"EFFECTIVENESS OF MASSAGE WITH AROMATIC GINGER OIL AND ORANGE ESSENTIAL OIL ON KNEE PAIN AMONG ELDERLY PEOPLE AT SELECTED OLD AGE HOME, MADURAI."

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CERTIFICATE

This is to certify that this dissertation titled**, " EFFECTIVENESS OF MASSAGE WITH AROMATIC GINGER OIL AND ORANGE ESSENTIAL OIL ON KNEE PAIN AMONG ELDERLY PEOPLE AT SELECTED OLD AGE HOME ,MADURAI."** is a bonafide work done by **MRS.MAGESHWARI.R,** College of Nursing, Madurai Medical College, Madurai - 20, submitted to the Tamilnadu Dr.M.G.R. Medical University, Chennai in partial fulfillment of the university rules and regulations towards the award of the degree of Master of Science in Nursing, Branch IV, Community health Nursing under our guidance and supervision during the academic period from 2012 – 2014.

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ABSTRACT

Healthy geriatric population make major contribution to health. Providing nursing care for geriatric population is a major area of responsibility in all health care settings. Knee joint pain is the most frequent complaint among the geriatric population.. The main **objectives** of this study was to assess the effectiveness of massage with aromatic ginger and orange essential oil on knee pain among elderly people at selected old age home and to associate of post test level of knee pain among elderly people with selected demographic variables. The investigator adopted Lydia .E.Hall's Core,Care,Cure theory for developing the **Conceptual Framework .**Quantitative Research approach with **Pre Experimental Design –** One Group Pre test post test Design was selected for this study. **Variables** of the study were **Demographic variable** (Age , Sex ,Religion, Marital status)**Independent variable** (Massage with aromatic ginger oil and orange essential oil)Dependent variable(Level of knee pain)Purposive sample of 60 were taken for the study at Aravind home for the aged. WOMAC scale was administered to assess the level of pain. A massage with aromatic ginger oil and orange essential oil was applied for 3 weeks period. A post test was conducted to assess the effectiveness of the intervention. **Result:**In inferential statistics were used to test the hypothesis. The findings revealed that there were significant decrease in level of knee pain after the intervention which was confirmed by Paired 't' test ($t = 10.083$ and $P<0.05$) Significant association was noted between post test score level of knee pain of elderly people at 0.05 level of significance. **Conclusion :**The finding of the study revealed that massage with aromatic ginger oil on knee pain was effective on significant reduction of knee pain level among elderly people .

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CHAPTER -I

INTRODUCTION

"For rubbing can bind a joint that is too loose,

and loosen a joint that is too rigid."

-Hippocrates

The best wealth of man is health. It is the source of all happiness. If he is always sad, he will not find peace of mind. A healthy man is always cheerful; he finds interest in doing things, got strength of mind, always sees the brighter of things, always hopeful and would not lose heart easily. Ageing is the natural process that occurs in human life cycle with the change in body, mind, thought, process and living patterns that decline the functional capacity of the old age and life span. The dream of people all over the world is to live long, achieved by the advancement of socio, economic and science especially the medical science in the developed as well as developing countries.

India is the second most populous country in the world with 1.2 billion residents counted in the 2011 census. The UN Population Division projects it will become the world's most populous country by 2020, eventually surpassing China by 2030. Currently, the elderly population (age 65 and older), accounts for 5% of the total population, translating to roughly 60 million people. However, this segment of Indian society is rapidly growing: by 2030, the size of the aging population will double. Understanding the dynamics of population aging is crucial for economies in transition. The economic and social welfare of these people and of society more

generally seem tenuous in the face of low labor force participation, reliance on younger generations for support, and new and emerging diseases. India has, however, made some important policy provisions in the face of this demographic shift, but difficulties – as well as opportunities lie ahead for the country.

The World Health Organization (WHO) report identified knee pain, as the 8th leading cause of non-fatal burden in the world in 2000, accounting for 2.6 percent of total year lost due to disability. Problems of elderly people includes visual impairment 88.0 percent, locomotive disorder 44.0 percent, neurological complaints 18.7 percent, cardiovascular disease 17.4 percent, respiratory disease 16.1 percent, skin conditions 13.3 percent, gastro intestinal/ abdominal disorder 9.0 percent, psychiatric problems 8.5 percent, hearing loss 8.2 percent, genitourinary disorder 3.5 percent (Park, 2011)

Knee pain is a very common occurrence in the elderly Population. The knee is the largest and most complex joint in the body. Injuries and diseases of the knee are frequent sources of disability, pain, and lost days from work. Discomfort may be associated with many different diseases. The pain can affect the ability to ambulate, participate in daily activities and sleep comfortably. The causes of pain usually originate in the knee joint. Occasionally, a problem elsewhere can trigger pain that is referred to the vicinity of the knee. Problems that originate in the knee joint itself are generally easy to diagnose and can be treated by your primary care physician, rheumatologist, or orthopedic surgeon.

Referred pain to the knee usually comes from either the hip or the spine and can be more difficult to diagnose. Statistically, Americans are nearly 100% likely to have an episode of knee pain at least once in their lifetime. The incidence of knee pain is higher with increasing age and therefore is very common in the elderly. Initial attacks of knee pain, may respond to home remedies such as the use of rest, ice or

heat, anti-inflammatory medications, weight loss, and a low impact exercise program. Knee pain that lasts more than 10 days and is associated with swelling in the joint or inability to weight bear generally requires a visit to your physician. Physical exam x-rays and occasionally blood testing are included in the diagnostic evaluation.

Common causes of knee pain is Osteoarthritis, A torn meniscus, Rheumatoid or Inflammatory Arthritis, Gout, Knee joint infection, Tendonitis or Bursitis .Osteoarthritis is the most common cause of knee pain in the elderly. Osteoarthritis is the wear and tear type of arthritis that we are all subject to. The incidence is slightly higher in women than men. Increasing rates of obesity and decreased rates of exercise have resulted in an epidemic of Osteoarthritis in our society.

Most patients experience a slow gradual increase in pain and swelling. Physically, there is often a bow legged appearance especially with weight bearing. Inside the knee, a patch like loss of covering cartilage on the end of the bones allows the bones to rub together. Commonly the arthritis is also associated with a longstanding meniscus tear. Initial treatment consists of rest, ice, anti-inflammatory medicines, weight loss and a low impact exercise program. Injectable lubricates are available for arthritic knees and can temporarily diminish symptoms in moderate cases. Dietary supplements are commonly advocated (glucosamine and chondroitin) but have never been shown effective in scientific studies. For severe arthritis, knee replacement surgery has extremely high success and patient satisfaction rates.

The meniscus is a structure in the knee shaped much like a washer. It is rubbery in nature and acts to help increase the contact area between the thigh and shinbone as

they meet in the Twisting and squatting activities are known to facilitate tears of the meniscus and can be the inciting event to bring on pain. A torn meniscus or cartilage can occur at any age. Although this condition is common in young athletes, it can occur in the elderly as well. In the elderly, the tear usually occurs incrementally and gradually over a period of months or years. As a result, the appearance of a problem can be sudden or insidious. Most torn menisci are on the medial or inside joint line of the knee and are associated with swelling, intermittent locking, difficulty with squatting or rising from a chair. When the tear catches, the patient will have a snapping or a grinding sensation. This problem can turn on and off like a light switch. With large tears the ability to ambulate is limited. A physical exam can establish the diagnosis. Initial treatment includes rest, ice, and anti-inflammatory medications. A steroid injection into the joint may help dramatically. Occasionally arthroscopic surgery is necessary to resolve the symptoms.

Rheumatoid arthritis is less common overall than osteoarthritis and presents more in women by a ratio of 8 to 1. Rheumatoid arthritis is an autoimmune disease in which the immune system of the patient begins attacking the synovial lining and covering cartilage within the joint. Hallmarks of the disease include: at least an hour of morning stiffness, rashes, symmetrical involvement, and joint deformity especially in the hands. The disease process eventually destroys the joint surface. Laboratory data frequently can confirm the presence of rheumatoid arthritis. Over the last decade the use of disease-modifying medications have become prevalent and for the first time in modern history, the disease can actually be slowed dramatically by the appropriate use of these medications. Generally after the diagnosis of rheumatoid arthritis is made the patient should come under the care of a family doctor or rheumatologist who can administer and monitor the use of these medications appropriately. If and when

rheumatoid arthritis causes significant destruction of the cartilage covering the end of the bone, knee replacement surgery is an appropriate next step.

Gout is more common in elderly men. It occurs in genetically sensitive patients when uric acid levels in their blood exceed the saturation point and they crystallize in synovial joints. The crystals cause sudden intense pain, swelling and redness. The big toe knuckle is most commonly involved, followed by the ankle and the knee joint. Attacks can be triggered by diet (foods high in urates), alcohol and aggravation. Some diuretics are known to trigger an attack. The diagnosis requires a reasonable suspicion and can be confirmed by the finding the presence of gout crystals in fluid from the knee joint. An attack will subside rapidly after the administration of the right medications. Prevention of further attacks is accomplished by diet, and prophylactic medicine. Although infection of the knee joint is unusual, it closely mimics gout with the main difference being the presence of fever and malaise. Infection can occur after a penetrating injury, or in immuno-compromised patients.

Tendonitis and bursitis of the knee are common in patients of all ages. They can occur as a result of injury, repetitive activities, arthritic conditions or even gout. Generally the location of the pain is specific to the presence of a tendon or a bursal sack and treatment is supportive with anti-inflammatory medications and rest. The conditions usually resolve promptly.

Osteoarthritis of the hip joint can cause pain radiating to the knee. Patients sometimes arrive convinced that the knee is the source of the problem, only to find out that x-rays of the knee are normal and x-rays of the hip on the same side show severe arthritis. Generally the type of limp caused by a bad hip has a characteristic John Wayne waddle while the knee limp is more stiff-legged.

Sciatic pain emanating from the low back commonly results in pain radiating across the knee. Nerves exit the spine and coalesce into the sciatic nerve. Pressure on these nerves from arthritis or disk problems can produce pain down the back of the leg and the posterior aspect of the knee. Cramping, spasms, and numbness often accompany pain from sciatica.

