின் தகவல்களை அவர்கள் மூலமாகவும் மற்றும் நேரிடையான ஆய்வுகள் மூலமாகவும் அறிந்துக்கொள்ளலாம். இந்த குறிப்புகள் ஆராய்ச்சிக்கு ஏற்றவரை தேர்ந்தெடுக்க உதவுகிறது.

முதியோர் இல்லத்தின் பெயர்:

பெயர்:

1. பாலினம்:
2. வயது:
3. முந்தைய வேலை:
4. பெண்களுக்கு மட்டும்) மாதவிடாய் முடிந்த வயது:
5. உடல் எடை: _____ கிலோ.
6. பாதிக்கப்பட்டுள்ள மூட்டுகள்:
7. வலி: _____ (உண்டு/இல்லை)
8. மூட்டுவலியின் காலம்:
9. வேலை செய்யும் போது மூட்டு இறுக்கம் அதிகமாதல்: _____
(உண்டு/இல்லை)
10. ஓய்வு நேரங்களில் மூட்டு இறுக்கம் குறைதல்: _____
(உண்டு/இல்லை)
11. மூட்டுகளின் மேல் வீக்கம்: _____ (உண்டு/இல்லை)
12. விரல் பகுதியில் எழும்புகளின் வளர்ச்சி (ஹிபர்டன்ஸ் கட்டிகள்/பெளசர்ட்ஸ்
கட்டிகள்): _____ (உண்டு/இல்லை)
13. மூட்டுகளின் மேல் சூடாக இருத்தல்: _____ (உண்டு/இல்லை)
14. மூட்டுகளின் மேல் உள்ள தோல் சிவப்பு நிறமாக மாறி இருத்தல்:

(உண்டு/இல்லை)
15. தோல் தடிப்பு அல்லது காய்ச்சல் போன்ற அறிகுறிகள்: _____
(உண்டு/இல்லை)

ஆஸ்டியோ ஆர்த்ரைடிஸின் குறியீடு

மாற்றி அமைக்கப்பட்ட வோமாக் தரவை வைத்து ஆஸ்டியோ ஆர்த்ரைடிஸின் தீவிரத்தை அறிதல்

வ. எண்.	அளவு கூறுகள்	ஆஸ்டியோ ஆர்த்ரைடிஸின் தீவிரம்				
		இல்லை (0)	சிறிதளவு (1)	மிதமான அளவு (2)	கடுமையான அளவு (3)	தீவிரம் (4)
அ.	<u>வலி உண்டாகும் நேரம்</u> 1. நடக்கும் போது 2. படியேறும் போது 3. இரவில் நடமாடும் போது 4. ஓய்வு எடுக்கும் போது 5. எடை தூக்கும் போது					
ஆ.	<u>மூட்டு இறுக்கம்</u> 1. விடியற்காலையில் இறுக்கம் உண்டாதல் 2. மூட்டுகளில் இறுக்கம் பிற்பகலில் உண்டாதல்					
இ.	<u>உடற் செயல்பாடு பாதிப்பு</u> 1. படியிலிருந்து இறங்குதல் 2. படியில் ஏறுதல் 3. $\pm 0\% \pm 0\%$ 4. நிற்த்தல் 5. குனிதல் 6. சமதளத்தில் நடத்தல் 7. கடைதெருவிற்கு போகுதல்					

8.	ஆடை அணிதல்					
9.	உடையை கழற்றுதல்					
10.	படுக்கையில் படுத்தல்					
11.	படுக்கையில் இருந்து எழுதல்					
12.	நாற்காலியில் உட்காருதல்					
13.	உட்காருதல் - ஓடிவர்தல் ±0%					
14.	கடின வீட்டுவேலைகள் செய்தல்					
15.	மேம்போக்கான வீட்டுவேலைகள் செய்தல்					

மதிப்பெண்கள்

மொத்த மதிப்பெண்கள் = 88

குறைந்த மதிப்பெண்கள் = 0

ஆஸ்டியோ ஆர்த்ரைடிஸின் தீவிரத்தின் அளவு

ஒன்றும் இல்லை = 0

சிறிதளவு தொந்தரவு = 1 - 22

மிதமான தொந்தரவு = 23 - 44

கடுமையான தொந்தரவு = 45 - 66

தீவிரமான தொந்தரவு = 67 - 88

முதியோர்களுக்கிடையே ஆஸ்டியோ ஆர்தரைட்டிஸ்கான
சுயபராமரிப்பு முறையை மதிப்பிட கையாளும் முறைகள்.

நேர்காணல் காண்பவருக்கான குறிப்புகள்:

பின்வருபவற்றை பேட்டியாளர் பதிளளிப்பாரிடம் கேட்குமாறு வேண்டப்படுவது, கொடுக்கப்பட்டுள்ள வினாக்களுக்கு கீழுள்ள பல்வேறு பதில்களை பதிலளிப்பவர் சரியான முறையில் புரிந்துகொள்ளும் வரை திரும்பக்கூறி அவர்களை பதில் அளிக்க அனுமதிக்க வேண்டும். ஒவ்வொரு பதிலுக்குரிய இடத்தில் பேட்டியாளர் சரியான() குறியீடு இடவேண்டும்.

பங்கேற்பாளருக்கான குறிப்புகள்:

அன்புள்ள பங்கேற்பாளர் நான் தங்களின் சில சுயகுறிப்பு விவரங்களும், தங்களிடையே உள்ள ஆஸ்டியோ ஆர்தரைட்டிஸ் பற்றி அறிவியல் ரீதியான தரவுகள் மற்றும் அதன் சுயபராமரிப்பு முறைகளுக்கான அறிவை பற்றிய இக்கேள்விகள் ஒவ்வொன்றிற்கும் கனிவாக பதிளளிக்கும்மாறு கேட்டுக்கொள்கிறேன். மேலும் தங்களின் சுயபராமரிப்புகான செயல்களை நேரடியாகவோ அல்லது மறைமுகமாகவோ கவனிக்கப்படும். தங்களுடைய பதில்கள் மற்றும் குறிப்புகள் நம்பகமாக வைக்கப்படும்.

பிரிவு அ - சுயகுறிப்புக்கான தரவு

பங்கேற்பாளர்களுக்கான குறிப்பு:

இப்பிரிவிற்கு சில தனிப்பட்ட குறிப்புகள் தேவை. ஒவ்வொரு கேள்விகளுக்கும் தேர்ந்தொடுக்க விடைகள் உண்டு. தங்களுக்கேற்ற விடைகளை தேர்ந்தெடுக்குமாறு கேட்டுக்கொள்ளப்படுகிறது.

முதியோர் இல்லதின் பெயர்:-

பெயர்:-

1. வயது

- 1.1 50-59 வயது
- 1.2 60-65 வயது
- 1.3 66-70 வயது
- 1.4 71-75 வயது
- 1.5 76-85 வயது
- 1.6 80 வயதிற்கு மேல்

2. பாலினம்

- 2.1 ஆண்
- 2.2 பெண்

3. கல்வித் தகுதி

- 3.1 படிப்பறிவற்றவர்
- 3.2 ஆரம்பக் கல்வி(1-5வது வகுப்பு வரை)
- 3.3 உயர்நிலைக் கல்வி(6-12வது வகுப்பு வரை)
- 3.4 பட்டதாரி
- 3.5 முதுகலை பட்டதாரி

4. முன்பு செய்து கொண்டிருந்த வேலை

- 4.1 $\frac{1}{2}$ \$A\bar{I}\$ \$A\bar{A}\$
- 4.2 « \bar{A} $\frac{1}{2}$ \$A\bar{I}\$ \$A\bar{A}\$
- 4.3 $\pm 0\% \div$ \$A\bar{A}\$
- 4.4 $\frac{1}{2}$ $\bar{E}\bar{S}\bar{A}\bar{U}\bar{P}$ \$A\bar{A}\$

5. உணவு முறை
 - 5.1. சைவம்
 - 5.2. அசைவம்
6. $\frac{1}{4}$ ø ÅÕÁý
 - 6.1. $\bar{I} \cdot \cdot \text{ÈÅjÉ} \pm \cdot \cdot \frac{1}{4}$ (<18.5)
 - 6.2. $^{\circ}\text{ÅjÉ} \pm \cdot \cdot \frac{1}{4}$ (18.5 - 24.9)
 - 6.3. $\ll \frac{3}{4}\text{ç} \pm \cdot \cdot \frac{1}{4}$ (25 - 29.9)
 - 6.4. $\frac{1}{4}$ ø ÅÕÁý (>30)
7. ஏதெங்கிலும் நீண்ட நாள் நோய் உள்ளதா?
 - 7.1. $\neg \text{Åj}\bar{o}$
 - 7.2. $p\bar{o} \cdot \cdot \text{Å}$

$\neg \text{Åj}\bar{o} \pm y\text{Èj}\bar{o} \bar{I} \text{È}\bar{o}\text{Åj} \underline{\hspace{10em}}$
8. மூட்டு வலி உள்ள காலம்
 - 8.1. ஒரு வருடத்திற்கு குறைவாக
 - 8.2. 1-3 வருடங்களாக
 - 8.3. 3-5 வருடங்களாக
 - 8.4. 5 வருடங்களுக்கு மேலாக
9. ஏதெங்கிலும் உதவும் $\text{ç} \bar{O}\text{Åç}$ பயன் பாட்டிளுள்ளதா?
 - 9.1. ஆம்
 - 9.2. இல்லை

ஆம் என்றால் குறிப்பிடுக

ஆஸ்டியோ ஆர்த்ரைட்டிஸ் உள்ளவர்களுக்கு சுய பராமரிப்பு முறைகள்
பற்றிய அறிவை பரிசோதித்தல்
பிரிவு ஆ

பங்கேற்பாளர்களுக்கான குறிப்பு:

இந்தப் பகுதியில் ஆஸ்டியோ ஆர்த்ரைட்டிஸ்கான சுய பராமரிப்பு முறைகள் பற்றிய அறிவுசார்ந்த வாக்கியங்கள் கொடுக்கப்பட்டுள்ளது. இந்த முற்றுப்பெறாத வாக்கியங்களுடன் நான்கு விடைகளும் உள்ளன. இதிலிருந்து சரியான விடையை தேர்ந்தெடுக்கவும். ஒவ்வொரு சரியான விடைக்கும் ஒரு (1) மதிப்பெண் கொடுக்கப்படும்.

I. ஆஸ்டியோ ஆர்த்ரைட்டிஸின் அடிப்படை:

1. ஆஸ்டியோ ஆர்த்ரைட்டிஸ் என்பது,
 - 1.1 திடீர் மூட்டுவலி
 - 1.2 படிப்படியாக அதிகரிக்கும் மூட்டு வியாதி
 - 1.3 பிறப்பில் ஏற்படும் மூட்டு நோய்
 - 1.4 மூட்டுகளின் முறிவு
2. ஆஸ்டியோ ஆர்த்ரைட்டிஸ் அதிக அளவில் ஏற்படும் இடங்கள்
 - 2.1 கைகள், தண்டுவடம், மூட்டு, இடுப்பு
 - 2.2 கணுக்கால், கழுத்து, நெஞ்சு, தோள்பட்டை
 - 2.3 பாதம், நெஞ்சு, தோள்பட்டை, தலை
 - 2.4 உடலில் உள்ள எல்லா இடங்களிலும்
3. ஆஸ்டியோ ஆர்த்ரைட்டிஸினால் அதிக அளவில் பாதிக்கப் படுபவர்கள்
 - 3.1 ஆண்கள்
 - 3.2 பெண்கள்
 - 3.3 இருபாலரும்
 - 3.4 குழந்தைகள்

4. ஆர்த்ரைட்டிஸின் ஆரம்ப அறிகுறிகள்:
 - 4.1. வேளைகளுக்குப் பின்னர் மூட்டுவலி
 - 4.2. மூட்டுவலிகளில் இறுக்கம்
 - 4.3. மூட்டுகளில் வீக்கம்
 - 4.4. மூட்டுகளில் இரத்த கசிவு
5. ஆஸ்டியோ ஆர்த்ரைட்டிஸின் நீண்டகால அறிகுறிகள்
 - 5.1. மூட்டுகளில் வலி மற்றும் இறுக்கம்
 - 5.2. மூட்டுகளில் வீக்கம்
 - 5.3. மூட்டுகளில் இரத்த கசிவு
 - 5.4. மூட்டுகளின் முறிவு
6. கீழ் கொடுக்கப்பட்டவை ஆஸ்டியோ ஆர்த்ரைட்டிஸ்க்கான சிகிச்சை முறைகள், இதை தவிர
 - 6.1. உடற்பயிற்சி
 - 6.2. எடையைக் கட்டுப்படுத்தல்
 - 6.3. மூட்டுகளுக்கு ஓய்வு மற்றும் அழுத்தம் கொடுப்பதை தவிர்த்தல்
 - 6.4. அதிக உடல் செயல்பாடு

II. அன்றாட வாழ்க்கை முறைகள்:

7. ஆஸ்டியோ ஆர்த்ரைட்டிஸ் தீவிரம் அடைவதால் பாதிக்கப்பட்டவர்களுக்கு உண்டாகும் பாதிப்பு
 - 7.1. உணவு செரிமாணம்
 - 7.2. பேச்சுத் திறன்
 - 7.3. சிறுநீர் கழிப்பதில் ஏற்படும் மாறுதல்
 - 7.4. தினசரி செயல் அளவு