Complications of knee pain are not all knee pain is serious. But some knee injuries and medical conditions, such as osteoarthritis, can lead to increasing pain, joint damage and disability if left untreated.

Medical management of Knee Pain and Arthritis Pain relievers, or analgesics, is an important part of treatment for many knee problems. knee pain is due to an inflammatory form of arthritis, other medications may be necessary to control the disease in knee and elsewhere in body. The medication used will depend largely on the specific condition or form of arthritis. The types of medications commonly used in arthritis treatment are: Analgesics are among the most commonly used drugs for many forms of arthritis. They may also be used to relieve pain from knee injuries and surgery. Unlike nonsteroidal anti-inflammatory medications, which target both pain and inflammation, analgesics are designed purely for pain relief. For that reason, they may be safe for people who are unable to take Nonsteroidal anti-inflammatory drugs due to allergies or stomach problems, for example. They're also an appropriate, and possibly safer, choice for people whose arthritis causes pain but not inflammation.

Corticosteroids. These quick-acting drugs, similar to the hormone cortisone made by your own body, are used to control inflammation. If knee inflammation is

due to a systemic inflammatory form of arthritis, your doctor may prescribe oral corticosteroids.

Disease modifying anti-rheumatic drugs. Disease-modifying anti-rheumatic drugs are drugs that work slowly to modify the course of autoimmune disease. Different Disease-modifying anti-rheumatic drugs may be useful for a number of different forms of arthritis including rheumatoid arthritis, lupus, ankylosing spondylitis and psoriatic arthritis.

Gout medications. Some medications for gout are designed to reduce levels of uric acid in the blood to prevent future attacks of joint pain and inflammation. Others are designed to relieve the pain and inflammation of an acute attack. Many people with gout take both types of medication

Many methods are used to relieve knee pain of which exercise, acupressure, acupuncture, massage therapy are few examples of management. Massage with aroma oil is a wonderful pain reducer and an antidote for pain as elicited by Patrick, 2010.

Aromatherapy is the systematic use of volatile plant oils known as essential oils for the treatment or prevention of disease. It is a form of complementary therapy designed to treat the whole person and not just the symptom or disease by assisting the body's natural ability to balance, regulate, heal and maintain itself.

Essential oils consist of tiny aromatic molecules that are readily absorbed via the skin, and whilst breathing they enter the lungs. These therapeutic constituents next enter the bloodstream and are carried around the body where they can deliver their beneficial healing powers. Because they are highly concentrated, only a small quantity of essential oil is required to bring about results.

When using good quality essential oils correctly, the soothing combination of beautiful aromas, massage, aromatic baths and other treatments all work to regulate,

balance, heal and maintain your entire being by working with nature, and not against it. A far cry from allopathic medicine, which tends to take a 'sledgehammer to crack a nut' approach.

Aromatherapy is one of the most popular of all complementary therapies, offering a wide range of highly effective treatments to both the acute and chronic stages of illness and disease. At the same time, regular use of aromatherapy treatments and home-use products can help to strengthen the immune system, thereby establishing a preventative approach to overall health.

One of the reasons that aromatherapy has been so hugely successful is because it uses a holistic approach, whereby the aroma therapist takes into account a persons medical history, emotional condition, general health and lifestyle before planning a course of treatment. The whole person is treated - not just the symptoms of an illness - and this is in direct opposition to the modern trend of just treating the presented condition.

Backache, knee pain ,irritable bowel syndrome or headaches, for example, are often the result of stress and not actually a physical problem. Therefore no amount of pill-popping is really going to provide a long term solution since it only masks the symptoms without addressing the problems. By looking at the causes of the stress and providing treatments to ease and manage it, the aroma therapist will alleviate the condition in a much more efficient manner.

Aromatherapy is a whole system of healing, a holistic approach to health and well-being by means of aromas, scents derived from the plant kingdom. It can be described as an art and a science, which as well as having a scientific body of knowledge encompasses the intuitive, and creative aspects to preparing special individual blends. Aromatherapy utilizes aromatic substances, mainly essential oils,

The ginger oil has an effect on human muscle pain. A study demonstrated that daily application of ginger oil will reduce the muscle pain and on the basis of this, it was further demonstrated ginger's effectiveness as a pain reliever in osteoarthritis patients (Black, 2010).

Thus elderly people affecting mainly with knee pain needs an intervention that is scientific, affordable and accessible to all sectors of people. Massage with aromatic ginger and orange essential oil is such an intervention that reduces the knee pain of elderly people there by improving the functional ability.

I.1 NEED FOR THE STUDY

Old age that occurs in every human life. Older people are the back bone of the family. Illness occurs in every man's life but it occurs in old, it requires special attention when compared to younger age. There are, however, some cultures and communities around the world where the elderly population is still treated with love and respect. They also hold important positions as head of families and beacon of wisdom and knowledge, guiding and paving the way for younger generations.

The population of the elder people has been increasing over the years. As per United National Educational, Scientific and Cultural Organization (UNESCO) estimate, the number aged 60 was likely to be 590 million in 2005 and the figure would double by 2010. In India, the elderly population constituted 5.5 percent in 2011. India is the developing country in which the population pyramid is inverted which constitute the increasing number of dependent age group especially above 60 years of age (Sinha, 2011).

India ranks 73 on the Index and is currently home to over 100 million people aged 60 and over. India ranks 54 in the income security domain with a low

proportion, 5%, of older people with an income of less than half of the country's average income. India's rank in the health domain is its lowest, at 85 of 91 countries. India’s grey population (elderly above 60 years) will reached up to 177million within 25 years.

Tamilnadu ranks second in the highest proportion of elderly people, with 10 percent, next to Kerala which has 11 percent. Of the four lakhs old age living alone in Tamilnadu, three lakhs are women, the country’s highest.In Madurai 11.16 percent of elderly people are there.

A spurt in life expectancy increases the population of elderly people. Health problems experienced by the elders are enormous. A study conducted on the health conditions of the elderly person reports that 48.8 percent are suffered from knee pain, 33.0 percent are suffered from hypertension, 17.1 percent are suffered from diabetic and 1.1 percent is suffered from minor ailments. This greater emphasis has to be given to identify and to solve the problem of elderly (United States Department of Health and Human Service, 2000).

In India 8.42 percent of males and 17.3 percent of females totally 25.72 percent of elderly peoples are affected by knee pain (Nightingale Nursing Times, 2009).

Many methods are there to relieve knee pain like exercise, acupressure, and pharmacological management. But this massage with aromatic ginger and orange essential oil is used as a home remedy to reduce the pain in shorter duration (Schutzer and Graves, 2004).

The aromatic ginger and orange essential oil has the properties of antispasmodic, analgesics, antiseptic and anti-inflammatory. It is cheaply available and is also affordable by all type of people (Shan.S, 2010).

It is also revealed that red ginger (Zingiber officinale) has been prescribed as an analgesic for arthritis pain in Indonesian traditional medicine. The extract of red ginger having anti-inflammatory activity reduces the acute and chronic inflammation.

Aromatherapy, specifically essential oils, is capable of profound and direct effects on our physical, emotional and energetic bodies. David Crow writes "In Chinese terms, essential oils in general are medicines for the Shen, the spiritual essence that resides in the heart and governs consciousness. In Ayurveda terms, they enhance the flow of prana (life force), nourish ojas (nutritional/immunological essence), and brighten tejas (mental luminosity)".[2]

Essential oils have microscopically small molecules. When essential oils are absorbed through your skin or the mucous membranes of your respiratory tract and lungs, they're transferred into the bloodstream. Once the oils are circulating in your blood, they really get to work, reducing inflammation, pain, fixing imbalances, fighting infection and so on.

Tam AC,Yip YB (2008) A study has found that a massage blend containing olive oil,ginger essential oil (1 per cent *Zingiber officinale*) and orangeessential oil (0.5 per cent *Citrus sinensis*) has potential as an alternative method for short-term knee pain relief.Fifty-nine subjects attending a community centre for senior citizens in Hong Kong were assigned to one of three groups – an experimental group, receiving a series of six massages with the ginger and orange oil blend over three weeks; a placebo control group, receiving the same massage intervention with olive oil only; and a control group receiving no massage. Subjects were assessed at baseline, one week after treatment, and four weeks after treatment. One week after treatment, the experimental group showed improvement in physical function and pain compared to the placebo and control group, but these improvements were not sustained four weeks

after treatment. The authors conclude that 'aroma-massage therapy seems to have potential as analternative method for short-term knee pain relief'.

Altman RD, Marcussen KC .(2009) Conducted a study Effects of a ginger extract on knee pain in patients with osteoarthritis. Two hundred sixty-one patients with osteoarthritis of the knee and moderate-to-severe pain were enrolled in a randomized, double-blind, placebo-controlled, multicenter, parallel-group, 6-week study. After washout, patients received ginger extract or placebo twice daily, with acetaminophen allowed as rescue medication.. A responder was defined by a reduction in pain of > or = 15 mm on a visual analog scale .In the 247 evaluable patients, the percentage of responders experiencing a reduction in knee pain on standing was superior in the gingerextract group compared with the control group (63% versus 50%; P = 0.048). Analysis of the secondary efficacy variables revealed a consistently greater response in the ginger extract group compared with the control group, when analyzing mean values: reduction in knee pain on standing (24.5 mm versus 16.4 mm; P = 0.005), reduction in knee pain after walking 50 feet (15.1 mm versus 8.7 mm; P = 0.016), and reduction in the Western Ontario and McMaster Universities osteoarthritis composite index (12.9 mm versus 9.0 mm; P = 0.087).

The investigator came to know that many elderly are suffering from joint pain, stiffness and impose the effect on activities of daily living. A high morbidity of knee pain needs strengthening of geriatric health care services both community and hospital based. Thus the investigator felt a need to undertake a study to assess the effectiveness of massage with aromatic ginger and orange essential oil on knee pain among elderly people at selected old age home Madurai.

1.2 STATEMENT OF THE PROBLEM:

A study to assess the effectiveness of massage with aromatic ginger oil and orange essential oil on knee pain among elderly people at selected old age home , Madurai.

1.3 OBJECTIVES

1. To assess the level of knee pain among elderly people at selected old age home, Madurai
2. To evaluate the effectiveness of massage with aromatic Ginger oil and Orange essential oil on knee pain among elderly people at selected old age home,Madurai.
3. To determine the association between post test level of knee pain among elderly people with their selected demographic variables.

1.4 HYPOTHESES

H_1 : There will be a significant difference in the level of knee pain before and after massage with aromatic ginger oil and orange essential oil among elderly people at selected old age home, Madurai.

H_2 : There will be a significant association between post test level of knee pain among elderly people with selected demographic variables .

1.5 OPERATIONAL DEFINITION

Effectiveness

Effectiveness refers to the reduction of knee pain by doing massage with aromatic ginger oil , orange essential oil and carrier oil (coconut oil), and with pain will be measured by using western Onterio Mac Master scale.

Massage

Rub or knead muscles is the application of ginger and orange essential oil over the knee area in a rotating, kneading and tapping movements for 10 minutes for each leg.

Aromatic ginger oil and Orange essential oil

The ginger oil and orange essential oil is extracted from ginger and orange and it was readily available in the market. The purity was checked and it was 99.9 percent pure. This ginger oil and orange essential oil and the carrier oil (coconut oil) were taken in the bowl and mixed in the ratio of 1:1:8 and this combination were used for the application.

Knee pain

Elderly who complains of pain over the knee which was increased during the activity, while assessed with Western Ontario MAC Master scale ranges from mild, moderate, severe and extreme which include pain, stiffness and functional ability (Rising from sitting, Standing etc..)

Elderly people

Persons aged above 60 years.

Selected old age home :

It refers to Aravind home for the aged,No-6, Bharathiyar Main Road, K.Puthur, Madurai.

1.6 ASSUMPTION

- Elderly people suffer with knee pain.
- Knee pain leads to stiffness and functional disability

1.7 DELIMITATION

- The study is delimited to the Persons aged above 60 years with knee pain resident in Aravind home for the aged, No-6, Bharathiyar Main Road, K.Puthur,Madurai.
- Data collection period is limited to one month.

1.8 PROJECTED OUTCOME

- Massage with aromatic ginger oil and orange essential oil will reduce the knee pain and promote comfort to the elderly people with knee pain.

CHAPTER –II

REVIEW OF LITERATURE

The review of Literature entails the systematic identification, reflection ,critical analysis and reporting of existing information in relation to the problems of interest. The purpose of review of literature is to obtain comprehensive knowledge and in-depth information about effectiveness of Massage with Aromatic ginger and orange essential oil on knee pain among elderly people at selected old age home, Madurai.

This chapter is divided in two parts :

PART – I : Review of Literature for the study

PART – II: Conceptual Framework

This literatures gathered from extensive review of electronic media were depicted under the following headings.

2.1.Literature related to incidence and prevalence of knee pain

2.2.Literature related to Aromatherapy massage on pain.

2.3.Literature related to the effects of massage with aromatic ginger oil and orange essential oil for knee pain management.

PART –I

REVIEW OF RELATED LITERATURE FOR THE STUDY

2.1 LITERATURE RELATED TO INCIDENCE AND PREVALENCE OF KNEE PAIN

World health organization (2013) has given the incidence and prevalence of knee pain. According to the reported knee pain in the world Musculoskeletal conditions are a major burden on individuals, health systems, and social care systems, with indirect costs being predominant. This paper describes the burden of four major musculoskeletal conditions: osteoarthritis, rheumatoid arthritis, osteoporosis, and low back pain. Osteoarthritis, which is characterized by loss of joint cartilage that leads to pain and loss of function primarily in the knees and hips, affects 9.6% of men and 18% of women aged >60 years. Increases in life expectancy and ageing populations are expected to make osteoarthritis the fourth leading cause of disability by the year 2020. Rheumatoid arthritis is an inflammatory condition that usually affects multiple joints. It affects 0.3–1.0% of the general population and is more prevalent among women and in developed countries

King (2008) reported that arthritis affects more than 30% of the people above the age of 65 years The affected persons in the age group of 65 years and above are projected as nearly 21.4 million in 2001 and it is estimated that by the year 2030, 41.4 million people would be affected by arthritis.

Sharma .et.al (2007) Conducted epidemiological study correlates osteoarthritis in geriatric population . The result shows 5.3% of males and 4.8% of

females are aged more than 65 years ,The prevalence of this disorder in certain elderly group is as high as 85%. The prevalence of osteoarthritis among elderly as per the present study was 56.6%.Community survey data in rural & urban areas of India Shows the prevalence of osteo-arthritis to be in the range of 17 to 60.6%. The prevalence of osteoarthritis amongst elderly in rural areas of Amritsar was 60.6% while it is 17% amongst the elderly of rural areas of Wardha (Maharashtra) .In Aligarh the prevalence of osteoarthritis was 30.2%.

Reva.C.Lawrance. et.al .(2006) conducted a study on prevalence of arthritis and selected musculoskeletal disorders in the united states.The results shows 15%(40 million)of Americans had some from or arthritis in 1995. By the year 2020 ,an estimated 18.2% (59.4 million)will be affected. The Indian Scenario shows that arthritis affects 15%people ie. Over 180 million people in India . More than 46 million Indians are currently victims of arthritis.

Rahman .NP . et.al (2006) conducted a study on arthritis and musculoskeletal conditions in Australia .The study reports More than 6.1 million Australian are reported to have arthritis or a musculoskeletal condition .Most commonly reported conditions are back pain and various forms of arthritis. Almost 1.2 million of these are reported to have disability associated with their condition . In view of their large disease burden-the number of people affected and the high disability impact –Australian Health ministers declared arthritis and musculoskeletal conditions were declared a National Health Priority Area (NHPA) in July 2002 .

PeatG, McCarneyR, Croft P (2001) Conducted a study on incidence and prevalence of knee pain, disability, and radiographic osteoarthritis in the general population and data related to primary care consultations. Findings from UK studies

were summarised with reference to European and international studies. During a one year period 25% of people over 55 years have a persistent episode of knee pain, of whom about one in six in the UK and the Netherlands consult their general practitioner about it in the same time period. The prevalence of painful disabling knee osteoarthritis in people over 55 years is 10%, of whom one quarter are severely disabled.

Rajendra Sharma (2001)conducted a study that the incidence and prevalence of musculoskeletal disorders varies with the change of climatic conditions and geographic region. It also identifies advancing age and female sex as the factors associated with increased incidence of musculoskeletal disorders pain. One of the earliest COPCORD study on the musculoskeletal disorders in India was carried in Village Bhigwan under the aegis of ILAR/APLAR . The incidence musculoskeletal disorders as per the study was 12.8% among the 6034screened villagers. The study also revealed that in almost one third of the patients (34%), a Symptom-Related-Diagnosis could be offered while degenerative disorders (29%) and soft tissue rheumatism (20%) were commonly seen. Inflammatory arthritis (11%) and Rheumatoid arthritis (4%) in particular, was seen in significant and unexpected proportion.

2.2. LITERATURE RELATED TO AROMATHERAPY MASSAGE ON PAIN

Koog YH, Jin SS ,Yook .Min BI(2010) conducted a study to assess the effectiveness of possible interventions for hemiplegic shoulder pain. Eight randomised trials were found in electronic databases. Aromatherapy plus acupressure, slow-stroke back massage and intramuscular neuromuscular electric stimulation were

more effective than the controls at the end of treatment sessions. Intramuscular botulinum neurotoxin A injection and Intraarticular triamcinolone acetonide injection were not helpful at one or three months after the end of treatment. Only intramuscular electric stimulation was effective at three months. These analyses found that shoulder pain improved independently of spasticity and subluxation. It was confirmed that the change in shoulder pain was associated with change in passive shoulder external rotation Although five interventions were used for managing hemiplegic shoulder pain, their effects were limited in the context of trials.

Jenkinsion,et,al,(2009) conducted a comparative study on ginger oil and knee strengthening exercise on older people with knee osteoarthritis. The investigator randomly assigned 10 older men and 12 older women to ginger oil and knee strengthening exercise. The intervention was given for 15 minutes session twice a week for four weeks. The result revealed that the level of knee pain was reduced in both the groups, but significantly more in the ginger oil application group.

TAM(2008) conducted a study an experimental study on the effectiveness of massage with aromatic ginger and orange essential oil for moderate-to severe knee pain among the elderly in hong kong**.** Fifty-nine older persons were enrolled in a double-blind, placebo-controlled experimental study group from the Community Centre for Senior Citizens, Hong Kong. The intervention was six massage sessions with ginger and orange oil over a 3-week period. The placebo control group received the same massage intervention with olive oil only and the control group received no massage. Assessment was done at baseline, post 1-week and post 4 weeks after treatment. Changes from baseline to the end of treatment were assessed on knee pain intensity, stiffness level and physical functioning (by Western

Ontario and McMaster Universities Osteoarthritis index) and quality of life (by SF-36).There were significant mean changes between the three time-points within the intervention group on three of the outcome measures: kneepain intensity (p=0.02); stiffness level (p=0.03); and enhancing physical function (p=0.04) but these were not apparent with the between-groups comparison (p=0.48, 0.14 and 0.45 respectively) 4 weeks after the massage. The aroma-massage therapy seems to have potential as an alternative method for short-term knee pain relief.

Chang SY(2008) Conducted a study on effects of aroma hand massage on pain, state anxiety and depression in hospice patients with terminal cancer. This study was a nonequivalent control group pretest-posttest design. The subjects were 58 hospice patients with terminal cancer who were hospitalized. Twenty eight hospice patients with terminal cancer were assigned to the experimental group (aroma hand massage), and 30 hospice patients with terminal cancer were assigned to the control group (general oil hand massage). As for the experimental treatment, the experimental group went through aroma hand massage on each hand for 5 min for 7 days with blended oil-a mixture of Bergamot, Lavender, and Frankincense in the ratio of 1:1:1, which was diluted 1.5% with sweet almond carrier oil 50 ml. The control group went through general oil hand massage by only sweet almond carrier oil-on each hand for 5 min for 7 days.The aroma hand massage experimental group showed more significant differences in the changes of pain score (t=-3.52, p=.001) and depression (t=-8.99, p=.000) than the control group. Aroma hand massage had a positive effect on pain and depression in hospice patients with terminal cancer.