8. ஆஸ்டியோ ஆர்தரைட்டிஸ் உள்ளவர்கள் அன்றாட வாழ்க்கை முறையை உயர்த்த தினசரி செய்ய வேண்டியவை
 - 8.1. கடவுள் பக்தி
 - 8.2. உடல் தூய்மை செயல்கள்
 - 8.3. உடற்பயிற்சி
 - 8.4. தேவையான அளவு சமூகமயமாதல்

III. உடற்பயிற்சி

9. ஆஸ்டியோ ஆர்தரைட்டிஸ் உள்ளவர்கள் உடற்பயிற்சி செய்வதன் முக்கிய நோக்கம்
 - 9.1. வளர்வதற்காக
 - 9.2. இளமையாக இருப்பதற்காக
 - 9.3. திடனாக இருக்க
 - 9.4. பார்வை மற்றும் கேட்கும் திறனை வளர்க்க
10. கீழ் கொடுக்கப்பட்டவை ஆஸ்டியோ ஆர்தரைட்டிஸ் உள்ளவர்கள் மேற்கொள்ள வேண்டிய உடற்பயிற்சிகள், இதை தவிர
 - 10.1. மூச்சு பயிற்சி
 - 10.2. தசையை வலுப்படுத்தும் பயிற்சி
 - 10.3. திறந்த வெளியில் மேற்கொள்ள வேண்டிய பயிற்சி
 - 10.4. மூட்டுகளின் செயல் திறன் பயிற்சி
11. தசைகளை வலுவாக்கும் பயிற்சியை இந்த செயல்கள் இல்லாமல் செய்யலாம், இதை தவிர
 - 11.1. தசைகளை இறுக்கி பிடித்தல்
 - 11.2. நடத்தல்
 - 11.3. பளு தூக்குதல்
 - 11.4. வலி உள்ள மூட்டை மடக்குதல்

12. உடல் எடை தாங்கும் மூட்டுகளில் ஆஸ்டியோ ஆர்த்ரைட்டிஸ் உள்ளவர்கள் கீழ்க்கண்ட செயல்களை செய்யக்கூடாது, அவை.
 - 12.1. ஓடுதல் மற்றும் மட்டைப் பந்து விளையாடுதல்
 - 12.2. நடத்தல் மற்றும் படி ஏறுதல்
 - 12.3. நீண்ட ஓய்வு மற்றும் உறக்கம்
 - 12.4. யோகா மற்றும் தியானம்
13. மூட்டுகளின் செயல் திறன் பயிற்சியின் முக்கிய பயன்
 - 13.1. நுரையீரலின் வேலையை அதிகரிக்க
 - 13.2. உணவு செரிமான வேலையை அதிகரிக்க
 - 13.3. மூட்டுகளின் இறுக்கத்தை தவிர்க்க
 - 13.4. கண் பார்வையை அதிகரிக்க

IV உணவு முறை

14. ஆஸ்டியோ ஆர்த்ரைட்டிஸ் உள்ளவர்கள் சரியான உணவு கட்டுப்பாட்டில் இருக்க வேண்டிய நோக்கம்
 - 14.1. உடல் எடை அதிகரிப்பதை குறைக்க
 - 14.2. உடல் எடையை அதிகரிக்க
 - 14.3. தசைகளின் வேலையை அதிகரிக்க
 - 14.4. எந்த காரணமும் இல்லை
15. ஆஸ்டியோ ஆர்த்ரைட்டிஸ் உள்ளவர்கள் எடுத்துக்கொள்ள வேண்டிய உணவு வகை
 - 15.1. அதிக கலோரி மற்றும் கொழுப்பு சத்து நிறைந்த உணவு
 - 15.2. குறைந்த கலோரி மற்றும் கொழுப்பு சத்து நிறைந்த உணவு
 - 15.3. குறைந்த புரதம் மற்றும் குறைந்த மாவு சத்துள்ள உணவு
 - 15.4. குறைந்த வைட்டமின்கள் மற்றும் குறைந்த மாவு சத்துள்ள உணவு

16. ஆஸ்டியோ ஆர்த்ரைட்டிஸ் உள்ளவர்களுக்கு தேவையான கலோரி கிடைக்க சரியான முறை

- 16.1. அதிக நார் மற்றும் மாவு சத்துள்ள உணவு உட்கொள்ளுதல்
- 16.2. அதிக கொழுப்பு சத்துள்ள உணவு உட்கொள்ளுதல்
- 16.3. அதிக புரதசத்து உள்ள உணவு உட்கொள்ளுதல்
- 16.4. அதிக தாதுசத்து உள்ள உணவு உட்கொள்ளுதல்

V. உடல் எடை கட்டுப்பாடு

17. ஆஸ்டியோ ஆர்த்ரைட்டிஸ் உள்ளவர்கள் அதிக எடையுடன் இருந்தால் ஏற்படும் விளைவுகள்

- 17.1. மூட்டு வலி
- 17.2. நீண்ட நேர உறக்கம்
- 17.3. அதிக பசி
- 17.4. அடிக்கடி சிறுநீர் கழித்தல்

18. கீழ் கொடுக்கப்பட்டவை ஆஸ்டியோ ஆர்த்ரைட்டிஸ் உள்ளவர்கள் உடல் எடையை கட்டுப்பாட்டில் வைப்பதால் ஏற்படும் நன்மைகள், இதை தவிர

- 18.1. உடல் எடை தாங்கும் மூட்டுக்களின் அழுத்தத்தைக் குறைக்கின்றது
- 18.2. காயம் ஏற்படுவதை கட்டுப்படுத்துகிறது
- 18.3. அசைவுத் திறனை அதிகரிக்கிறது
- 18.4. தூக்கத்தைத் தூண்டுகிறது

19. உடல் எடையை குறைக்க சரியான முறை

- 19.1. பொறித்த உணவு மற்றும் தேவையான உறக்கம்
- 19.2. ஓய்வு மற்றும் உறக்கம்
- 19.3. தேவையான உறக்கம் மற்றும் முழு உணவு
- 19.4. உணவு கட்டுப்பாடு மற்றும் உடற்பயிற்சி

VI மருந்தில்லாமல் வலியை குறைக்கும் முறைகள்

20. இந்த சிகிச்சை முறைகள் ஆஸ்டியோ ஆர்தரைட்டிஸ் வலியை மருந்தில்லாமல் குறைக்கிறது
 - 20.1. சூடு மற்றும் குளிர் ஒத்தடம் முறைகள்
 - 20.2. சரியான உறக்கம் மற்றும் ஓய்வு முறைகள்
 - 20.3. போதுமான மற்றும் சரிவிகித உணவு முறைகள்
 - 20.4. அதிக மூட்டு அசைவு முறைகள்
21. கீழ் கொடுக்கப்பட்டவை சுடு ஒத்தடம் கொடுக்கும் முறைகள், இதை தவிர
 - 21.1. கட்டுகள்
 - 21.2. சூடு துண்டு
 - 21.3. சுடு தண்ணீர் பேக்கட் / பை
 - 21.4. சுடு நீரில் குளித்தல்
22. சூடு மற்றும் குளிர் ஒத்தடம் கொடுக்கப்படும் கால அளவு
 - 22.1. 10 நிமிடம்
 - 22.2. 20 நிமிடம்
 - 22.3. 30 நிமிடம்
 - 22.4. 1 மணி நேரம்
23. மூட்டுகளின் மீது சூடு ஒத்தடம் கொடுப்பதன் பயன்
 - 23.1. வீக்கத்தை குறைக்க
 - 23.2. இரத்த ஓட்டத்தை அதிகரிக்க
 - 23.3. புண் உள்ள இடத்தை மறுத்து போக செய்ய
 - 23.4. மூட்டுகளை வடிவமைக்க

24. மூட்டுகளின் மீது குளிர் ஒத்தடத்தின் முக்கிய பயன்
- 24.1. வீக்கத்தை குறைக்க
 - 24.2. அசைவுகளைக் குறைக்க
 - 24.3. இரத்த ஒட்டத்தை அதிகரிக்க
 - 24.4. மூட்டுக்களை இளஞ்சூடாக்க
25. குளிர் மற்றும் சூடு ஒத்தடம் கொடுக்கும் போது களிம்புகளைப் பயன்படுத்தினால் ஏற்படும் விளைவு
- 25.1. சூடு காயம் ஏற்படலாம்
 - 25.2. கடினத்தன்மை ஏற்படலாம்
 - 25.3. தசை பாதிக்கப்படலாம்
 - 25.4. நீர் கோர்த்துக் கொள்ளலாம்
26. சரியான உடல் நிலையை மேற்கொள்வதற்கான காரணம்
- 26.1. நல்ல உடல் தோற்றம் பெற
 - 26.2. தூக்கம் வர
 - 26.3. வலியை குறைக்க
 - 26.4. தசைகளை வலுப்படுத்த
27. உடற் நிலையை அடிக்கடி மாற்றிக்கொள்வதினால் இதை குறைக்கலாம்
- 27.1. ஓய்வு மற்றும் உறக்கம்
 - 27.2. மூட்டுகள் மற்றும் தசைகளின் கடினத்தன்மை
 - 27.3. உடல் எடை
 - 27.4. பசியின்மை

VII ஓய்வு மற்றும் மூட்டுகளில் ஏற்படும் ஆழுத்தத்தை குறைக்கும் முறைகள்

28. ஆஸ்டியோ ஆர்தரைட்டிஸ் உள்ளவர்களுக்கு தேவையான ஓய்வு மற்றும் உறக்கம் எடுத்துக் கொள்வதற்கான காரணம்
 - 28.1. வலியைக் குறைக்க
 - 28.2. உடல் எடையை அதிகரிக்க
 - 28.3. உடல் எடையை குறைக்க
 - 28.4. இரத்த ஓட்டத்தை அதிகரிக்க
29. கீழ் கொடுக்கப்பட்டவை உறக்கத்தை அதிகரிப்பதற்கான சிறந்த முறைகள், இதை தவிர
 - 29.1. நாளுக்கு தேவையான உடற்பயிற்சி
 - 29.2. மது உட்கொள்ளுவதை இரவு நேரத்தில் தவிர்த்தல்
 - 29.3. இருட்டு படுக்கை அறை அமைத்தல்
 - 29.4. இதமான சூட்டில் காபியை இரவில் அருந்துதல்
30. மூட்டுகளுக்கு அழுத்தம் கொடுப்பதை தவிர்ப்பதற்கான முக்கிய காரணம்
 - 30.1. மூட்டுக்களில் இறுக்கம் உண்டாவதை தடுக்க
 - 30.2. மூட்டுகளை வலியிலிருந்து விடுபட
 - 30.3. மூட்டுக்களின் இயலாமையை தடுக்க
 - 30.4. ஒன்றுமில்லை
31. கீழ் கண்டவை மூட்டுகளின் வலியைக் குறைத்து, நடையை அதிகரிக்கின்றது, இதை தவிர
 - 31.1. செறுப்பு, ஊன்றுகோல்
 - 31.2. சுடு ஒத்தடம், குளிர் ஒத்தடம் பைகள், ஈரமான துண்டு
 - 31.3. ஊன்றுகோல், கட்டுகள், வாக்கர்கள்
 - 31.4. குளிர் ஒத்தடம் பைகள், செறுப்பு

32. பெரிய மற்றும் வலுவான மூட்டுகளையும் தசைகளையும் பொருட்களைத் தூக்கும் போதும், எடுத்துச் செல்லும் போதும் பயன் படுத்துவதற்கான காரணம்

- 32.1. கடினமான பொருட்களைத் தூக்க
- 32.2. காயங்களையும், தசைப்பிடிப்பையும் தவிர்க்க
- 32.3. உடல் எடை அதிகரிப்பதை தவிர்க்க
- 32.4. வலையும் தன்மை மூட்டுகளில் அதிகரிக்க

VIII சமூக மயமாதல்

33. ஆஸ்டியோ ஆர்தரைட்டிஸ் உள்ளவர்கள் சமூக வேலைகளில் பங்கேற்பதற்கான முக்கிய காரணம்

- 33.1. மனதை வலியிலிருந்து மாற்றி செலுத்த
- 33.2. தனிமையை போக்க
- 33.3. நேரத்தை போக்க
- 33.4. உடல் பலம் அடைய

34. நல்ல உடல் நலத்திற்கு செய்ய வேண்டியவை

- 34.1. செயல்கள்
- 34.2. சுய தூய்மை
- 34.3. உணவு முறை
- 34.4. நல்ல முற்போக்கு எண்ணம்

பிரிவு இ - செய்முறைக்கான தரவு

ஆஸ்டியோ ஆர்த்ரைட்டிஸ் உள்ளவர்களின் சுய பராமரிப்பை

மதிப்பிடுதல்

பரிசோதிப்பவர்கான நிபந்தனைகள்:

இந்த பகுதியில் ஆஸ்டியோ ஆர்த்ரைட்டிஸினால் பாதிக்கப்பட்டவர்களின் சுய பராமரிப்புக்கான செயல்கள் உள்ளன. அவைகளை நேரடியாகவோ அல்லது மறைமுகமாகவோ கொடுக்கப்பட்டுள்ள செயல் திறன்களை கவனித்து தகுந்த மதிப்பீட்டில் குறிக்கவேண்டும்.