KimMJ, NamES,Paik SI(2005) Conducted a study on the effect of aromatherapy on pain, depression, and feelings of satisfaction in life of arthritis

patients. This study used a quasi-experimental design with a non-equivalent control group, pre-and post-test. The sample consisted of 40 patients, enrolled in the Rheumatics Center, Kangnam St. Mary's Hospital, South Korea. The essential oils used were lavender, marjoram, eucalyptus, rosemary, and peppermint blended in proportions of 2:1:2:1:1. They were mixed with a carrier oil composed of almond (45%), apricot(45%), and jojoba oil(10%) and they were diluted to 1.5% after blending. The data were analyzed using an 2-test, Fisher's exact test, t-test and paired t-test. Aromatherapy significantly decreased both the pain score and the depression score of the experimental group compared with the control group .The result of this study clearly shows that aromatherapy has major effects on decreasing pain and depression levels. Based on our experiment's findings, we suggest that aromatherapy can be a useful nursing intervention for arthritis patients.

Altman RD, Marcussen KC (2001) Conducted a study on effects of a ginger extract on knee pain in patients with osteoarthritis. Two hundred sixty-one patients with Osteoarthritis of the knee and moderate-to-severe pain were enrolled in a randomized, double-blind, placebo-controlled, multicenter, parallel-group, 6-week study. After washout, patients received ginger extract or placebo twice daily, with acetaminophen allowed as rescue medication. The primary efficacy variable was the proportion of responders experiencing a reduction in "knee pain on standing," using an intent-to-treat analysis. A responder was defined by a reduction in pain of > or = 15 mm on a visual analog scale. In the 247 evaluable patients, the percentage of responders experiencing a reduction in knee pain on standing was superior in the ginger extract group compared with the control group (63% versus 50%; P = 0.048). Analysis of the secondary efficacy variables revealed a consistently greater response in the ginger extract group compared with the control group, when analyzing

mean values: reduction in knee pain on standing (24.5 mm versus 16.4 mm; P = 0.005), reduction in knee pain after walking 50 feet (15.1 mm versus 8.7 mm; P = 0.016), and reduction in the Western Ontario and McMaster Universities osteoarthritis composite index (12.9 mm versus 9.0 mm; P = 0.087).

Batterham,(2001). Conducted a interventional study to assess the effect of lavender oil on knee osteoarthritis pain among older women 10 samples were selected randomly. The intervention was applied for a period of two weeks .The result found that there is a significant reduction in knee pain

Menehan(2001) Conducted a study to assess the effect of massage joint pain among elderly person above 60 years .The sample of 150 subjects were selected randomly .The intervention was conducted for a period of 3 weeks .The result reveals that there was a significant reduction in joint pain.

Wilkinson .S.Aldridge J, Salmon I,Cain E Wilson B (1999) Conducted a study to assessed the effects of massage and aromatherapy massage on cancer patients in a palliative care setting. We studied 103 patients, who were randomly allocated to receive massage using a carrier oil (massage) or massage using a carrier oil plus the Roman chamomile essential oil(aromatherapy massage). Outcome measurements included the Rotterdam Symptom Checklist (RSCL), the State-Trait Anxiety Inventory (STAI) and a semi-structured questionnaire, administered 2 weeks postmassage, to explore patients' perceptions of massage. There was a statistically significant reduction in anxiety after each massage on the STAI ($P < 0.001$), and improved scores on the RSCL: psychological ($P < 0.001$), quality of life ($P < 0.01$), severe physical ($P < 0.05$), and severe psychological ($P < 0.05$) subscales for the combined aromatherapy and massage group.

Thomas,(2000) conducted a experimental study at US to assess the effect of massage therapy on knee pain .The sample size was 80 .The study was conducted for a period of one month. Western Ontario Mac Master scale was used to assess the level of pain .The result reveals that the massage therapy was effective in reducing the knee pain.

2.3 LITERATURE RELATED TO EFFECT OF MASSAGE WITH AROMATIC GINGER OIL AND ORANGE ESSENTIAL OIL FOR KNEE PAIN MANAGEMENT

Jension (2009)conducted a comparative study between ginger oil and ibuprofen among patients with knee pain. The sample were selected randomly. The duration of the study was one month . The duration of the study was one month period .The result reveals that both the group had reduction in knee pain but more significant in ginger oil application.

Black (2009) Conducted the study that ginger (Zingiber officinale) has been prescribed as an analgesic for arthritis pain in Indonesian traditional medicine. The extract of red ginger having anti-inflammatory activity using acute and chronic inflammatory model

YIP,YB,(2008)conducted a experimental study on the effectiveness of massage with andaromatic ginger and orange essential oil for moderate-to severe knee pain among the elderly in hong kong**.** Fifty-nine older persons were enrolled in a double-blind, placebo-controlled experimental study group from the Community Centre for Senior Citizens, Hong Kong. The intervention was six massage sessions with ginger and orange oil over a 3-week period. Assessment

was done at baseline, post 1-week and post 4 weeks after treatment. Changes from baseline to the end of treatment were assessed on knee pain intensity, stiffness level and physical functioning (by Western Ontario and McMaster Universities Osteoarthritis index) and quality of life (by SF-36).There were significant mean changes between the three time-points within the intervention group on three of the outcome measures: kneepain intensity (p=0.02); stiffness level (p=0.03); and enhancing physical function (p=0.04) The improvement of physical function and pain. The changes in quality of life were statistically significant. The aroma-massage therapy seems to have potential as an alternative method for short-term knee pain relief.

Yib (2004) conducted a experimental study at Hong Kong to find out the effect of massage with aromatic ginger and orange essential oil knee pain among elderly person.48 samples were selected randomly. Western Ontario Mac master scale was used to assess the level of pain. The study was conducted for a period of 6 sessions for 3 weeks. The results reveals that there is a significant reduction of knee pain with knee pain intensity ($p = 0.02$) , knee stiffness ($p = 0.03$) and enhancing physical function ($p = 0.04$) .

Almant RD, Kussen KC(2001)conducted a study to assess the effects of a ginger extract on knee pain in patients with osteoarthritis Two hundred sixty-one patients with osteoarthritis of the knee and moderate-to-severe pain were enrolled in a randomized, double-blind, placebo-controlled, multicenter, parallel-group, 6-week study. After washout, patients received ginger extract or placebo twice daily, with acetaminophen allowed as rescue medication. The primary efficacy variable was the proportion of responders experiencing a reduction in "knee pain on standing,"

using an intent-to-treat analysis. A responder was defined by a reduction in pain of > or = 15 mm on a visual analog scale. n the 247 evaluable patients, the percentage of responders experiencing a reduction in knee pain on standing was superior in the gingerextract group compared with the control group (63% versus 50%; P = 0.048). Analysis of the secondary efficacy variables revealed a consistently greater response in the ginger extract group compared with the control group, when analyzing mean values: reduction in knee pain on standing (24.5 mm versus 16.4 mm; P = 0.005), reduction in knee pain after walking 50 feet (15.1 mm versus 8.7 mm; P = 0.016), and reduction in the Western Ontario and McMaster Universities osteoarthritis composite index (12.9 mm versus 9.0 mm; P = 0.087).

Mohammed (2001) comparative study on ginger oil Indomethacin among osteoarthritis patients.52 respondents were selected randomly.The result shows that ginger oil has the effect to reduce the knee pain then the indomethacine.

Mustafa (1999) Conducted a interventional study was to find the massage with ginger essential oil 1% and orange 0.5% among elder population .The sample of 30 were selected randomly .Cimcinnati knee rating scale was used to assess the level of knee function .The study period was 3 weeks . The result shows that there is a reduction in knee pain level an improve the knee fuction .

PART-II

CONCEPTUAL FRAME WORK

The conceptual framework for research study serves as a measure on which the purpose of the study is based. It also serves as a springboard for theory development . The Frame work provides the prospective from which the researcher views the problem under investigation .The study was based on the concept that Massage with aromatic ginger oil and orange essential oil on knee pain among elderly people. The Investigator adopted Lydia.E.Hall Core, Care, Cure theory.

Lydia Hall was the first director of the lobe center for nursing and rehabilitation and continued in that position until her death in 1969 in New York. Her experience in the nursing spans in clinical, education, research, and supervisory components. Her publications include several articles on the definition of nursing and quality of care (George, 2000).

Her ideas of nurses controlling nursing care were considered revolutionary , her model consist of three interlocking circles the CORE circle, the CARE circle, the CURE circle of which represent a specific aspect of nursing. According to Hall, nursing functions are different in each circle. The circle is interrelated to emphasis the importance of whole person approach. The size and importance of the circle change in relation to a client progress.

CORE CIRCLE

According to Lydia.E.Hall, the Core circle refers to the patient care involves the therapeutic care of self and is shared with other members of health team. The motivation and energy necessary for healing exists with the patient rather than health care team. In this study the researcher conceptualized core circle as to identify the people with knee pain, establishing therapeutic relationship, assess the level of knee pain with WOMAC scale, and identify the knee for any skin lesions.

CARE CIRCLE

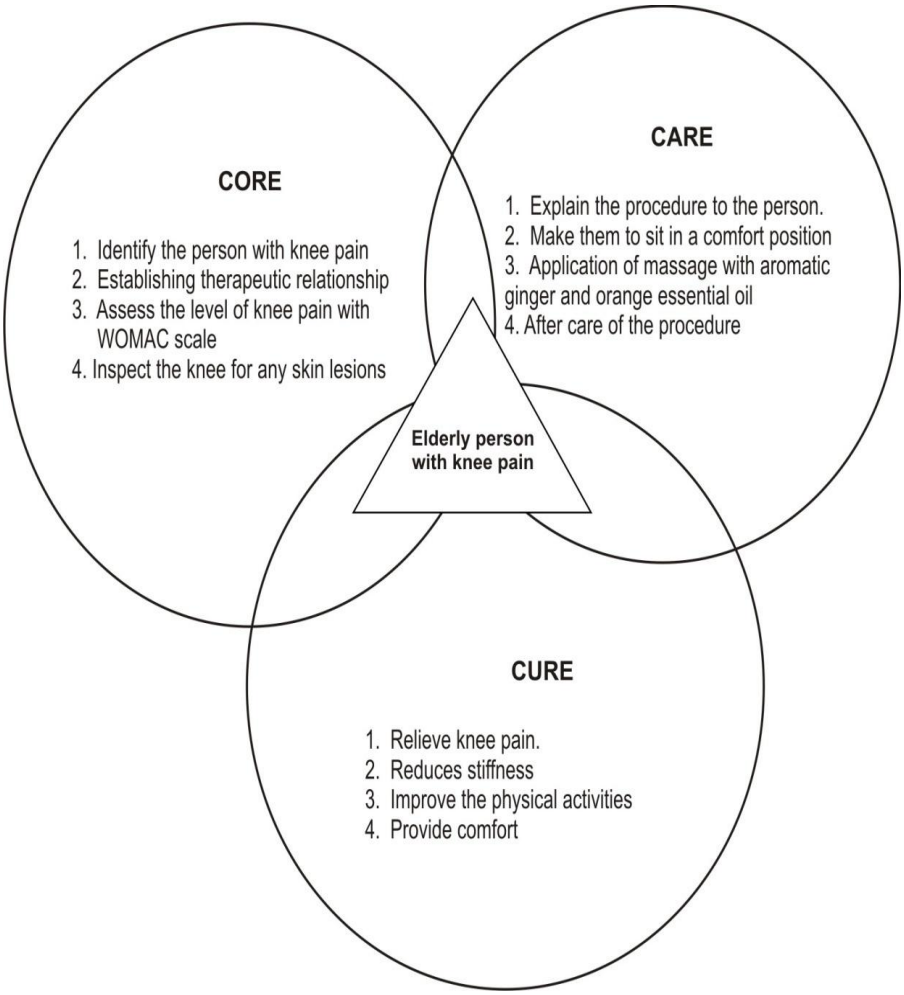
According to Lydia.E.Hall Care circle represents the nurturing component of nursing and is exclusive to nursing. When functioning in care circle, the nurse applies knowledge of natural and biological sciences to provide strong theoretical base for nursing implementations. In this study the researcher says the care circle as explain the procedure to the elder person, make them to sit in comfortable position, massage with aromatic ginger and orange essential oil, after care of the procedure.

CURE CIRCLE

According to Lydia.E.Hall Cure part represents the outcome of care being rendered. In this study the researcher explains outcome after the massage with aromatic ginger and orange essential oil to relieve knee pain, reduce stiffness, improve the physical activities and provide comfort.

FIG.1

CONCEPTUAL FRAME WORK BASED ON LYDIA. E. HALL'S CORE, CARE, CURE MODEL (1964)



CHAPTER – III

RESEARCH METHODOLOGY

Research Methodology is a path way by which the researcher intends to solve the research problems systematically. It involves the series of procedures in which the investigator starts from initial identification of the problem to its final conclusion .

This chapter includes research approach ,research design, variables, setting population , sample and sample size, sampling technique , development of the tool, content validity , pilot study, data collection procedure , ethical consideration and plan for data analysis . This study was done to assess the effectiveness of Massage with Aromatic ginger oil and orange essential oil on knee pain among elderly people at selected old age home in Madurai .

3.1 RESEARCH APPROACH

The research approach used for this study is Quantitative approach

3.2 RESEARCH DESIGN

A Researcher's overall plan for obtaining answers to the research questions or for testing the research hypothesis is referred to as the Research questions or for testing the research hypothesis is referred to as the Research design. The Research design selected for the present study was Pre Experimental -One Group Pre test post test Design . The study intended to assess the effectiveness of Massage with

Aromatic ginger and orange essential oil on knee pain among elderly people at selected old age Home in Madurai .

PRE TEST	INTERVENTION	POSTTEST
O 1	X	O 2

O 1 – Pre test to assess the level of knee pain among elderly people

X - Massage with aromatic Ginger and Orange essential oil on knee pain

O2 - post test to assess the effectiveness of Massage with Aromatic ginger oil and orange essential oil on knee pain among elderly people.

3.3 RESEARCH VARIABLES

Variables included in the study were

Dependent variable : Level of knee pain

Independent variable: Massage with aromatic ginger oil and orange essential oil.

Demographic variable: Age, sex, Religion , Marital status ,Educational statusFood habits, Exercise, Duration Knee pain ,Type of treatment ,body Mass Index.

3.4 SETTING OF THE STUDY

The study was conducted at Aravind Home for the aged , Madurai . This is an authorized service oriented home situated in Barathiyar main road , K.Puthur .The home was managed by Mrs. Sashikala administrator .In this home having 80 old age people are staying, in that 64 of them are females and 56 of them are males. There were 10 care taker are available to take care of the old age people. One Staff nurse were available all the time in the home to care of the old age people. The recreational activities in the home are gardening, television, prayer and kitchen works. The visitors are allowed on every Sunday from 11 am 2 pm.

3.5 POPULATION

Target Population

Elderly people (above 60 years) with knee pain.

Accessible population

Elderly people (above 60 years) with knee pain resident in Aravind home for the aged, K.Puthur, Madurai.

3.6 SAMPLE

Elderly people(above 60 years)with knee pain resident in Aravind home for the aged who fulfilled the inclusion criteria .

SAMPLE SIZE

The Total sample size was 60(18 males and 42 females)

3.7 SAMPLING TECHNIQUE

The purposive sampling technique

3.8 SAMPLING CRITERIA

The following were the criteria for the selection of samples for the study.

Inclusion Criteria:

1. Those who are in the age group of above 60 years with knee pain
2. Both genders (males and females)

Exclusion Criteria

1. Clients with Knee Fracture
2. Clients with Knee dislocation
3. Clients with Skin infection
4. Clients with Open wound near to knee
5. Clients with Rheumatoid arthritis

3.9 METHOD OF SAMPLE SELECTION

The sample were selected those who were with the inclusion criteria. Purposive sampling technique was used for the sample selection

3.10 DEVELOPMENT AND DESCRIPTION OF THE TOOL

The Western Ontario Mac Master Scale was used and modified by the researcher. It is based on the objectives of the study, through review of literature on related studies ,journals, book opinion from the experts. All these helped in the ultimate development of the tool.

SECTION -I: Demographic variable (Age , sex, Religion, educational status, food habits , exercises, Duration of the knee pain , Type of treatment , Body Mass index)

SECTION -II: The Western Ontario McMaster Scale used to assess the level of knee pain

The western Ontario McMaster was developed in the early 1980s by BELLAMY.It was designed to provide a standardized assessment of self reported health status while incorporating activities relevant to patient. The Western Ontario McMaster Scale can be self administrated one. It consists of 23 items divided into 3 subscales pain 5 items, stiffness 2 items and physical function 16 items.

The score of each response is for none is scored as '0', Mild as '1', Moderate as '2', Severe as '3', Extreme as '4'. The interpretations are mild knee pain: 1 -24, moderate knee pain: 25 – 48, severe knee pain: 49 – 72, extreme knee pain: 73 – 96.

The Western Ontario McMaster Scale is used to assess the aspect of pain, stiffness, and physical function levels. The type of assessment method used is rating scale in the form of questionnaires. At first through pre test the level of knee pain for elderly people are assessed, then the intervention massage with aromatic ginger oil and orange essential oil is administered. After intervention the variations in the knee pain level is assessed through the same scale in the post test.

SECTION-III: Massage with aromatic ginger oil and orange essential oil.

The procedure is scheduled in one time per day with the duration of 20 minutes. This intervention was scheduled for 6 sessions for 3 weeks.

3.11 SCORING OF THE PROCEDURE

Section -I: No scoring was allotted for the Baseline variables

Section - II: High score of the Western Ontario Mac Master scale indicate worse pain, stiffness, physical function. The grading are,

Mild knee pain	:	1 - 24
Moderate knee pain	:	25 – 48
Severe knee pain	:	49 - 72
Extreme knee pain	:	73 – 96

3.12 TESTING OF TOOL

VALIDITY :

The study was validated by 5 experts, including 3 nursing experts and the Director of preventive and Social Medicine, Madurai Medical College , Madurai. Suggestions were considered. All the experts had given their consensus , and then the tool was finalized .

RELIABILITY :

The reliability co-efficient obtained for this tool is ranging from 0.86 – 0.95 and yield high validity (Arthritis Research centre, USA).

3.13 ETHICAL CONSIDERATION

A formal permission was obtained from director of Aravind old age home ,Madurai. Ethical consideration was acquired from the institutional review Board, Madurai Medical college, Madurai. Information was given to all the subjects about the purpose of study. Written informed consent was obtained from the subjects. The subjects had the complete freedom to withdraw the study to their reason

3.14 PILOT STUDY :

Before the main study pilot study was conducted to check the feasibility, practicability ,reliability and validity. The pilot study was undertaken from 16.09.2013 to 22.09.2013 at Aravind old age home, Madurai for a period of 7 days. Through purposive sampling ,10 old age people (abve60 years) with knee pain were selected for the study. Baseline profile was collected from the each old age people with knee pain . A pre assessment was done with Western Ontario Mc Master Scale to assess the level of knee pain range from mild, moderate, severe and extreme. Massage with aromatic ginger oil and orange essential oil was applied 20 minutes for each person up to 7 days. The post test was done with the same scale. Data collected were tabulated and analyzed using descriptive and inferential methods and the result shows that there is a reduction in knee pain among elder people. Hence the study is feasible and the investigator tends to conduct the main study .

3.15 DATA COLLECTION PROCEDURE

The investigator obtained formal permission to conduct the study from respective authorities and Institutional Review Board Of Madurai Medical College, Madurai. The period was from 01.10.2013 to 15.11.2013 for 6 weeks .The researcher

introduced herself to the selected subjects. The data has been collected from the subjects who were interested to participate in the study who met the inclusion criteria and 60 samples were selected through purposive sampling technique. The data was collected for the period of 30 days in Aravind old age home, k. puthur, Madurai. The first two days assessments of 80 elderly people were done with western Ontario Mac Master scale. 20 samples were excluded according to the exclusive criteria, from the 80 samples 60 samples with knee pain were selected for the study. Massage with aromatic ginger oil and orange essential oil was given for 20 minutes daily, for 6 sessions for 3 weeks for each people. After the intervention knee pain level were assessed with western Ontario Mac Master scale on the last day.