வ எண்	செயல் முறை	முழுவதும் செய்தல் (2)	பகுதி செய்தல் (1)	ஒன்றும் செய்யவில் லை (0)
I	அன்றாட வாழ்க்கை முறைகள்			
1	பல் துலக்கல்			
2	குளித்தல்			
3	உடை அணிதல்			
4	சுய தூய்மை			
5	மலம் கழித்தல்			
6	சாப்பிடுதல்			
7	நடத்தல்			
II	உடற்பயிற்சி			
8	உடற்பயிற்சிக்கு தயாராகுதல்			
9	தசைகளை பலப் படுத்தல்			
10	தினமும் நடத்தல்			
11	முட்டுக்களின் செயல் திறன் பயிற்சி			
12	ஒரு உடற்பயிற்சிக்கும் மற்றொரு உடற்பயிற்சிக்கும் இடையே ஓய்வு எடுத்தல்			

III	உணவு முறை			
13.	குறைந்த கலோரி உணவு எடுத்துக் கொள்ளுதல்			
14	குறைந்த கொழுப்பு உணவுகளை எடுத்துக் கொள்ளுதல்			
15	உணவில் தானியங்கள் மற்றும் காய்கறிகள் சேர்த்துக் கொள்ளுதல்			
16	உணவில் பால் மற்றும் பால் சம்பந்தமான உணவுப் பொருட்களை குறைத்துக் கொள்ளுதல்			
17	உணவுக் கட்டுப்பாட்டை பின் பற்றுதல்			
IV	மருந்தில்லாமல் வலியைக் குறைக்கும் முறைகள்			
18	சுடு மற்றும் குளிர் ஒத்தடம் வலி உள்ள போது கொடுத்தல்			
19	20 நிமிடத்திற்கு மேல் குளிர் அல்லது சுடு ஒத்தடம் கொடுக்காமல் இருத்தல்			
20	மீண்டும் ஒத்தடம் கொடுக்கும் போது தோல் பழைய வெப்ப நிலைக்கு வரும் வரை காத்திருத்தல்			
21	குளிர் அல்லது சுடு ஒத்தடம் கொடுக்கும் போது, களிம்புகளை சேர்த்து கொடுக்காமல் இருத்தல்			
22	மூடுகளை மிகவும் குளிரடைய விடாமல் இருத்தல்			
23	தூங்கும் போது முட்டிகளுக்கு கீழ் தலையணை வைப்பதை தவிர்த்தல்			
24	கழுத்தை தூங்கும் போது மடங்குவதை தவிர்த்தல்			
25	நீண்ட நேரம் அமர்ந்திருப்பதை தவிர்த்தல்			

26	உடல் நிலையை அடிக்கடி மாற்றி அமர்தல்			
V	ஓய்வு மற்றும் மூட்டுகளில் அழுத்தத்தை குறைக்கும் முறைகள்			
27	இரவில் 8-10 மணி நேரம் உறங்குதல்			
28	உறங்கும் போது வெண்ணீரில் குளித்தல்			
29	படுக்கைக்கு செல்லும் போது டீ மற்றும் காபி அருந்துவதை தவிர்த்தல்			
30	மனதிற்கு ஓய்வு தரும் செயல்களில் ஈடுபடுதல்			
31	உதவிக்கருவிகளை சரியான முறையில் பயன்படுத்துதல்			
VI	சமூக மயமாதல்			
32	மற்றவர்களோடு நல்ல தொடர்புடன் இருத்தல்			
33	சுயேட்சையாக செயல்படுதல்			
34	உடலை குறித்து நல்ல எண்ணங்களை வைத்திருத்தல்			

ANNEXURE – IX (ENGLISH - A)

LESSON PLAN

ON

SELF-HELP TECHNIQUES OF

OSTEOARTHRITIS

Prepared By

M.D. Anuratha

Associate Professor

PSG College of Nursing

Coimbatore – 04

Content of Video Teaching Programme on Self-Help Techniques of Osteoarthritis.

Group : Elderly with Osteoarthritis

Venue : Old age Homes

Duration : 25 minutes

A.V. Aids : Compact Disk

General Objective:

End of the video teaching programme the clients will be able to gain knowledge regarding self-care management of Osteoarthritis and develop positive attitude to practice self-care in day to day life to lead a quality of life.

Specific Objectives:

At the end of the Video teaching programme, the clients will be able to

1. Identify the Osteoarthritis
2. List the affecting areas of Osteoarthritis
3. Enumerate the types of Osteoarthritis
4. Explain the effect of Osteoarthritis
5. Identify the signs and symptoms of Osteoarthritis
6. State the simple diagnostic evaluations of Osteoarthritis
7. Perform the Self-Care Management of Osteoarthritis

S. No	Time	Specific Objectives	Content	AV aids	Investigator's activity	Participant's activity	Evaluation
1.	1 mt		<p>Introduction of Osteoarthritis:</p> <p>Osteoarthritis is most common type of arthritis and it is seen commonly in older adults. Otherwise it is called as degenerative joint disease. Before 45 years of age the osteoarthritis more frequently occurs in males. Whereas after 55 years of age, it occurs more frequently in females.</p> <p>People with osteoarthritis usually have joint pain and stiffness, affects joint function. It does not affect the skin, tissue, lungs, eyes or blood vessels.</p>	Video	Define and discuss with the osteoarthritis clients	The clients are listening and responding	Define the osteoarthritis and its incidence
2.	1mt	List the affecting areas of osteoarthritis	<p>Affecting Areas of Osteoarthritis:</p> <p>Osteoarthritis most often occurs in the knees, hips, hands (at the ends of the fingers and thumbs), feet and spine (neck and lower back).</p>	Video	List down and discuss the affected areas of osteoarthritis	The clients are listening and responding	List down the affecting areas of osteoarthritis
3.	2 mts	Enumerate the types of Osteoarthritis	<p>Types of Oseoarthritis:</p> <p>a. Primary Osteoarthritis b. Secondary Osteoarthritis</p>	Video	Explain the types of osteoarthritis	The clients are responding	Enumerate the 2 types of osteoarthritis

			<p>a. Primary Osteoarthritis:</p> <p>It is mostly related to aging. With aging the water content of the cartilage increases and the protein makeup of cartilage degenerates. Repetitive use of the worn joints over the years can irritate and inflame the cartilage, causing joints pain and swelling. Loss of the cartilage cushion causes friction between the bones, leading to pain and limitation of joint mobility.</p> <p>b. Secondary Osteoarthritis:</p> <p>It is caused by another disease or condition. Conditions include obesity, repeated trauma or surgery to the joint structures, abnormal joints at birth (congenital abnormalities), gout, diabetes and other hormone disorders eg. Growth hormone.</p>				
4.	3 mts	Explain the effect of osteoarthritis	<p>Effect of Osteoarthritis:</p> <p>People with osteoarthritis usually experience joint pain and stiffness.</p> <p>Osteoarthritis affects people differently. It may progress quickly or joint damage develops gradually over years. In some people, osteoarthritis is relatively mild and it interferes little with day-to-</p>	Video	List down and elaborate the effects of osteoarthritis	The clients are listening and responding	List down the effects of osteoarthritis

			<p>day life; but for other people it cause significant pain and disability.</p> <p>Osteoarthritis is a disease of the joints; its effects are not just physical but also affects financial and lifestyle abilities.</p> <p>Lifestyle effects includes</p> <ul style="list-style-type: none"> • hopelessness • fear and anxiety • feelings of worthlessness • difficulty to perform day today activities • difficulty to perform job • difficulty in participation of personal and family joys and responsibilities. 				
5.	3 mts	Identify the signs and symptoms of osteoarthritis	<p>Signs and symptoms of Osteoarthritis:</p> <p>Usually, osteoarthritis comes on slowly. Symptoms of osteoarthritis vary greatly from patient to patient and also can be intermittent. In early stage after physical work or exercise the joint pain will be there.</p>	Video	Describe about the signs and symptoms of osteoarthritis	The clients are listening and responding	Identify the signs and symptoms of osteoarthritis

		<p>Later on, joint pain becomes more persistent and joint stiffness, particularly in the morning or being in one position for a long time.</p> <ul style="list-style-type: none"> ➤ In severe Osteoarthritis, complete loss of the cartilage cushion causes friction between bones, causing pain at rest or pain with limited motion. ➤ The Warning Signs of Osteoarthritis <ul style="list-style-type: none"> • Stiffness in a joint after getting out of bed or sitting for a long time • Swelling in one or more joints • Crunching feeling or the sound of bone rubbing on bone ➤ Pain will be aggravated by activity and relieved by rest. ➤ Osteoarthritis of the knees and hip are due to excess upper body weight. ➤ Osteoarthritis of the cervical spine or lumbar spine causes pain in the neck or low back. ➤ Osteoarthritis causes the formation of hard bony enlargements of the small joints of the fingers. 				
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			<ul style="list-style-type: none"> ➤ The feeling of hot or skin in red, or along with joint pain presenting of rash or fever it may be a different type of arthritis. 				
6.	2 mts	State the simple diagnostic evaluation of osteoarthritis	<p>Simple Diagnostic Evaluations of Osteoarthritis:</p> <p>1. Clinical history Asking about signs and symptoms, and asking about duration of condition started and progressed.</p> <p>2. Physical examination</p> <ul style="list-style-type: none"> ➤ Check the patient’s reflexes and general health, including muscle strength. ➤ Examine joints and observe the ability to walk, bend, and carry out activities of daily living. 	Video	Explain the diagnostic evaluation of osteoarthritis	The clients are listening the responding	State the simple diagnostic evaluation of osteoarthritis
6.	15 mts	Perform the self-care management of osteoarthritis	<p>Self-Care Management of Osteoarthritis:</p> <p>Most successful self-care management programs involve a combination of treatments tailored to the client’s needs, lifestyle and health.</p>	Video	Explains how to practice self-care management of osteoarthritis	The clients are actively listening and performing	Perform the self care management of osteoarthritis

		<p>Four Goals of Osteoarthritis self care</p> <ul style="list-style-type: none"> • Controlling pain • Improving joint function • Maintaining normal body weight • Achieving a healthy lifestyle. <p>Self-care management of Osteoarthritis</p> <ol style="list-style-type: none"> 1. Activities of Daily Living 2. Exercise 3. Diet 4. Weight control 5. Nondrug pain relief measures 6. Rest and Relief from stress on joints 7. Socialization <p>A. Activities of Daily Living:</p> <p>Activities like maintaining personal hygiene, dressing, undressing, feeding, voluntarily controlling of urinary discharge and fecal elimination and ambulation are can be</p>				
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		<p>practice independently by the person who is following regular exercises and having good diet control.</p> <p>B. Exercise:</p> <ul style="list-style-type: none"> a) Exercise can improve the psychological and physical fit, decreases pain and increases the strength and flexibility of joints and muscles and it maintains body weight.. b) The amount and form of exercise prescribed will depend on which joints are involved, how stable the joints are and whether a joint replacement has already been done. c) Walking and swimming are the type of exercise to people with osteoarthritis. d) Regular physical activities are needed for wellness. <p>There are main three types of exercise are important in osteoarthritis management.</p> <ul style="list-style-type: none"> i. Strengthening exercises or Isometric exercises: helps to increase the muscle strength. Strong muscle helps to support and protect joints affected by arthritis. In this exercise muscles are tensed without moving for a period of time. This exercise can be performed without moving the painful joints. Muscles exercising against resistant their 				
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size and power will increase.

ii. Aerobic conditioning exercises: It improves cardiovascular fitness, helps to control weight and improve overall function. Clients with osteoarthritis in weight bearing joint must avoid the activities like jogging and jumping. Simple walking gives good outcome.

iii. Range-of-motion exercises or stretching exercises: It helps to reduce stiffness and maintain or increase proper joint movement and flexibility.



			<ul style="list-style-type: none"> ➤ Adequate warm up is needed before exercise and starting of exercises need to be in slow manner. Adequate rest in-between exercise is needed and avoiding wrong exercises is important. ➤ Walking provides better functioning. ➤ People who are active in an exercise program, feels less pain and functioning well. <p>C. Diet</p> <p>Eating less calorie and fat intake minimizing stress on the weight-bearing joints and also minimize the risk of developing other health problems.</p> <ul style="list-style-type: none"> • Taking high-fiber, complex carbohydrate foods (while minimizing fats), Vitamins A, C, and E rich foods , green tea, cooked grains and cereals, boiled pulses, boiled and baked vegetables, green salads (tomato, beet root, carrots), fruits, turmeric and ginger (anti inflammatory foods can use in curries and soups) are advised to person with Osteoarthritis for better health. • Fish oil supplements have some anti-inflammatory properties. Increasing the dietary fish intake and/or taking 				
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		<p>fish oil capsules (omega 3 capsules) reduces the inflammation of joints.</p> <ul style="list-style-type: none"> • Glucosamine sulfate rich foods (prawn, crab, bone marrow, neck meat, broths that contain boiled bone and connective parts, etc) are concentrated in the cartilage component of joints and connective tissues and this is helping the body mechanism to build cartilage and joints. • Reducing intake of milk and dairy products and avoiding intake of fatty meat, baked food, potatoes and tomatoes, too much tea, coffee, alcohol, chocolate, etc. <p>D. Weight control</p> <p>Over weight is the major factor to Osteoarthritis. An osteoarthritis person who is overweight must try to reduce weight. Weight loss can reduce the stress on weight-bearing joints and increase the joint mobility and prevent the joint injury. A healthy diet and regular exercises helps to reduce the body weight.</p>				
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			<p>E. Nondrug pain relief measures</p> <p>People with osteoarthritis may find some nondrug ways to relieve pain,</p> <p>a. Heat and cold</p> <p>Heat or cold or a combination of the two can be useful for joint pain.</p> <ul style="list-style-type: none"> • Heat can be applied in a number of different ways—with warm towels, hot packs or a warm bath or shower—to increase blood flow and reduce pain and stiffness. • In some cases, cold packs can be applied (bags of ice or frozen vegetables wrapped in a towel), which reduce inflammation, can relieve pain or numb the sore area. <p>Safety tips:</p> <ol style="list-style-type: none"> a. Not to apply heat or cold for more than 20 minutes. b. Before repeating application allow the skin to become the normal temperature. c. Do not combine heat or cold with the use of creams, can increase the likelihood of burns. d. Not to allow the joints overly cold. 				
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		<p>b. Proper Body alignment:</p> <p>Maintaining proper body alignment to reduce pain by;</p> <ul style="list-style-type: none"> • Extend the joints as tolerated • Avoid external rotation of extremities • Avoid use of pillow under the knees • Avoid flexion of neck • Avoid sitting for over extended period • Changing positions regularly will decrease the stiffness of muscles and joints. <p>F. Rest and relief from stress on joints:</p> <ul style="list-style-type: none"> • Getting a good sleep during night regularly which minimizes pain. Getting 8-10 hours of sleep at night is important. If pain makes difficult to sleep at night, use best mattress or comfortable sleeping positions or the possibility of timing medications to provide more pain relief at night. • Improve sleep by getting enough exercise early in the day; avoiding caffeine or alcoholic beverages at night; keeping bedroom dark, quiet, and cool; and taking a warm bath to relax and soothe sore muscles at bedtime. If trouble sleeping, find the relaxation techniques, stress 				
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			<p>reduction and biofeedback can help and regular medications will be provided maximum pain relief throughout the night.</p> <ul style="list-style-type: none"> • Using of special footwear and insoles may reduce the pain and improves walking. Usage of canes or walkers which take off pressure on painful joints. • By using splints or braces (Knee caps and Hinges) can provide extra support for joints and keeps them in proper position during sleep or activity. These splints or braces must be used for limited periods of time because joints and muscles need to be exercise to prevent stiffness and weakness. • Some assistive devices can be used to reduce stress on joint, like pickup sticks, raised toilet seats, hand rails on Shower/bath room and toilet, rubber tipped walker or cane, raised chair etc. • When lifting or carrying, use largest and strongest joint and muscles to avoid injury and strain on joints. 				
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		<p>G. Socialization:</p> <p>Mental factors like tension, suppression of emotions, fear and hypersensitivity are leading factors to osteoarthritis.</p> <p>Activities such as sports, hobbies, and volunteer work can distract mind from pain, make happier and better-rounded person. As well as releases mental and emotional tension and reduces joint rigidity.</p> <p>Tips for "Good Health Attitude"</p> <ul style="list-style-type: none"> • Must be focus on abilities instead of disabilities. • Must be focus on strengths instead of weaknesses. • Keep task as small that can manage. • Maintaining fitness and adequate nutrition in daily routines. • Identify the methods which reduce and manage stress. • Take adequate rest in-between activity. • Built a cooperation and support from the family members, friends and health professionals. 				
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Conclusion:

The best thing can do for health is to keep a positive attitude. People must decide to make the most of things when faced with the challenges of osteoarthritis. This attitude-a good-health mindset-doesn't just happen. It takes work, every day. And with the right attitude achieve it. So this self-care management program helps people with osteoarthritis to understand the disease, reduce pain while remaining active, cope physically, emotionally and mentally, have greater control over the disease, build confidence in their ability to live an active and independent life.

ANNEXURE – IX (TAMIL – B)

**முதியோர்களுக்கிடையே ஆஸ்டியோ
ஆர்த்ரைட்டிஸ்கான சுயபராமரிப்பு
முறைகளைப் பற்றிய ஒளிபதிவு கல்வி**

முதியோர்களுக்கிடையே ஆஸ்டியோ ஆர்த்ரைட்டிஸ்கான சுயபராமரிப்பு முறைகளைப் பற்றிய ஒளிபதிவு

கல்வி

குழு : ஆஸ்டியோ ஆர்த்ரைட்டிஸ் உள்ள முதியோர்கள்

இடம் : முதியோர் இல்லம், நீடிக்கும் காலம் : 25 நிமிடங்கள்

பயன்படுத்தப்படும் முறைகள் : ஒளி பதிவு

பொதுவான நோக்கம்

இந்த ஒளி பதிவு வகுப்பின் முடிவில் முதியவர்கள் ஆஸ்டியோ ஆர்த்ரைட்டிஸின் சுய பராமரிப்பைக் குறித்து தேவையான அறிவைப் பெறுவார்கள். இதைக் குறித்து விழிப்புணர்வு ஏற்படுவதால் தினசரி வாழ்க்கையில் சுயபராமரிப்பு முறைகளைப் பற்றிய வாழ்க்கை முறையை மேம்படுத்திக் கொள்ள உதவுகிறது.

தனிப்பட்ட நோக்கம்: இந்த ஒளி பதிவு வகுப்பின் முடிவில் முதியவர்கள்

- ✓ மூட்டு வலி என்பது என்ன என கண்டறிதல்
- ✓ ஆஸ்டியோ ஆர்த்ரைட்டிஸினால் பாதிக்கப்படும் பகுதிகளை வரிசைப்படுத்துதல்
- ✓ ஆஸ்டியோ ஆர்த்ரைட்டிஸின் வகைகளை அறிதல்
- ✓ ஆஸ்டியோ ஆர்த்ரைட்டிஸினால் வரும் பாதிப்புகளை விவரித்தல்
- ✓ ஆஸ்டியோ ஆர்த்ரைட்டிஸினால் வரும் அறிகுறிகளை அறிதல்
- ✓ ஆஸ்டியோ ஆர்த்ரைட்டிஸினை கண்டறியும் முறையினை விளக்குதல்
- ✓ ஆஸ்டியோ ஆர்த்ரைட்டிஸிற்கான சுய பராமரிப்பு முறைகளைப் பற்றி பழகுதல்.

Å. ± ñ	கால ம்	தனிப்பட்ட நோக்கம்	புறக்கணிப்பு	புறக்கணிப்பு புறக்கணிப்பு புறக்கணிப்பு	புறக்கணிப்பு புறக்கணிப்பு	புறக்கணிப்பு புறக்கணிப்பு	புறக்கணிப்பு
1.	1 நி	மூட்டு வலி என்பது என்ன என கண்டறிதல்	1. முன்னுரை ஆஸ்டியோ ஆர்தரைட்டிஸ் ஒருவிதமான அதிக அளவில் காணப்படும் மூட்டு வலி. வயதானவர்களை அதிகம் பாதிக்கின்றது. இதற்கு ஆஸ்டியோ ஆர்தரோசிஸ் என்று இன்னொரு பெயரும் உண்டு. 45 வயதிற்கு முன் ஆண்களையும், 55 வயதிற்கு பின் பெண்களையும் அதிகமாக பாதிக்கின்றது. இவர்களுக்கு மூட்டு இறுக்கமும், வலியும் ஏற்படும். மற்ற ஆர்தரைட்டிஸ் போல இல்லாமல், ஆஸ்டியோ ஆர்தரைட்டிஸ் உள்ளவர்களுக்கு மூட்டின் வேலைகள் மட்டுமே பாதிக்கப்படும், இது தோல், நுரையீரல், கண், இரத்தக் குழாய்களை பாதிக்காது.	ஒளி பதிவு	...E\$A; ... ÆE ... ÅüEç Å... ÅÅÜø%ø ÅüÜø ÅÅ;øøøø	\$øøÏ Åøø ÜÜøø	...E\$A; ... ÆE ... ÅüEç Å... ÅÅÜ

2.	1நி	ஆஸ்டியோ ஆர்த்ரைட்டிஸினால் பாதிக்கப்படும் பகுதிகளை வரிசைப்படுத்துதல்	<u>ஆஸ்டியோ ஆர்த்ரைட்டிஸினால் பாதிக்கப்படும் இடங்கள்:</u> > முழங்கால், இடுப்பு, கைகளை பாதிக்கிறது (விரல்களின் முடிவிலும், கட்டை விரலிலும்) > கால், தண்டுவடம் (கழுத்து மற்றும் முதுகுப்பகுதி)	ஒளி பதிவு	- ...Ê\$Â; ñ ÷ò''ÃÊ... jø Â;¼ð ùòÃÏ ò ÆÏ ¼ç''Ç ÅÃç''òòÃÏ ò ¼ç ÄüÛò ÅÃ;¼ò¼ø	\$,òÏ Æ¼ø ÛÛ¼ø	- ...Ê\$Â; ñ ÷ò''ÃÊ... jø Â;¼ð ùòÃÏ ò ÆÏ ¼ç''Ç ÅðÊÃÃð
3.	2 நி	ஆஸ்டியோ ஆர்த்ரைட்டிஸின் வகைகளை அறிதல்	<u>ஆஸ்டியோ ஆர்த்ரைட்டிஸின் வகைகள்:</u> > ஆரம்ப கட்ட நிலை > இரண்டாம் கட்ட நிலை <u>ஆரம்ப கட்ட நிலை</u> இது வயது சம்பந்தப்பட்டது. வயது முதிர்ச்சியின் காரணமாக சவ்வுப் பகுதியில் அதிக நீர் சேர்கின்றது; புரதச்சத்து குறைகின்றது. மூட்டுகளுக்கு அதிக அழுத்தம் மற்றும் பளு கொடுப்பதினால் சவ்வுகள் பாதிக்கப்பட்டு வலி மற்றும் வீக்கம் ஏற்படுகின்றது, மேலும் இதனால்	ஒளி பதிவு	- ...Ê\$Â; ñ ÷ò''ÃÊ... ý Å''''''Ç ÅðÊÃÃð ¼ø	\$,òÏ Æ¼ø ÛÛ¼ø	- ...Ê\$Â; ñ ÷ò''ÃÊ... ý Å''''''Ç ÅðÊÃÃð

			<p>சவ்வு தேய்மானம் அடையும் போது, இரண்டு எலும்புகளும் உராய்ந்து வலி ஏற்படுகிறது. இதன் விளைவாக மூட்டுகளை அசைக்க முடியாத சூழ்நிலை ஏற்படுகின்றது.</p> <p><u>இரண்டாம்கட்ட நிலை</u></p> <p>இது முக்கியமாக மற்ற நோய்களின் காரணமாகவே ஏற்படுகிறது. இரண்டாம் கட்ட நிலை ஆஸ்டியோ ஆர்த்ரைட்டிஸின் காரணங்கள் என்னவெனில் உடல் பருமன், அறுவை சிகிச்சை, தொடர்ந்து காயங்கள், பிறவி ஊனம், முழங்கால் வீக்கம், சர்க்கரை நோய், சுரப்பிகள் செயல் இழத்தல் ஆகியவை.</p>				
4.	3 நி	<p>ஆஸ்டியோ ஆர்த்ரைட்டிஸினால் வரும் பாதிப்புகளை விவரித்தல்</p>	<p><u>ஆஸ்டியோ ஆர்த்ரைட்டிஸினால் வரும் பாதிப்புகள்:</u></p> <p>ஆஸ்டியோ ஆர்த்ரைட்டிஸ் உள்ளவர்கள் பொதுவாக முழங்கால் வலி, மற்றும் முழங்கால் இறுக்கத்தை அனுபவிப்பார்கள். இது பல விதத்தில் வெவ்வேறு நிலையில் பாதிப்பை</p>	ஒளி பதிவு	<p>→ ...É\$Á; → ÷ò''ĀĒ...Ĉ É;ø ÅŌō ĀĈ' Ç×, ''Ç ĀĀ;¼ò¼ø</p>	<p>§,ōī À¼ø ÛÛ¼ø</p>	<p>→ ...É\$Á; → ÷ò''ĀĒ...Ĉ É;ø ÅŌō ĀĈ' Ç×, ''Ç ÀðĒĀĀđ</p>

ஏற்படுத்துகின்றது. மற்றும் மிக வேகமாக வளரக்கூடிய நோயாகும். ஆனால் பெரும்பாலானோருக்கு, பல ஆண்டுகளுக்கு பிறகே மூட்டு பாதிப்பு ஏற்படுகின்றது. ஒரு சிலருக்கு இது தினசரி வாழ்க்கை முறையை பாதிக்கும். ஆனால் மற்ற சிலருக்கு வலி மற்றும் ஒன்றுமே செய்ய இயலாத நிலை ஏற்படுகின்றது.

ஆஸ்டியோ ஆர்தரைட்டிஸ் மூட்டு சம்பந்தமான நோயாக இருந்தாலும் கூட, பொருளாதாரம் மற்றும் வாழ்க்கை தரத்தை பாதிக்கிறது.