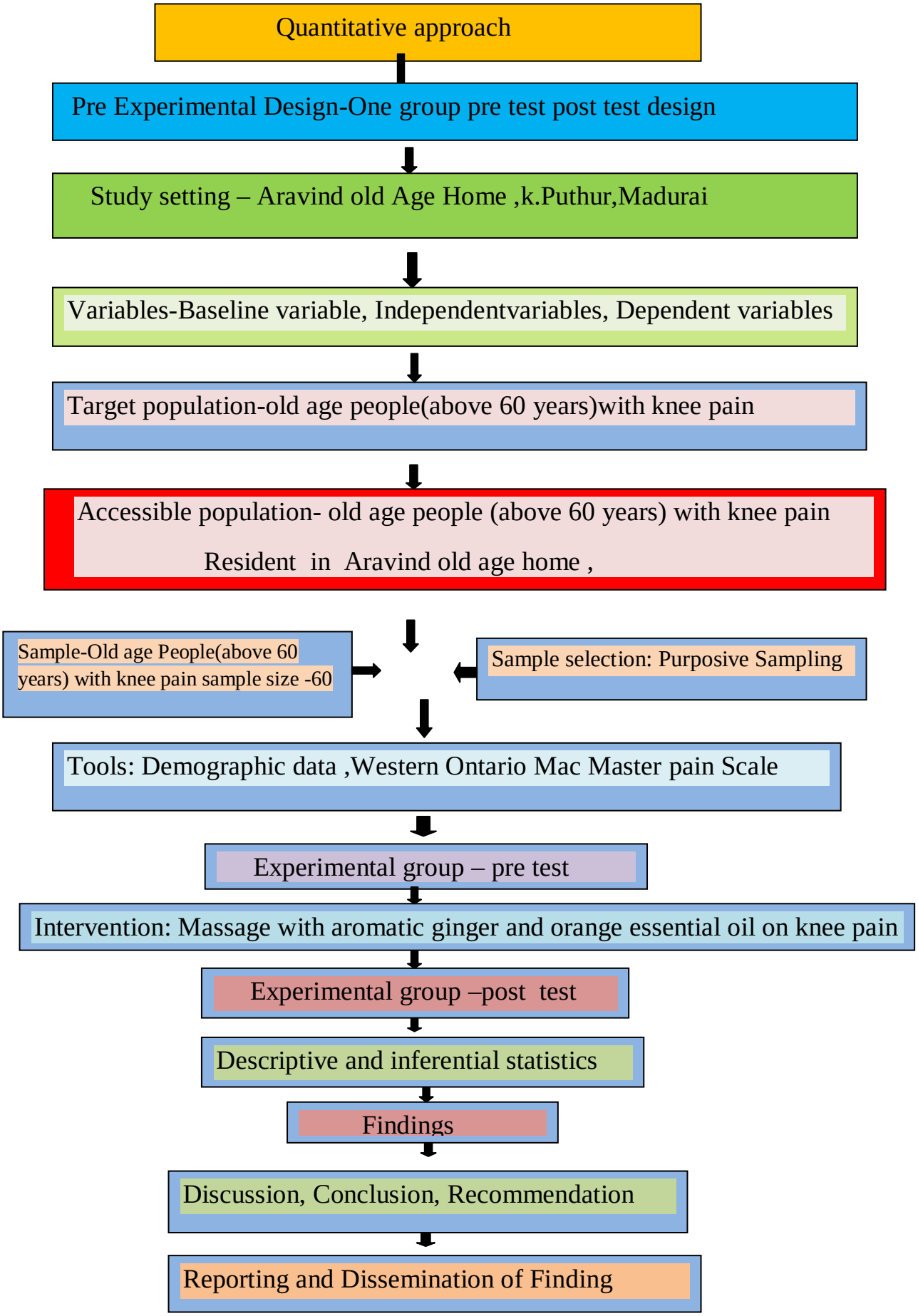
3.16 PLAN FOR DATA ANALSIS

A frequency table was formulated for all significant information. Descriptive and inferential statistical methods were used for data analysis. Descriptive statistics applied for demographic variable analysis. In inferential statistics, Paired‘t’ test used to find the significance of intervention. Karl Pearson’s coefficient of correlation was used to determine the degree of relationship between selected demographic variables and knee pain level among elderly people.

3.17 PROTECTION OF HUMEN SUBJECTS

After getting permission from the Director of Aravind old age home in Madurai, In order to protect the human rights ethical committee approval was obtained on the month of September. Madurai medical college, Madurai .Information was given to all the samples about the purpose of the study . Written informed consent was obtained from the samples .The samples had the complete freedom to withdraw from the study for their own reason. No physical or psychological harm was made to the sample .

3.18 SCHEMATIC REPRESENTATION OF RESEARCH STUDY



CHAPTER - IV

DATA ANALYSIS AND INTERPRETATION

Polit (2004) states that statistical analysis is a method of rendering quantitative information that elicits meaningful and intelligile from to research data .This chapter deals the analysis and and interpretation of the data collected and thereby to assess the effectiveness of massage with Aromatic Ginger and Orange Essential Oil on knee pain among elderly people at selected old age Home Madurai. Analysis is the appraisal of the data and interpretation of the data consisting of relation between findings of the study to the research problem and theoretical frame work for the study. An important function of the process of interpretation is to link the findings of the study to the main stream of scientific knowledge in the field. The data collected from 60 elderly clients with Knee pain being analyzed , classified and tabulated on the basis of the objectives of the study.

ORGANIZATION OF THE DATA

The collected data was organized under the following section

SECTION I :

Demographic variables

Description of Demographic variables of elderly people with knee pain which includes Age , sex, Religion, educational status ,Diet habits , exercises, Duration of the knee pain , Type of treatment , Body Max index

SECTION :II

Assessment of knee pain level among elderly people before massage with aromatic ginger and orange essential oil .

SECTION: III

Assessment of knee pain level among elderly people after massage with aromatic ginger oil and orange essential oil .

SECTION :IV

Evaluate the effectiveness of massage with aromatic ginger oil and orange essential oil on knee pain among elderly people .

SECTION V :

Association between the post test level of knee pain score with selected demographic variables.

SECTION –I

DESCRIPTION ABOUT DEMOGRAPHIC VARIABLES OF ELDERLY PEOPLE

TABLE – I

Frequency and percentage distribution of elderly people according to demographic variables.

n =60

S. No	Demographic variables	Frequency (n)	Percentage (%)
1.	**Age**		
	a. 60-65	29	48.3
	b. 66-70	19	31. 7
	c. 71-75	12	20.0
	d. Above 75 years	0	0
2.	**Sex**		
	a. Male	12	20.0
	b. Female	48	80.0
3.	**Marital status**		
	a. Married	60	100.0
	b. Unmarried	0	0
4.	**Religion**		
	a. Hindu	53	88.3
	b. Christian	7	11.7
	c. Muslim	0	0
	d. Others	0	0

S. No	Demographic variables	Frequency (n)	Percentage (%)
5.	**Educational status**		
	a. Non formal	3	5.0
	b. Primary	57	95.0
	c. Higher Secondary	0	0
	d. College	0	0
6.	**Diet habit**		
	a. Vegetarian	8	13.3
	b. Non- Vegetarian	52	86.7
7.	**Exercise**	0	0
	a. Regular	2	3.3
	b. Irregular	58	96.7
	c. Not doing		
8.	**Duration of Knee Pain (years)**	3	5.0
	a. 0-1	40	66.7
	b. 1-3	17	28.3
	c. 3-5		
9.	**Treatment type**		
	a. Oral	2	3.4
	b. External	50	88.3
	c. Alternative	8	13.3
10.	**a. Body mass index**		
	b. <18.5	13	21.7
	c. 18.5-25	35	58.3
	d. 25-30	12	20
	e. More than 30	0	0

The above table-1 describes the demographical variables of elderly people . Majority (48.3%) of the elderly were in the age of 60-65years and the remaining were belonging to 66-70 (31.7%) and 71-75 (20%) years. Among them males and females were 20 and 80 percentages respectively. All participants (100%) were married. Regarding the religion 88.3% were Hindu and 11.7% were Christians. According to educational status 5% were no formal education and the remaining belongs to school (95%) education .In Diet habit (13.3%) vegetarian were and(86.7%) non vegetarian . In respect of exercise Irregular exercise was performed by 3.3% and the remaining (96.7%) did not perform exercise. The duration of knee pain was 5%, 66.7% and 28.3% for 0-1, 1-3 and 3-5 years respectively. Regarding the type treatment 13.3% had takes alternative, 88.3% external and 3.4% oral. In respect of Body mass index 21.7%, 58.3% and 20% had <18.5, 18.5 -25, and 25-30 respectively. The averages of ages were mean 66.1±3.4, median 65 and mode 64 years with minimum 62 and maximum 75years.

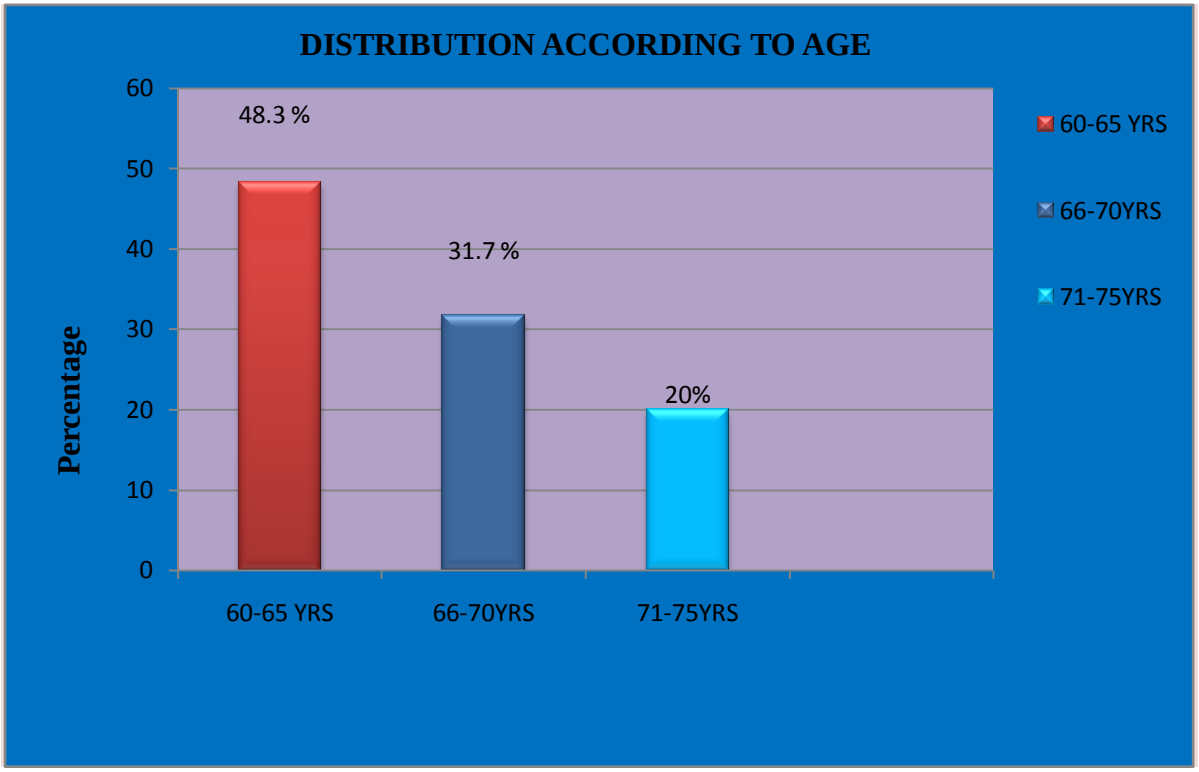


Fig 2 . Percentage Distribution of sample according to Age

The above Figure reveals that, Maximum percentage of elderly people (48.3 %) belongs to the age group between 60-65 years.

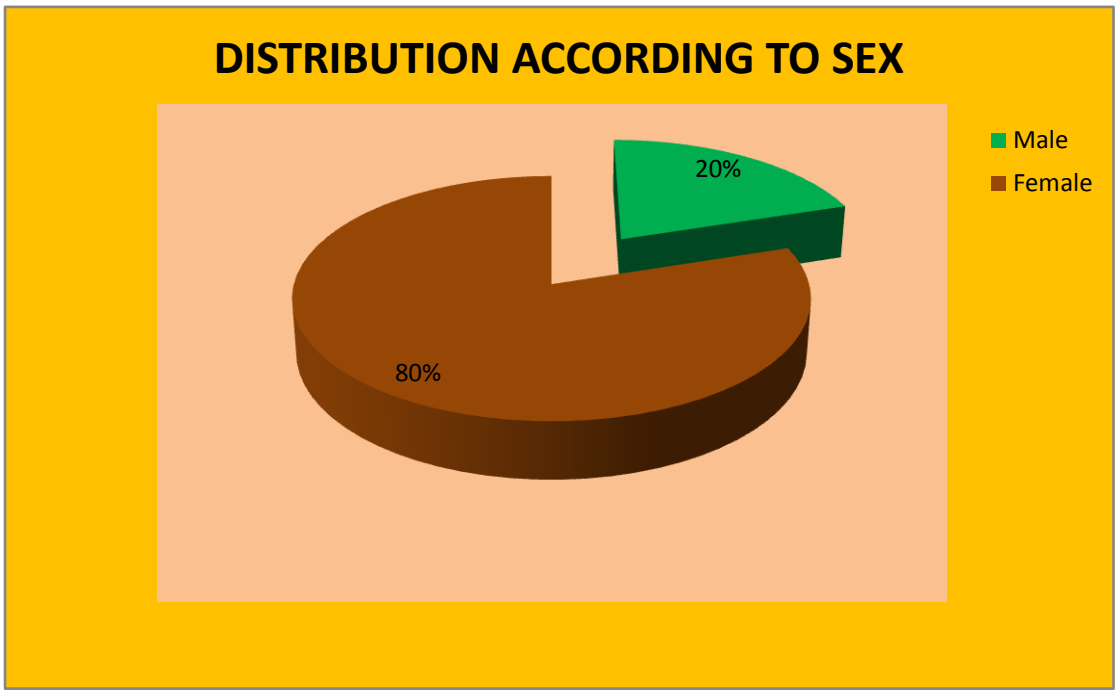


Fig 3. Percentage Distribution of sample according to sex

The above pie diagram reveals that, Majority of the subjects (80%) were females.

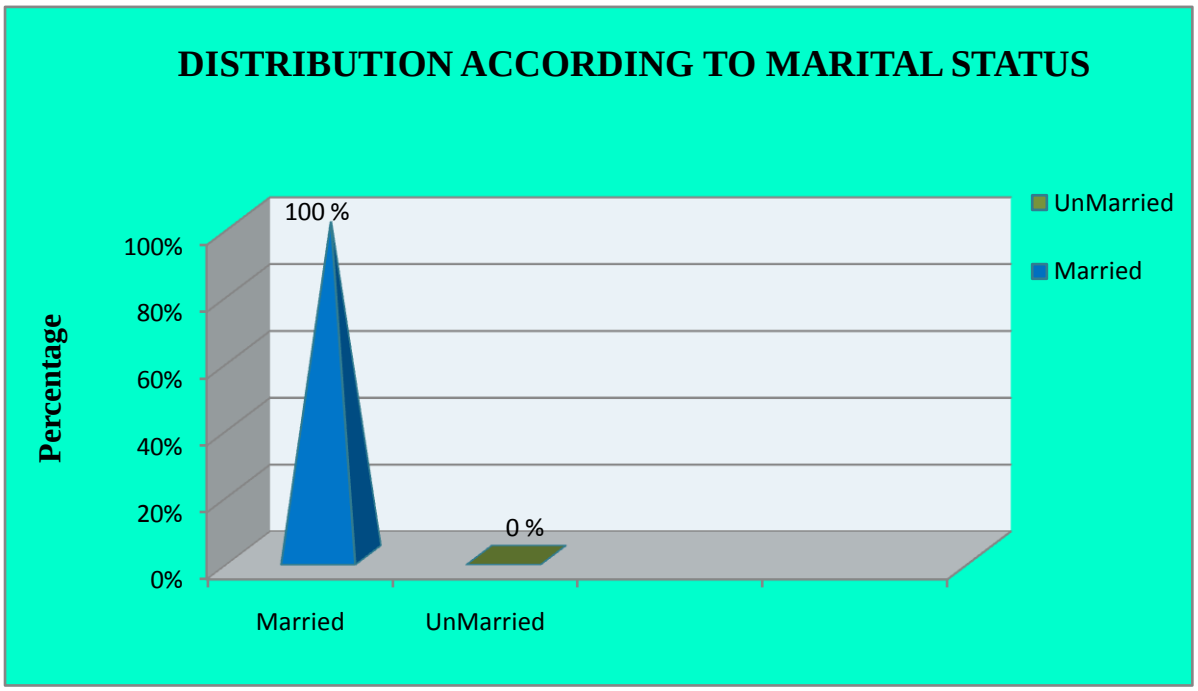


Fig 4. Percentage Distribution of Sample according to Marital Status

The above Graph illustrates that, All the subjects (100%) were Married.

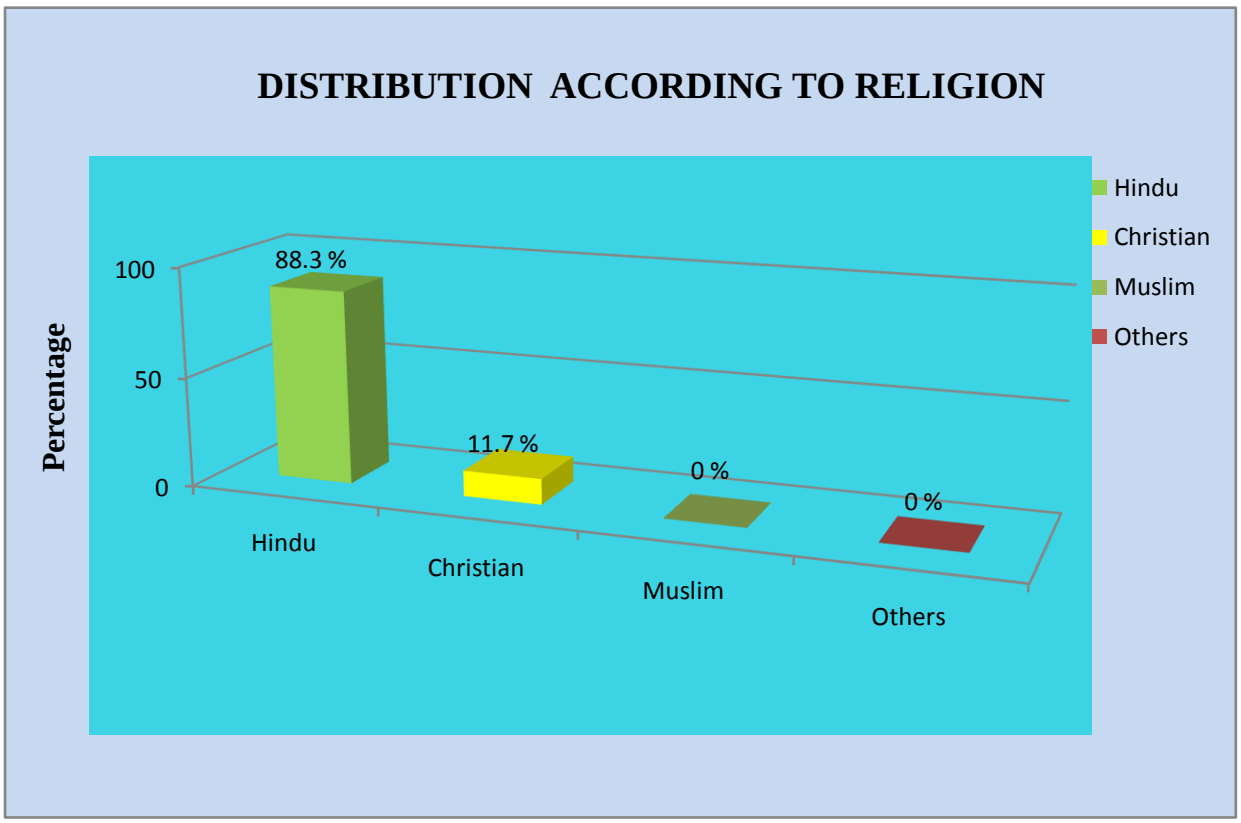


Fig 5. Percentage Distribution of Sample according to Religion

The above graph illustrates that, Majority of the subjects (88.3%)were Hindu.