வாழ்க்கை முறையை பாதிக்கக்கூடிய காரணிகள்:

- மன அழுத்தம்
- பயம்
- உதவியற்ற நிலை
- தினசரி வேலைகளில் தடை
- தொழிலில் தடை
- சுய மற்றும் குடும்ப சந்தோஷத்தில் பங்கேற்க

			இயலாமை.				
5.	3 நி	ஆஸ்டியோ ஆர்த்ரைட்டிஸினா ல் வரும் அறிகுறிகளை அறிதல்	அறிகுறிகள்: இந்த நோய் மெதுவாக அதிகரித்து வளருகின்றது. ஒவ்வொருவருக்கும் அறிகுறிகள் வித்தியாசப்படும். இது விட்டு விட்டு வரக்கூடியது. ஆரம்பத்தில் வேலை மற்றும் உடற்பயிற்சி செய்தால் மூட்டுவலி ஏற்படும். பின்னர் வலி மிகவும் கூடும், மேலும் மூட்டுகளில் இறுக்கம் ஏற்படும். பெரும்பாலும் ஒரே நிலையில் அதிக நேரம் இருந்தாலோ அல்லது படுக்கையிலிருந்து எழுந்தாலோ பயங்கரமான மூட்டு வலி ஏற்படும். முக்கொயமாக இறுதி நிலையில் சவ்வு வீணாகுதல், எலும்பு உராய்வு போன்றவை உண்டாகும். மேலும் ஓய்வு நேரத்திலும் கூட வலி, மற்றும் கால்களை அசைக்க இயலாத நிலை உண்டாகும். கால சூழ்நிலைகள் மாறும் போதும் வலி அதிகரிக்கும். முன்னெச்சரிக்கை அறிகுறிகள்:	ஒளி பதிவு	→ ...Ê\$Â; §,õĪ Å¼ø → ÷ò''ĀĒ...Ċ ÛÛ¼ø É;ø ÅÕø « Èð ÈĊ''Ċ ÀðĒĀĀð ¼ø		→ ...Ê\$Â; §,õĪ Å¼ø → ÷ò''ĀĒ...Ċ ÛÛ¼ø É;ø ÅÕø « Èð ÈĊ''Ċ ÀðĒĀĀð ¼ø

			<ul style="list-style-type: none"> • ஒரே நிலையில் அமர்ந்து இருந்தாலோ அல்லது படுக்கையில் இருந்து எழும் போதோ மூட்டுக்களில் இறுக்கம் ஏற்படுதல் • ஒன்று அல்லது இரண்டு மூட்டுகளில் <u>வீக்கம்</u> • எலும்பு உரையும் போது <u>கரகர</u> என சப்தம் ஏற்படுதல். <p>ஒரு சிலருக்கு தொடர்ந்தோ, விட்டு விட்டோ வலி அதிகரிக்கும். வேலை செய்யும் போது வலி அதிகமாகும். ஓய்வு எடுக்கும் போது வலி குறையும்.</p> <p>உடல் எடை கூடும் போதும் ஆஸ்டியோ ஆர்தரைட்டிஸ் வருகின்றது. மூட்டு சவ்வின் தேய்மானம் ஏற்படுவதினால் மூட்டு வலி மற்றும் கால்கள் வளைந்து போகின்றது.</p> <p>உடலின் எடையை தாங்க முடியாமல் எலும்பு தேய்மானம் அடைவதால், தாங்கி நடக்க வேண்டிய நிலை நேரிடுகிறது. இந்த நிலை மிகவும் மோசமடைந்து சவ்வு மிக அதிகமாக</p>				
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தேய்மானம் அடைகின்றது.

ஆஸ்டியோ ஆர்தரைட்டிஸ் கழுத்து தண்டுவடம் மற்றும் முதுகு தண்டுவடத்தினை பாதிப்பதால், கழுத்து மற்றும் முதுகுப் பகுதியிலும் வலியை உண்டாக்குகின்றது. ஆஸ்டியோ ஆர்தரைட்டிஸ் கடுமையான வீக்கத்தை விரல்களில் உள்ள மூட்டுகளில் ஏற்படுத்துகின்றது.

மூட்டுகளின் மேல் சூடாக இருந்தாலோ அல்லது தோல் சிகப்பு நிறமாக மாறினாலோ மேலும் அறிகுறிகளாக காய்ச்சல் மற்றும் தோல் தடிப்பு ஏற்பட்டாலோ அது ஆஸ்டியோ ஆர்தரைட்டிஸ் இல்லை. அது ருமடாய்டு ஆர்தரைட்டிஸாக கூட இருக்கலாம். எனவே இதனை மருத்துவரிடம் பரிசோதனை செய்து கொள்ளவேண்டும்.

6.	2 நி	<p>ஆஸ்டியோ ஆர்த்ரைட்டிஸி னை கண்டறியும் முறையினை விளக்குதல்</p>	<p>எளிய முறையில் நோயைக் கண்டறியும் முறைகள்</p> <p>➤ விவரம் கேட்டறிதல்</p> <p>மேற்சொன்ன என்னென்ன அறிகுறிகள், எப்போது, எப்படி ஏற்பட்டது என்பது பற்றியும், என்ன என்ன மாற்றங்கள் ஏற்பட்டது என்பதை குறித்து கேட்டு அறிந்து கொள்ள வேண்டும்.</p> <p>➤ உடற்பரிசோதனை முறைகள்:</p> <p>அனிச்சை செயல், உடல் நலம் மற்றும் தசைகளின் வலிமையை சோதிக்க வேண்டும். மூட்டுகளை சோதித்து, அவைகளின் நடக்கும் முறை, குனியும் முறை மற்றும் அன்றாட வேலைகளை செய்ய முடிகின்றதா என பார்க்க வேண்டும்</p> <p><u>இதனை ஆராய்வதற்கு உதவுவது,</u></p> <p>எங்கு வலி ஏற்படுகிறது, எவ்வளவு நேரம் மற்றும் எப்படிப்பட்ட வலி என்பதையும், வலியின்</p>	ஒளி பதிவு	<p>→ ...Ê\$Â; Ñ ÷ò''ÃÊ...Ç ''É ¸ñ¼Ê0õ Ó''È¸''Ç ÅÃ;¼0¼ø</p>	<p>§,õî Æ¼ø ÛÛ¼ø</p>	<p>→ ...Ê\$Â; Ñ ÷ò''ÃÊ...Ç ''É ¸ñ¼Ê0õ Ó''È¸''Ç ÀðÊÃÃð</p>
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			குணாதிசையங்களையும் வைத்து அறிந்து கொள்ளலாம். இதன் முக்கிய தூண்டுகோலாக அமைவது கடினமான மூட்டு வலியும், மூட்டுகள் பெரிதாகி வீக்கமடைவதாகும்.				
6.	15 நி	ஆஸ்டியோ ஆர்த்ரைட்டிஸிற்கான சுய பராமரிப்பு முறைகளைப் பற்றி பழகுதல்	ஆஸ்டியோ ஆர்த்ரைட்டிஸிற்கான சுய பராமரிப்பு முறைகள்: சுய பராமரிப்பு முறைகளில் வாழ்க்கை முறை மாற்றம், அடிப்படைத் தேவை மற்றும் உடல் நலம் மூன்றும் கலந்து சிகிச்சை அளிக்கப்படும். ஒரு சில நோயாளிகளுக்கு சிறிதளவே வலி இருக்கும். இவர்களுக்கு எந்த வித சிகிச்சை முறையும் தேவையில்லை. மற்றவர்களுக்கு ஓய்வு, உடற்பயிற்சி, உணவு முறை, உடல் எடை குறைத்தல் மற்றும் கருவிகளின் துணை ஆகியவற்றின் மூலம் நிறைய நன்மைகளைப் பெறலாம். இதை மேற்கொள்ள முக்கியமாக உடல் எடையத் தாங்கும் பெரிய மூட்டுகள் அதாவது, இடுப்பு,	ஒளி பதிவு	<p> $\neg \dots \text{E} \text{S} \text{A} \text{;}$ $\neg \dots \text{E} \text{S} \text{A} \text{;}$ $\ddot{u} \text{; j} \text{E} \text{I} \text{A}$ $\text{A} \text{j} \text{D} \text{; j} \text{o} \text{O}$ $\text{O} \text{; E} \text{; ;} \text{C}$ $\text{A} \text{o} \text{E} \text{A} \text{A} \text{o} \text{I}$ $\text{A} \text{C} \text{i} \text{I} \text{; } \text{o}$ </p>	<p> $\text{S} \text{; o} \text{I} \text{o}$ $\text{A} \text{u} \text{P} \text{o}$ $\text{I} \text{o} \text{o} \text{D} \text{o}$ $\text{; j} \text{I} \text{A} \text{o} \text{; } \text{o}$ </p>	<p> $\neg \dots \text{E} \text{S} \text{A} \text{;}$ $\neg \dots \text{E} \text{S} \text{A} \text{;}$ $\ddot{u} \text{; j} \text{E} \text{I} \text{A}$ $\text{A} \text{j} \text{D} \text{; j} \text{o} \text{O}$ $\text{O} \text{; E} \text{; ;} \text{C}$ $\text{A} \text{A} \text{; } \text{o} \text{D}$ $\text{I} \text{o} \text{D}$ $\text{; j} \text{I} \text{A} \text{o} \text{; } \text{o}$ </p>

மற்றும் முழங்கால் மூட்டு ஆகியவை பாதிக்கப்பட்டாலோ, இந்த முறைகளைப் பயன்படுத்தலாம்.

சுயபராமரிப்பு முறைகளின் முக்கிய நோக்கங்கள்:

- வலியைக் கட்டுப்படுத்தல்
- மூட்டு வேலையை அதிகரித்தல்
- சரியான உடல் எடையை பாதுகாத்தல்
- நல்ல வாழ்க்கை முறைகளை கடைபிடித்தல்.

அடையக்கூடிய முறைகள்:

- அன்றாட வாழ்க்கைக்கான முறைகள்
- உடற்பயிற்சி முறைகள்
- உணவு முறைகள்
- உடல் எடையைக் கட்டுப்படுத்தும் முறைகள்
- மருந்து இல்லாமல் வலியைக் குறைக்கும் முறைகள்

		<p>➤ மூட்டுகளுக்கு ஓய்வு அளிக்கும் முறைகள் மற்றும் மூட்டுக்களின் அழுத்தத்தை கொடுப்பதைத் தவிர்க்கும் முறைகள்</p> <p>➤ சமூக மயமாக்கும் முறைகள்</p> <p><u>அ. அன்றாட வாழ்க்கைகான முறைகள்:</u></p> <p>தொடர்ச்சியாக உடற்பயிற்சிமேற்கொள்ளுபவர்களும், உணவு கட்டுப்பாட்டில் உள்ளவர்களும், உடற்கூகாதாரம், உடையணிதல், உடையை கழட்டுதல், சாப்பிடுவது, சிறுநீர் மற்றும் மலம் ஆகியவற்றை கட்டுப்படுத்துவது மற்றும் நடப்பது போன்றவைகளை எவரின் உதவி இல்லாமல் தானே செய்யலாம்.</p> <p><u>ஆ. உடற்பயிற்சி:</u></p> <ul style="list-style-type: none"> • உடற்பயிற்சி, புத்துணர்ச்சியையும், வலியை குறைக்கவும், மூட்டுக்களின் வேலைத் திறனை அதிகரிக்கவும், இதயத்திற்கு 				
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			<p>வலிமையையும், சீரான இரத்த ஓட்டத்தையும், சீரான உடல் எடையை பாதுகாக்கவும் உதவுகிறது. மேலும் சீரான உடல் நலனை பாதுகாக்கவும் உதவுகிறது.</p> <ul style="list-style-type: none"> • இதற்கு பணம் தேவையில்லை. ஆனால் சரியாக செய்யாவிட்டால், சில பக்க விளைவுகள் ஏற்பட வாய்ப்பு உள்ளது. • எந்த வகையான உடற்பயிற்சி தேவை என்பதை பாதிக்கப்பட்டுள்ள மூட்டு அல்லது மூட்டு மாற்றப்பட்டுள்ளதா அல்லது மூட்டு வலியின் அளவு பொருத்தே அமையும். • ஆஸ்டியோ ஆர்த்ரைட்டிஸ் உள்ளவர்கள் தினசரி மேற்கொள்ளும் சில உடற்பயிற்சிகளான நடைபயிற்சி, நீச்சல், நிலையான மிதிவண்டி மிதித்தல், மிதமான பலுதூக்கும் பயிற்சி, ஆகியவை. • சுய பராமரிப்பு மற்றும் உடல் நலம் ஆகியவற்றிற்கு உடற்பயிற்சி முக்கிய பங்கு 				
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			<p>வகிக்கிறது.</p> <p><u>உடற்பயிற்சியின் வகைகள்:</u></p> <p>i. <u>முதல் வகை - தசைவலிமை ஏற்றும் பயிற்சி:</u></p> <p>இது சதைகளை வலுப்படுத்த உதவுகிறது. கடின தசைகள் ஆர்த்ரைட்டிஸ் பாதிக்கப்பட்ட எலும்புகளை பாதுகாக்க உதவுகிறது. இந்த உடற்பயிற்சியில் தசைகளின் வலிமையை உடற்பாகத்தை ஆசைக்காமலேயே செய்யலாம். மேலும் வலிக்கும் முட்டியை மடக்காமலேயே செய்யலாம். தடைக்கெதிராக தசைகளை அழுத்தி பயிற்றுவிப்பதால் அதன் அளவு மற்றும் திறன் அதிகரிக்கும்.</p> <p>ii. <u>இரண்டாவது வகை - காற்றுவெளி பயிற்சி:</u></p> <p>இது இதய வலிமையை அதிகரிக்கிறது. உடல் எடையை பராமரிக்கவும் உதவுகிறது. மேலும் உடற் செயலை அதிகரிக்கிறது.</p>				
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			<p>ஆஸ்டியோ ஆர்தரைட்டிஸ் உள்ளவர்கள் உடல் எடையை தாங்க முடியாத நிலை இருந்தால், ஓடுவது, விளையாடுவது போன்றவற்றைத் தவிர்க்கலாம். நடை பயிற்சி நல்ல மாற்றத்தை ஏற்படுத்தும்.</p> <p>iii. <u>மூன்றாவது வகை - மூட்டு அசைவு பயிற்சி:</u></p> <p>இது இறுக்கத்தை குறைக்க உதவுகிறது. இது மூட்டுகளின் அசைவை சரியாக வைத்து, வளையும் திறனையும் கொடுக்கிறது.</p> <p>ஒவ்வொரு உடற்பயிற்சியும் செய்யும் போதும் சரியாக தயார்படுத்திக்கொண்டு, உடற்பயிற்சியை மெதுவாக தொடங்க வேண்டும். ஒவ்வொரு உடற்பயிற்சிக்கு இடையிலும் சரியான ஓய்வு நல்ல பலனைத் தரும். மேலும் காயம் ஆவதைத் தவிர்க்கும். தவிரான உடற்பயிற்சி செய்வது அல்லது தவிரான</p>				
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		<p>முறையில் பயிற்சி செய்வது பிரச்சனையைத் தரும்.</p> <p>^ நடைப்பயிற்சி நல்ல முன்னேற்றத்தைத் தரும். எவ்வளவு தூரம் நடக்கின்றோமோ, அவ்வளவு நல்லது.</p> <p>^ மூட்டு ஆஸ்டியோ ஆர்தரைட்டிஸ் உள்ளவர்கள் உடறியிற்சி செய்வதால் வலி குறைவதாக உணர்கின்றனர். அவர்கள் நன்றாக செயல்பட இயலுகின்றது.</p> <p><u>இ. உணவு முறை:</u></p> <p>சரியான உணவு பழக்கம், உடல் எடை கட்டுப்பாடு ஆகியவை உடல் எடை தாங்கும் மூட்டுகளில் ஏற்படும் அழுத்தத்தைக் குறைக்க உதவுகின்றது. மேலும் மற்ற உடற் சம்பந்தமான பிரச்சனைகள் வராமல் தடுக்கின்றது.</p> <p>நார்சத்து அதிகம் நிறைந்த உணவும், கொழுப்பு குறைந்த உணவு, மாவுசத்து</p>				
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		<p>உணவுகள், வைட்டமின் ஏ, சி நிறைந்தவை, (சவ்வு தேய்மானம் அடைவதைத் தவிற்கின்றது), வைட்டமின் இ, (ப்ரோடியோக்லைகேன் அதிகம் தங்குவதற்கு உதவி செய்கிறது), பச்சைத் தேயிலை, சமைத்த பருப்பு, மற்றும் தானிய வகைகள், வேகவைத்த பயிறுகள், வேகவைத்த காய்கறிகள், பச்சை காய்கள் (குக்காளி, பீட்ரூட், காரட்), பழங்கள், இஞ்சி, மஞ்சள் (இவை நோய் எதிர்ப்புத் திறனை அளிக்கிறது). இதை சூப் மற்றும் பொரியலில் சேர்த்துக்கொள்ளலாம்). ஆகியவை ஆஸ்டியோ ஆர்தரைட்டிஸினால் பாதிக்கப்பட்டவர்களுக்கு பரிந்துரைக்கப்படும் உணவுகள் ஆகும்.</p> <p>மீன் எண்ணெய் மாத்திரைகள், மீன் உணவுகள், இவைகளில் நோய் எதிர்ப்பு சக்தி நிறைந்துள்ளது. மேலும் ஆஸ்டியோ ஆர்தரைட்டிஸினால் ஏற்படும் வீக்கத்தை</p>				
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குறைக்கிறது.

குளுகோசமின் சல்பேட் என்ற தாதுபொருள் நிறைந்த உணவு இரால், நண்டு, எலும்பு மஞ்சை, வேகவைத்த எலும்பு மற்றும் சவ்வு பகுதிகள் ஆகியவை மூட்டிகளின் சவ்வுகளை வலிமைப்படுத்தவும், மூட்டுக்களுக்கு வலிமை ஏற்றவும் உதவுகின்றது. இவை நிறைந்த உணவு மூட்டுகளை தேய்மானத்திலிருந்து பாதுகாத்து உடலை நிலையாக வைக்கவும், மூட்டு தேய்மானத்திலிருந்து பாதுகாத்து மூட்டுகளை பலப்படுத்தவும் உதவுகிறது.

உணவில் கலோரி மற்றும் கொழுப்புச்சத்தை குறைக்க வேண்டும். ஏனெனில், அதிக உடல் எடை, உடல் பருமன், மூட்டு அழுத்தத்தை அதிகரிக்கும். பால் மற்றும் பால் சம்பந்தமான உணவுப் பொருட்கள் கொழுப்பு இறைச்சி, பொறித்த உணவுகள் உருளைக்கிழங்கு, தக்காளி அதிக அளவு டீ, காபி, மதுபானம்,

இனிப்பு சேர்ப்பதைத் தவிர்க்க வேண்டியது மிகவும் அவசியம்.

ஈ. உடல் எடையைக் கட்டுப்படுத்துதல்:

அதிக உடல் எடை ஆஸ்டியோ ஆர்தரைட்டிஸ்க்கு முக்கிய காரணமாகும். ஆஸ்டியோ ஆர்தரைட்டிஸ் உள்ளவர்கள் யார்தங்கள் உடல் எடை அதிகமாக இருந்தால் குறைக்க முயல வேண்டும். இல்லையெனில், அதிக உடல் எடை, அதிக அழுத்தம் மற்றும் உடல் எடை தாங்கும் மூட்டுகளில் வலியை ஏற்படுத்தும். உடல் எடையை கட்டுப்பாட்டில் வைப்பதால் மூட்டுகளின் அழுத்தத்தை குறைக்கலாம். காயங்கள் ஏற்படுவதையும் தவிர்க்கலாம் மேலும் மூட்டுகளில் செயல்திறனை அதிகப்படுத்தவும் உதவுகிறது.

ஆரம்ப நிலை ஆஸ்டியோ ஆர்தரைட்டிஸ் கைகளில் உள்ளவர்கள் முன்னெச்சரிக்கையாக

உடல் எடையை குறைப்பது மிகவும் அவசியமாகும். ஏனெனில், அவர்களுக்கு கால்முட்டு ஆர்த்ரைட்டிஸ் வருவதற்கும் அதிக வாய்ப்புகள் உள்ளன.

உணவு முறை மற்றும் சரியான உடற்பயிற்சி, உடல் எடையை கட்டுக்குள் வைக்க உதவுகிறது. உடல் எடையை அதிகரிக்கக்கூடிய உணவுகளை தவிர்ப்பது நல்லது.

உ. மருந்தில்லாமல் வலியை குறைக்கும் முறைகள்:

ஆஸ்டியோ ஆர்த்ரைட்டிஸ் உள்ளவர்கள் மருந்தினால் வலியை குறைக்க சில முறைகளை அறிந்து கொள்ளலாம்

➤ சூடு மற்றும் குளிர் ஒத்தட முறை:

சூடு தண்ணீர் ஒத்தடம் மற்றும் குளிர் தண்ணீர் ஒத்தடம் முறை வலியைக் குறைக்க

உதவுகிறது.

உடற்பயிற்சிக்கு முன் சுடு ஒத்தடமும், உடற்பயிற்சிக்குப் பின் குளிர்நீர் ஒத்தடமும் மூட்டு வலியையும் மற்றும் வீக்கத்தையும் குறைக்கின்றது.

➤ சுடு ஒத்தடம் பல விதங்களில் கொடுக்கலாம். அவை சுடுதண்ணீரில் முக்கிய துணி மூலம் ஒத்தடம், சுடு பாக்கேட் ஒத்தடம் மற்றும், சுடு தண்ணீரில் குளித்தல் போன்றவை. இவை இரத்த ஓட்டத்தை அதிகரித்து வலியையும், இறுக்கத்தையும் குறைக்கிறது.

➤ குளிர்நீர் ஒத்தடம் பல வகைகளில் வைக்கலாம். அவை ஐஸ் கட்டிகள் அல்லது குளிர்நீர் காய்கறிகளை பிளாஸ்டிக் பைகளில் ஆல்லது துணியில் வைத்து ஒத்தடம் கொடுக்கலாம். இவை வீக்கம்

		<p>குறைந்து வலியையும் குறைக்கிறது. மேலும் மருத்து போகவும் செய்து வலியை குறைக்கிறது.</p> <p><u>பாதுகாப்பான அறிவுரைகள்</u></p> <ul style="list-style-type: none"> ➤ 20வது நிமிடத்திற்கு மேல் சூடு அல்லது குளிர் ஒத்தடம் கொடுக்கக் கூடாது. ➤ திரும்ப வைக்கும் போது தோல் பழைய வெப்பநிலைக்கு வந்தவுடன் தான் ஒத்தடன் கொடுக்க வேண்டும். ➤ சூடு அல்லது குளிர் ஒத்தடம் கொடுக்கும் போது களிம்புகள் தடவுவதை தவிர்த்து, நெருப்புக் காயம் ஏற்படுவதை தவிர்க்கலாம். ➤ மூட்டுகளில் மிக அதிக நேரம் குளிர் ஒத்தடம் கொடுக்க வேண்டாம். அது மூட்டுகளை சுற்றி உள்ள தசைகளை பாதிக்கலாம். <p><u>சரியான உடல் நிலை</u></p>				
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			<p>உதவுகிறது. மேலும் நோயை எதிர்த்து போராட மன வலிமையை கொடுக்கிறது.</p> <p>➤ 8 மணி நேரத்திலிருந்து 10 மணி நேரம் வரை உறக்கம் அவசியம். ஆர்தரைட்டிஸ் இரவு நேர உறக்கத்தை பாதிக்குமானால், தேவையான தலையணை, சரியான படுக்கை நிலையை மற்றும் வலிக்கு மருந்து உட்கொள்ளுதல், இவை அனைத்தும் இரவு நேர உறக்கத்தை அதிகரிக்கும்.</p> <p>➤ மேலும், விடியற்காலை உடற்பயிற்சி செய்வதால் நல்ல உறக்கம் கிடைக்கும். காபி, டீ, மதுபானம் போன்றவற்றை இரவு நேரங்களில் அருந்துவதை தவிர்க்க வேண்டும். இருட்டான படுக்கை அறை, அமைதியான சூழ்நிலை, இதமான காலநிலை, சுடுதண்ணீரில் குளித்தல்,</p>				
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			<p>இவை அனைத்தும் உறங்கும் நேரத்தில் தசைகளை இலகுவாக்கும்.</p> <p>➤ மேலும், வலி உறக்கத்தை பாதிக்குமானால், மனதை வேறு நிலைப்படுத்தி, மனதை அமைதிப்படுத்தும் வழி வகைகளை மேற்கொள்ளலாம்.</p> <p>➤ மேலும், மூட்டு வலி உறக்கத்தை, அல்லது ஓய்வு எடுப்பதை பாதித்தால், மருத்துவரிடம் அலோசனை பெற்றுக் கொள்ளலாம்.</p> <p>➤ ஒரு சிலருக்கு சரியான காலணி அணிவதால் வலி குறைவதாகவும், நடக்க உதவுவதாகவும் கூறப்படுகின்றது. நடை கருவிகள் (கோல், வாக்கர்) பயன்படுத்துவதால் மூட்டுவலி குறைகிறது.</p> <p>➤ கட்டுகள், மூட்டு கவசம் போன்றவை மூட்டுகளுக்கு மேலும் பக்கபலமாக இருக்கவும், அதன் நிலையை தூங்கும் போதும், வேலை செய்யும் போதும்</p>				
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			<p>பாதுகாக்கிறது.</p> <ul style="list-style-type: none"> ➤ மூட்டுகளுக்கு பக்கபலமாக இருக்க போடும் கட்டுகள் மற்றும் மூட்டு கவசம் ஒரு குறிப்பிட்ட நேரம் வரை தான் உபயோகிக்க வேண்டும். ஏனெனில், மூட்டுகள் மற்றும் அதன் தசைகளுக்கு தேவையான பயிற்சி கொடுக்க வேண்டும் இல்லையெனில் அவை இறுகி, பலமிழந்து போய்விடும். ➤ விரல்களில் இருக்கும் மூட்டுகளுக்கும் கட்டுகள் பயன்படுத்தி மூட்டுக்களின் வலியிலிருந்து பாதுகாக்கலாம். ➤ தண்டுவட வலி மற்றும் கழுத்து வலிக்கு காலர் மற்றும் இறுகிய மெத்தையை பயன்படுத்தலாம். ➤ சில உதவும் கருவிகளை பயன்படுத்துவதால் மூட்டுகளின் அழுத்தத்தை குறைக்கலாம், அவை உயர்த்தப்பட்ட நாற்காலி, நீளமான கை 				
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			<p>உடைய உடல் தேய்க்கும் நார். பிடித்து எடுக்கும் குச்சிகள், கை பிடிகள் பொருத்திய கழிவு மற்றும் குளியல் அறைகள், உயர்த்தப்பட்ட கழிவு அறை, மற்றும் ரப்பர் பொறுத்தியவர்க்கர் மற்றும் கைத்தடிகோல் போன்றவை.</p> <p>➤ பளு உயர்த்தும் போதும், தூக்கும் போதும் மற்றும் பலமான மூட்டுகள் மற்றும் தசைகளை பயன்படுத்தி எலும்பு மற்றும் தசை முறிவைத் தவிர்க்கலாம்.</p> <p><u>எ. சமூக மயமாக்குதல்:</u></p> <p>ஆஸ்டியோ ஆர்த்ரைட்டிஸ் இருந்தால் அது மகிழ்த்தக்க ஒன்று அல்ல எனினும் அது மகிழ்ச்சியை தடுக்க கூடியது அல்ல.</p> <p>மன அழுத்தம், மன உளைச்சல், உணர்ச்சி வசப்படுதல், பயம் ஆகியவை தான் ஆஸ்டியோ ஆர்த்ரைட்டிஸ் உருவாவதற்கான சில காரணிகள். அவை மேலும் வலியின் அளவை</p>				
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அதிகரிக்கின்றன.

விளையாட்டுகள், பழக்கவழக்கங்கள், சமூக வேலைகளை முன்வந்து செய்வது போன்றவை வலியிலிருந்து மன நிலையை மாறச் செய்து மகிழ்ச்சியாகவும், எல்லா நிலையில் சிறந்தவராகவும் இருக்க உதவுகிறது.

இந்த பழக்கங்கள் மன பிரச்சனைக்கான, மன அழுத்தம், மன உளைச்சல் அகியவற்றை மட்டும் குணப்படுத்தாமல், மூட்டு வலியையும், இறுக்கத்தையும் குணப்படுத்துகிறது

நல்ல அரோக்கியமான எண்ணங்களை

வளர்ப்பதற்கான சில செய்திகள்:

- > இயலாமையை மாற்றி இயலும் காரியங்களில் கவனத்தை செலுத்துதல்
- > உங்களுடைய வலுவற்ற நிலையை விட்டுவிட்டு திறனை வெளிப்படுத்தவும்.
- > தங்களால் எதிர்கொள்ள கூடிய அளவிற்கு வேலையை சிறியதாகி (அ) குறைத்துக்

			<p>கொள்ளவும்.</p> <ul style="list-style-type: none"> ➤ தினசரி வாழ்க்கை சுழற்சியில் ஆரோக்கியமான உணவு முறைகளையும், கட்டுக்கோப்பான உடலையும் வைத்துக் கொள்ள வேண்டும் ➤ மன அழுத்தத்தை குறைக்கும் முறைகள் பற்றி அறிந்து கொள்ள வேண்டும். ➤ வேலைகளுக்கிடையே அளவான ஓய்வு தேவை. ➤ குடும்பத்தோடு, நண்பர்கள் மற்றும் உறவினர்களோடு நல்ல உறவு முறையை வளர்த்துக் கொள்ள வேண்டும். 				
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முடிவுரை:

ஆரோக்கியமான வாழ்க்கையை வாழ நல்ல எண்ணங்களும், சுய பாதுகாப்பும் சிறந்த வழிகளாகும். ஆஸ்டியோ ஆர்தரைட்டிசை சமாளிக்கும் போது பெரும்பாலான காரியங்களை மனதில் கொண்டு சரியான முறையை தேர்ந்தொடுக்க வேண்டும். இந்த எண்ணமும், ஆரோக்கியமும் உடனடியாக அமைவது அல்ல. இதற்கான முயற்சி தினசரி

தேவை. மேலும், சரியான எண்ணத்தோடு உங்கள் தேவைகளை நீங்களே சந்திக்கலாம். இந்த ஆஸ்டியோ ஆர்த்ரைட்டிஸ் சுய பராமரிப்பு முறை நிகழ்ச்சி ஆஸ்டியோ ஆர்த்ரைட்டிஸினால் பாதித்தவர்கள் இந்த நோயினைப் பற்றியும், வலியைக் குறைத்து செயல் திறனை அதிகரிப்பதை, மனதளவிலும், உடல் அளவிலும், ஏற்றுக்கொண்டு நோயைக் கட்டுப்படுத்தவும், மன உறுதியை வளர்க்கவும் உதவுகிறது. மேலும் அவர்களின் செயல் திறனை அதிகரித்து சுதந்திரமான வாழ்வு வாழ உதவுகிறது.

ANNEXURE - X

DATA COLLECTION SCHEDULE

S. No	Setting of the study	Date of patient selection	Total No of clients	Data collection (Pre test)	Post test I	Post test II	Post test III
1	Mother Teresa old age home	3/3/12 4/3/12	27	10/3/12 11/3/12	24/3/12 25/3/12	7/4/12 8/4/12	21/4/12 22/4/12
2	Vanaprastha Senior Citizen complex	8/9/12 9/9/12	48	15/9/12 16/9/12	29/9/12 30/9/12	13/10/12 14/10/12	27/10/12 28/10/12
3	Dyanaprastha Senior Citizen complex	6/10/12 7/10/12	42	20/10/12 21/10/12	3/11/12 4/11/12	17/11/12 18/11/12	1/12/12 2/12/12
4	St. Thomas old age home	8/12/12 9/12/12	33	15/12/12 16/12/12	29/12/12 30/12/12	12/1/13 13/1/13	26/1/13 27/1/13
5	Ram Aravindar Home for the aged	22/12/12 23/12/12	22	5/1/13 6/1/13	19/1/13 20/1/13	2/2/13 3/2/13	16/2/13 17/2/13
6.	Pyramid complex	9/2/12 10/2/13	41	23/2/13 24/2/13	9/3/13 10/3/13	23/3/13 24/3/13	6/4/13 7/4/13
7	Neyam old age home	16/2/13 17/2/13	28	2/3/13 3/3/13	16/3/13 17/3/13	30/3/13 31/3/13	20/4/13 21/4/13
8	Villa Carmel Grace	27/4/13 28/4/13	29	4/5/13 5/5/13	18/5/13 19/5/13	1/6/13 2/6/13	15/6/13 16/6/13
9	Shankara Seva Sadanam Seniors citizen complex	22/6/13 23/6/13	31	29/6/13 30/6/13	13/7/13 14/7/13	27/7/13 28/7/13	10/8/13 11/8/13

ANNEXURE – XI
PHOTO GRAPHS





ANNEXURE - XII RESEARCH STUDY PUBLICATIONS - A

A Study to assess the effectiveness of Video Teaching Programme (VTP) on Non Drug Pain Relief Measures of Osteoarthritis among Elderly in Selected Old Age Homes, Coimbatore, Tamil Nadu

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ABSTRACT

Introduction: Old age cannot be healed or prevented. However much can be done by health workers in helping the elderly to lead a normal life, which is necessary for them to perform their activities of daily living (ADL) smoothly. The commonest obstacle for elderly to carry out ADL is the problem of joint-pain and decreased mobility.

Objective: A study to assess the effectiveness of Video Teaching Programme on Non drug pain relief measures of Osteoarthritis (heat and cold therapy and proper body mechanisms) among elderly for improving their knowledge and practice towards non drug pain relief measures.

Design: Quasi Experimental Design- One group Pre test and Post test design

Setting: The study was conducted at Old Age Home in Coimbatore.

Participants: 27 Elderly clients with Osteoarthritis.

Measurements and tools: A assessment tool to identify the clients with Osteoarthritis and WOMAC (Western Ontario and McMaster Universities) tool for identifying the severity of Osteoarthritis. Structured Interview Schedule and Observation Checklist to assess the knowledge and practice of Non drug pain management of clients with Osteoarthritis. Descriptive and inferential statistics were used to analyze the data.

Findings: The findings of the study revealed that among 27 clients, the highest percentage (45%) of patients were in the age group of 60-65 years. 59% of clients are male. Most of the clients (33%) were educated up to primary education and had a history of previous occupation like semi manual work respectively. Highest percentage of clients (70%) were non vegetarians. 89% of clients were obese. 15% of clients have medical illness of CAD and 33% of clients not having any health problems. 74% of clients have joint pain more than 5 years. 89% of clients not using any assistive devices for mobilization. In pre test knowledge mean score was 2.778 ± 1.706 , the mean percentage is 34.73, whereas in post test it was 7.519 ± 0.625 , the mean percentage is 94, it shows that after implementation of VTP the clients gained excellent knowledge on non drug pain relief measures. Whereas in pre test practice mean score was 5.44 ± 1.387 and mean % was 30.22 where as in post test it was 14.33 ± 4.094 and mean % was 79.61, it shows that clients had fully adoptive practice after the video teaching programme. There was highly significant difference was found between pre test and post test knowledge and practice. Whereas there is a significant association between knowledge score and osteoarthritis clients education, previous occupation, type of diet and usage of any assistive devices for ambulation. There is significant association between the practice score with the demographic variables of age and duration of joint pain. There was highly significant difference between severity of osteoarthritis pre and post test practice scores. Positive correlation was found between pre and post test knowledge and practice scores.

Conclusion: It concluded that the education on Non drug pain relief measures through demonstration will improve the elderly client's knowledge and practice of self care.

Keywords: Video Teaching Programme (VTP), Osteoarthritis, Elderly Clients, Non Drug Pain Relief Measures.

INTRODUCTION

Carol Eustice, (2006)¹ said that arthritis patients searching for an effective mode of pain relief question whether it is better to use ice or heat on an affected joint. It has been suggested that personal preference is the determining factor. 150 patients with joint pain were asked to fill the questionnaires regarding their response to treatment with ice or heat. Twenty-six patients indicated that they had never tried ice or heat. Of the remaining 124 patients: 20 patients had gout diagnosed by crystals. 32 patients had rheumatoid arthritis. 32 patients had osteoarthritis. 18 patients had other types of inflammatory arthritis. 22 patients had soft tissue conditions; Researchers concluded that a significantly higher percentage of patients with gouty arthritis preferred topical ice for pain relief. Most patients with rheumatoid arthritis and osteoarthritis preferred heat.

Luciana E. Silva, et.al, (2008)² conducted a study on Hydrotherapy Versus Conventional Land-Based Exercise for the Management of Patients with Osteoarthritis of the Knee: A Randomized Clinical Trial. Sixty-four subjects with OA of the knee were randomly assigned to 1 of 2 groups that performed exercises for 18 weeks: a water-based exercise group and a land-based exercise group. The outcome measures included a visual analog scale (VAS) for pain in the previous week, the Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC), pain during gait assessed by a VAS at rest and immediately following a 50-foot (15.24-m) walk test (50FWT), walking time measured at fast and comfortable paces during the 50FWT, and the Lequesne Index. Measurements were recorded by a blinded investigator at baseline and at 9 and 18 weeks after initiating the intervention. The 2 groups were homogenous regarding all parameters at baseline. Pain before and after the 50FWT decreased significantly over time in both groups. However, the water-based exercise group experienced a significantly greater decrease in pain than the land-based exercise group before and after the 50FWT at the week-18 follow-up. Water-based exercises are a suitable and effective alternative for the management of OA of the knee.

Gillian Hawker (2007)³, More than half of our study participants report the use of heat and/or cold for pain relief. Heat can be applied to relieve and relax aching muscles and it can decrease joint pain and stiffness. The way it works is that it increases blood circulation to the area where it is applied. Due to this function, heat should not be placed directly on inflamed joints since that could result in making the pain worse. Cold

has the opposite effect of heat in terms of blood circulation by constricting blood vessels and decreasing the blood flow to the area. Unlike heat, ice can be applied and have a positive effect on pain of inflamed joints

OBJECTIVES OF THE STUDY

A study

1. To identify the clients affected with Osteoarthritis among elderly.
2. To assess the Self Care on Non drug pain relief measures among elderly with Osteoarthritis.
3. To assess the effectiveness of Video Teaching Programme.
4. To associate the Self care of elderly on Non drug pain relief measures with Osteoarthritis with demographic variables.

HYPOTHESES

- a. There is a significant difference between pre test and post test scores of the elderly clients regarding Non drug pain relief measures.
- b. There is a significant correlation between pre and post test knowledge and practice scores of the elderly clients regarding Non drug pain relief measures.
- c. There is a significant association between pre test scores and selected demographic variables of elderly clients regarding Non drug pain relief measures.

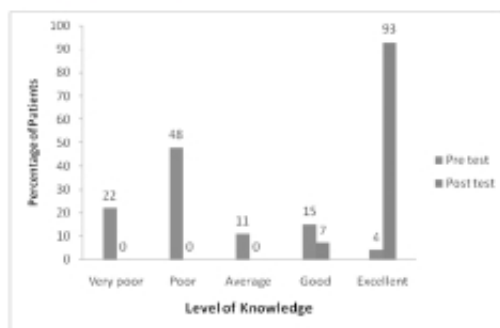
MATERIAL AND METHOD

The research design used in the study Quasi Experimental Design-One group Pre test and Post test design. The population of the present study comprises of Elderly clients with Osteoarthritis residing in old age homes, Coimbatore. After getting the Institutional Human Ethical Committee clearance and the formal permission from Old Age Homes, Coimbatore, identified the clients with Osteoarthritis and WOMAC (Western Ontario and Mc Master Universities) tool used for identifying the severity of Osteoarthritis. Structured Interview schedule and Observation Checklist were to assess the Self Care Management of non drug pain relief measures to clients with Osteoarthritis. The sample of the study comprises who fulfilled the inclusive criteria that have been included in the study. Both descriptive and inferential statistics were used for data analysis.

FINDINGS

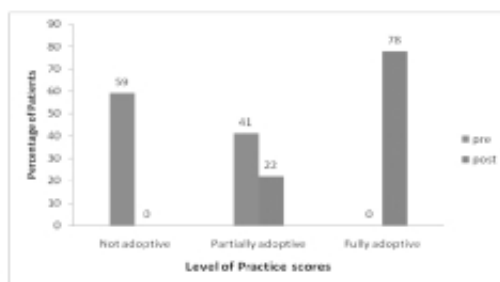
Among 27 clients, the highest percentage (45%) of patients were in the age group of 60-65 years. 59% of clients are male. Most of the clients (33%) were educated up to primary education and had a history of previous occupation like semi manual work respectively. Highest percentage of clients (70%) were non vegetarians. 89% of clients were obese. 15% of clients have medical illness of CAD and 33% of clients not having any health problems. 74% of clients have joint pain more than 5 years. 89% of clients not using any assistive devices for mobilization.

Fig. 1. Distribution of elderly clients according to their level of knowledge



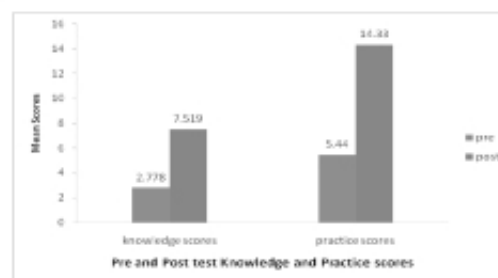
Distribution of elderly clients according to their level of knowledge regarding self care on Non drug pain relief measures of osteoarthritis reveals that in post test 93% of clients had excellent knowledge and remaining 7% of them had good knowledge. Whereas in pre test 48% of the clients had poor knowledge, 22% of clients had very poor knowledge, 11% of clients had average knowledge and only 4% of clients had excellent knowledge. It shows that after implementation of video teaching programme, the elderly clients had excellent knowledge on Non drug pain relief measures.

Fig. 2. Distribution of elderly clients according to their level of practice



Distribution of clients according to their level of practice regarding self care on Non drug pain relief measures of osteoarthritis reveals that in post test 78% of clients had fully adoptive practice and remaining 22% of them had partially adoptive practice. In pre test 59% of them had not adoptive practice and 41% of clients had partially adoptive practice. It seems that video teaching programme helps the clients to fully adoptive practice on Non drug pain relief measures.

Fig. 3. Comparison of mean score of pre and post test knowledge and practice score



Comparison of mean, SD and mean % of pre test knowledge mean score shows that (2.778±1.706) which is 34.73% of total score. Whereas in post test it was (7.519±0.625) and mean percentage was 94. It seems that a VTP on Non drug pain relief of osteoarthritis was found highly effective and improving the level knowledge.

However, in pre test practice mean score shows that the 5.44±1.387 which is 30.22% of total score and in post test mean score was 14.33±4.094 which is 80% of total score. It shows that VTP was highly effective and improving the level of practice.

Table 1: Association between knowledge scores and demographic variables of the Osteoarthritis clients

N=27

Sl. No.	Variables	Degrees of freedom	X ²	Level of Significant
1	Age (in year)	5	5.554	Not Significant
2	Sex	1	1.775	Not Significant
3	Educational Status	4	13.195	Significant
4	Previous Occupation	3	11.071	Significant
5	Type of diet	1	5.776	Significant
6	Body Mass Index	1	0.296	Not Significant
7	History of other chronic illness	6	9.997	Not Significant
8	Duration of joint pain	2	2.096	Not Significant
9	Usage of any assistive devices for ambulation	1	4.221	Significant

X² Value with P < 0.05

Association between knowledge score and demographic variables of osteoarthritis clients reveals that there is no significant association between patients knowledge score when compared to the age, sex, body mass index, history of other chronic illness and duration of joint pain, so accept the null hypothesis in these variables. Whereas there is a significant association with education, previous occupation, type of diet and usage of any assistive devices for ambulation, so reject the null hypothesis in these aspects of demographic variables. Hence it can be concluded that there is significant association between the knowledge score with the demographic variables of education, previous occupation, type of diet and usage of any assistive devices for ambulation.

Table 2: Association between practice scores and demographic variables of the Osteoarthritis clients

N=27

Sl. No.	Variables freedom	Degrees of	X ²	Level of Significant
1	Age (in year)	5	5.554	Significant
2	Sex	1	1.775	Not Significant
3	Educational Status	4	13.195	Not Significant
4	Previous Occupation	3	11.071	Not Significant
5	Type of diet	1	5.776	Not Significant
6	Body Mass Index	1	0.296	Not Significant
7	History of other chronic illness	6	9.997	Not Significant
8	Duration of joint pain	2	2.096	Significant
9	Usage of any assistive devices for ambulation	1	4.221	Not Significant

² Value with P < 0.05

Association between practice score and demographic variables of osteoarthritis clients reveals that there is no significant association between patients practice score when compared to the sex, education, previous occupation, type of diet, body mass index, history of other chronic illness and usage of any assistive devices for ambulation, so accept the null hypothesis in these variables. Whereas there is a significant association with age and duration of joint pain, so reject the null hypothesis in these aspects of demographic variables. Hence it can be concluded that there is significant association between the practice score with the demographic variables of age and duration of joint pain.

Table 3: Correlation between knowledge and practice of osteoarthritis clients

N=27

Variables	value		Level of Significant
	Pre test	Post test	
Knowledge	= 0.388	= 0.655	P< 0.05 Significant
Practice			

Correlation was calculated between the pre and post knowledge and practice score shows that there is significant relationship between knowledge and practice. Overall post test non drug pain relief measures of osteoarthritis clients significantly correlated highly with their post test knowledge than the pre test and null hypothesis was rejected. It can be interpreted that knowledge influences the practice of non drug pain relief measures among the patients with osteoarthritis.

Table 4: Significance of Pre and Post test Knowledge and Practice Score

N=27

Sl. No.	Areas	Knowledge scores	Practice scores	Level of Significant
		T Value	T Value	
1	Non drug pain relief measures	15.331	10.94	P<0.05 Significant

df = 26 (n-1) Table Value = 2.060 (P < 0.05 Significant)

Paired 't' test calculated to analyze the difference in pre and post test knowledge and practice scores on Non drug pain relief measures of osteoarthritis shows highly significant difference and the null hypothesis is rejected. Hence it can be concluded that there is highly significant difference between the pre and post test knowledge and practice score.

Table 5: Significance of Severity of Osteoarthritis in Pre and Post test

N=27

Variables	T Value	Level of Significant
Pre test and I Post test on Severity of Osteoarthritis	20.44	P< 0.05 Significant
Pre test and II Post test on Severity of Osteoarthritis	22.31	P< 0.05 Significant
Pre test and III Post test on Severity of Osteoarthritis	36.15	P< 0.05 Significant

df = 26 (n-1) Table Value = 2.060 (P < 0.05 Significant)

Paired 't' test was calculated to analyze the severity of osteoarthritis shows that there was a increasing significant difference in severity difference between pre

and I post test, pre and II post test and pre and III post test, so the null hypothesis is rejected. Hence it can be concluded that there is highly significant difference between the pre and post test on severity of osteoarthritis. As per the practice of Non drug pain relief measures, reduces the severity of osteoarthritis gradually and significantly.

CONCLUSION

From the findings it can be concluded that most of the patients gained adequate knowledge on non drug pain relief measures of Osteoarthritis and shown their improvement in practice in different assessment once after the implementation of video teaching programme. Post test self-care practice of osteoarthritis clients significantly correlated highly with their post test knowledge than the pre test and null hypothesis is rejected. It can be interpreted that knowledge influences the practice of self-care among the patients with osteoarthritis. There is highly significant difference between the pre and post test knowledge score and practice score. There is highly significant difference between the pre and post test on severity of osteoarthritis. As per the practice of Non drug pain relief measures, reduces the severity of osteoarthritis gradually and significantly.

NURSING PRACTICE

Video Teaching Programme can be used in hospital setting and community health Centers to give health education to the elderly clients and care takers of the elderly people.

RECOMMENDATIONS

The study can be replicated in various settings.

ACKNOWLEDGEMENTS

The authors are grateful to the Dr. N.Kokilavani, M.Sc.(N), M.Phil., M.A., Ph.D., Professor Cum Principal, Adhiparasakthi College of Nursing, Melmaruvathur for guiding a Ph.D in Nursing programme and providing a constant support. A special thanks to Prof.Elizabeth Jean Abraham, Principal, PSG College of Nursing, Coimbatore and Ethical committee for their constant support and encouragement.

Interest of Conflict: Nil

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A Study to Assess Effectiveness of Video Teaching Programme

on Exercise of Osteoarthritis among Elderly in Selected Old Age Homes, Coimbatore

M.D. Anuratha* Dr. Kokilavani **

Arthritis means inflammation of joints. There are more than 200 types of arthritis and rheumatic disease. The symptoms include pain, swelling and stiffness with limitation of joint movement. Osteoarthritis (OA) is the most common form of arthritis. It is a chronic irreversible and degenerative condition ranging from very mild to very severe. It is characterized by the breakdown of cartilage of joints causing affected bones to rub against each other leading to permanent damage.

Review of literature

Vincent KR and Vincent HK (2012) conducted a study on 'Resistance Exercise for Knee Osteoarthritis'. Resistance exercise (RX) has been shown to be an effective intervention both for decreasing pain and improving physical function and self-efficacy. RX may restore muscle strength and joint mechanics while improving physical function. RX also may normalize muscle- firing patterns and joint biomechanics, leading to reductions in joint pain and cartilage degradation. These physical adaptations could lead to improved self-efficacy and decreased anxiety and depression. RX can be prescribed and performed by patients across the spectrum of OA severity. When designing and implementing an RX programme for a patient with knee osteoarthritis, one should consider both the degree of its severity and the level of pain. RX, either in the home or at a fitness facility, is an important component of a comprehensive regimen designed to offset the physical and psychological limitations associated with knee OA.

Semanik PA, Chang RW and Dunlop DD (2012), conducted a study on "Aerobic activity in prevention

and symptom control of osteoarthritis". The focus of this review is on the impact of "aerobic activity on the progression and symptom control of OA". In general, both strengthening and aerobic exercise are associated with improvement in pain, perceived physical function, and performance measures for persons with lower limb OA, although comparisons of strengthening versus aerobic exercise on these outcomes are unusual. Structural disease progression in persons with established OA has been directly evaluated by a limited number of physical activities. Possibly the most important reason for engaging in physical activity is to prevent obesity, which independently has been associated with many serious chronic diseases, including the incidence and progression of OA.

Objectives

- To identify the clients affected with osteoarthritis among elderly.
- To identify the severity of osteoarthritis among elderly.
- To assess the self-care on exercise among elderly with osteoarthritis.

There is significant association between the knowledge score with the demographic variables of education, previous occupation, type of diet and usage of any assistive devices for ambulation. There is significant association between the practice score with the demographic variables of age and duration of joint pain.

- To assess the effectiveness of Video-Teaching Programme.
- To associate the self-care exercise of elderly with osteoarthritis with demographic variables.

Hypotheses

- There is a significant difference between pre-test and post-test scores of the elderly clients regarding osteoarthritis self-care exercise.
- There is a significant correlation between pre-and-post test knowledge and practice scores of the elderly clients regarding osteoarthritis self-care exercise.
- There is a significant association between pre-test scores and selected demographic variables of elderly clients regarding osteoarthritis self-care exercise.

Material and method

The research design used in the study in Quasi Experimental Design-One group Pre-test and Post-test design. The population of the present study comprises elderly clients with osteoarthritis residing in old-age homes, Coimbatore. After getting the Institutional Human Ethical Committee clearance and the formal permission from old-age-homes, Coimbatore, the clients with osteoarthritis were identified. Western Ontario and Mc Master Universities (WOMAC) tool was used for identifying the severity of osteoarthritis. Structured Interview Schedule and Observation Checklist were used to assess the self-care on exercise to clients with osteoarthritis. Both descriptive and inferential statistics were used for data analysis.

Findings

Among 27 clients, the highest percentage (45%) of patients were in the age-group of 60-65 years. 59% of clients were male. Most of the clients (33%) were educated up to primary class level and had a history of doing semi-manual work. Highest percentage of clients (70%) were non-vegetarians. 89% of clients were obese. 15% of clients had medical illness of CAD and 33% of clients did not have any health problems. 74% of clients had joint pain for more than 5 years. 89% of clients were not using any assistive devices for mobilization.

Distribution of elderly clients according to their level of knowledge regarding self-care on exercise of osteoarthritis reveals that in post-test 59% of clients had excellent knowledge and remaining 37% had good knowledge, and 4% of them had average knowledge. Whereas in pre- test, 44% of clients had poor knowledge, 22% of clients had very poor knowledge, 30% of clients had average knowledge and 4% of clients had good knowledge. Distribution of clients according to their level of practice regarding self-care on exercises

of osteoarthritis reveals that in post-test 74% of clients had fully adoptive practice and remaining 26% of them had partially adoptive practice. In pre-test all of them had no adoptive practice. It seems that video teaching programme helped the clients to develop their knowledge and fully adoptive practice on osteoarthritis exercises.

Comparison of knowledge mean score on self-care exercise showed that in pre-test it was (2.15±0.448), 42.96% of total score. Whereas in post-test, it was (4.556±0.563) and mean percentage was 91.12. And in practice pre-test mean score was 1.22±0.86 which was 12.2% of total score and in post-test mean score was 7.407±1.685 which was 74.07% of total score. It shows that VTP was highly effective and it improved the level of knowledge and practice of elderly clients on exercise.

There is significant association between the knowledge score with the demographic variables of education, previous occupation, type of diet and usage of any assistive devices for ambulation. There is significant association between the practice score with the demographic variables of age and duration of joint pain.

Correlation was calculated between the pre-test knowledge and practice ($r = 0.562$) and post-test knowledge and practice ($r = 0.855$) which shows that there is significant positive relationship between knowledge and practice.

Paired 't' test calculated to analyze the difference in pre and post test knowledge and practice scores on exercise of osteoarthritis shows highly significant difference and the null hypothesis is rejected.

Paired 't' test was calculated to analyze the severity of osteoarthritis and it shows that there was an increasing significant difference in severity between pre test and I post test ($t=20.44$), pre and II post test ($t=22.31$) and pre and III post test ($t=36.15$), so the null hypothesis is rejected. Hence it can be concluded that there is a significant difference between pre-and-post-test on severity of osteoarthritis. The practice of exercises reduced the severity of osteoarthritis gradually and significantly.

Conclusion

From the findings it can be concluded that most of the patients gained adequate knowledge on exercise of osteoarthritis and showed improvement in practice in different assessments after the implementation of video teaching programme. ■

(*Associate Professor, PSG College of Nursing, Coimbatore ** Professor cum Principal, Adhiparasakthi College of Nursing, Melmaravathur; The author acknowledges various sources which are available on request)

ANNEXURE -XIII

Anti Plagiarism Certificate

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