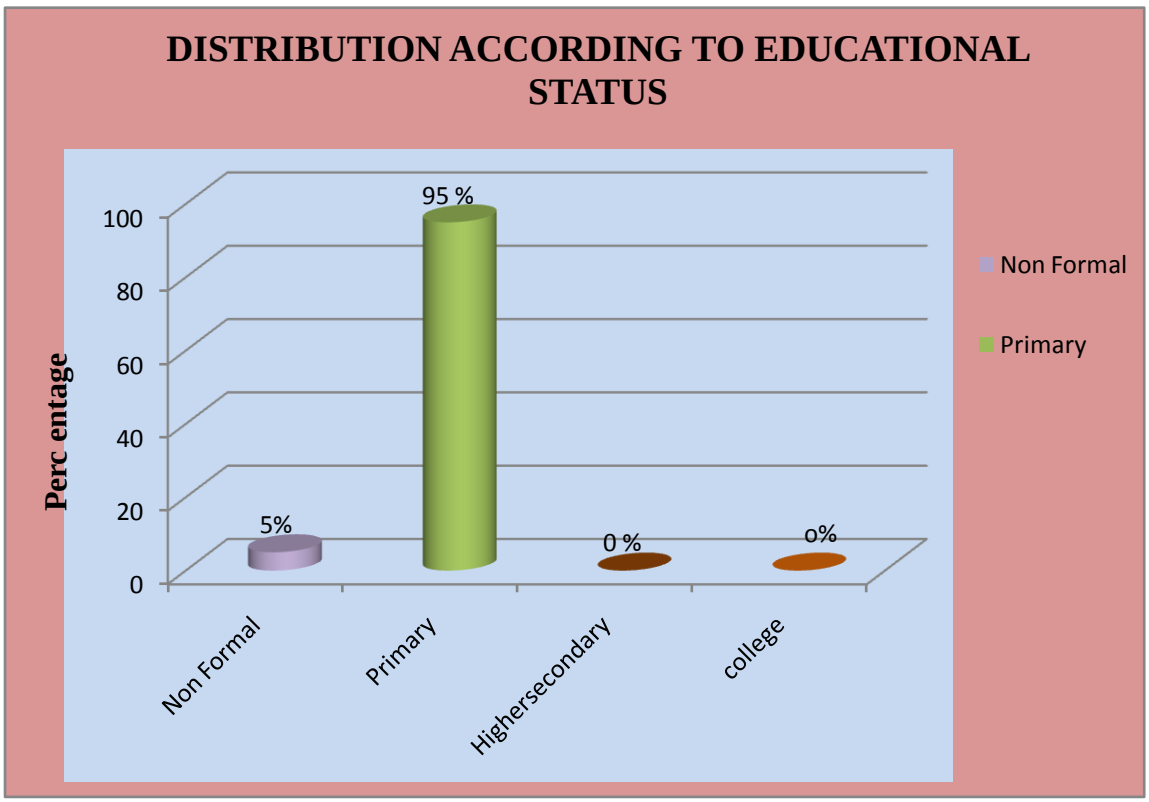


Fig 6. Percentage Distribution of Sample according to Educational Status

The above graph illustrates that , Majority of the subjects (95%) were belongs to Primary Education.

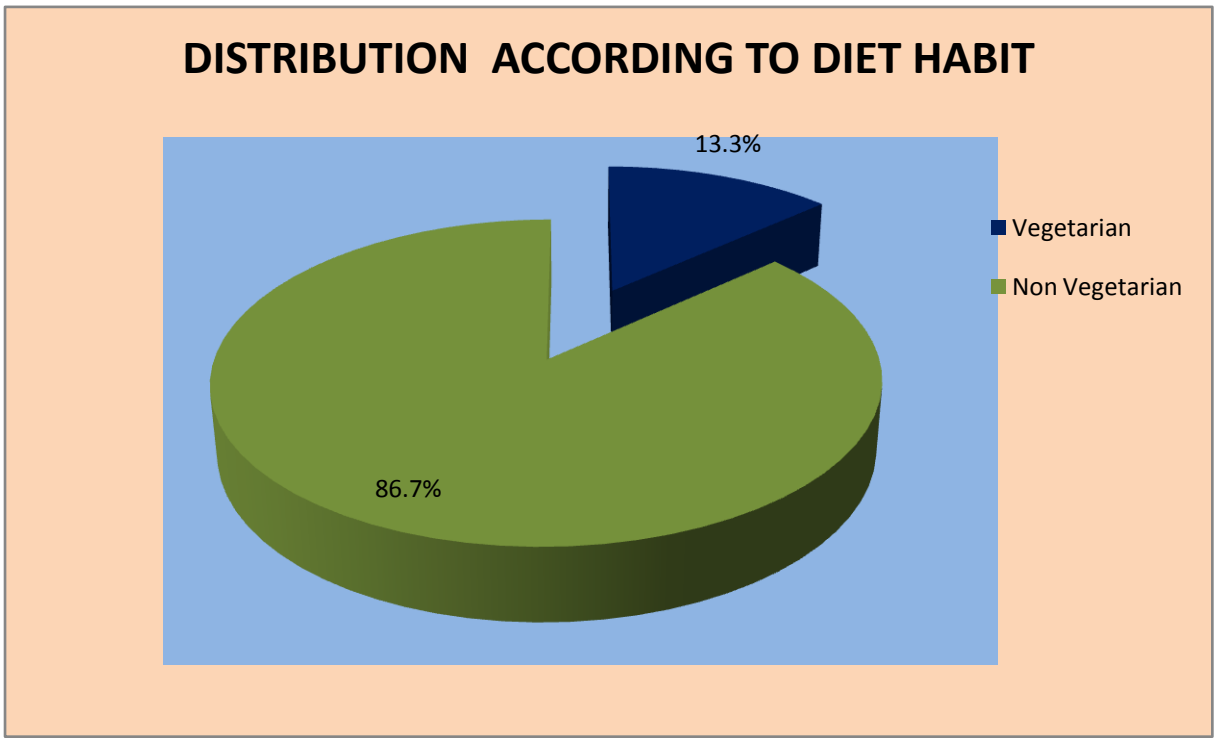


Fig 7. Percentage Distribution of Sample according to Diet Habit

The above pie diagram reveals that, Majority of the subjects (86.7%) were Non Vegetarian

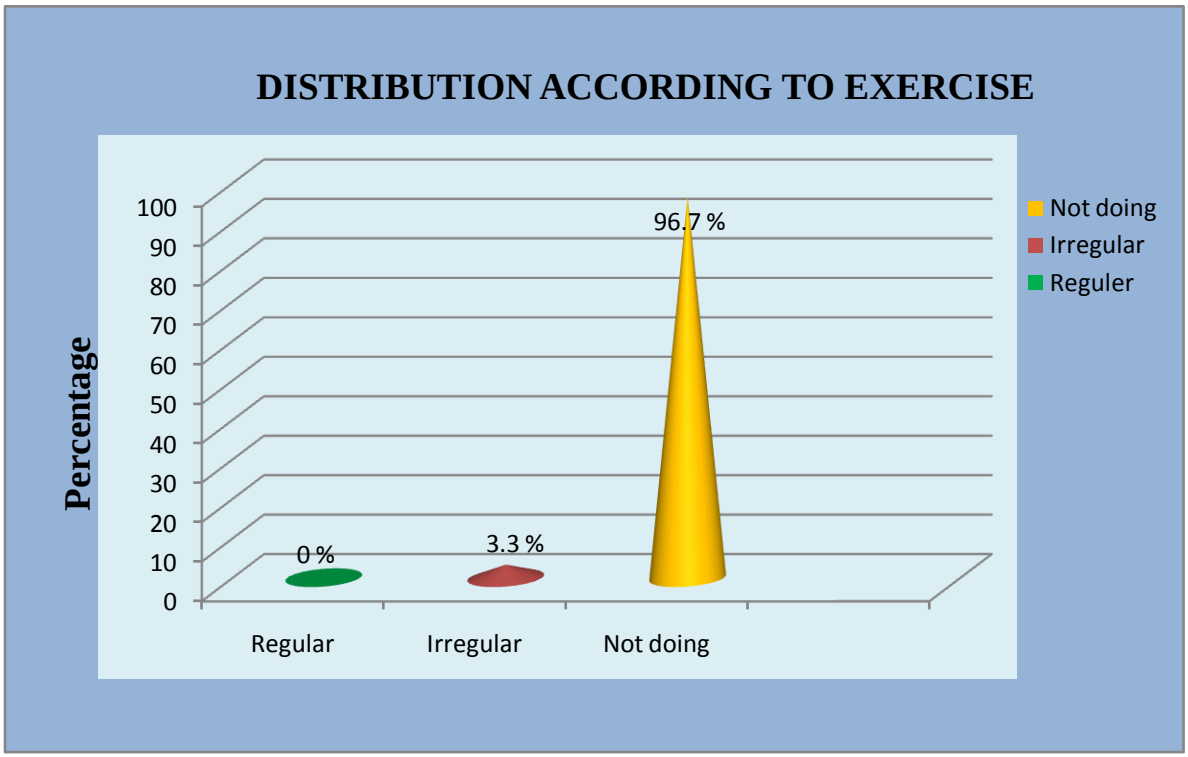


Fig 8. Percentage Distribution of Sample according to Exercise

The above graph illustrates that, Majority of the subjects (96.7%) were Not doing Exercise

S

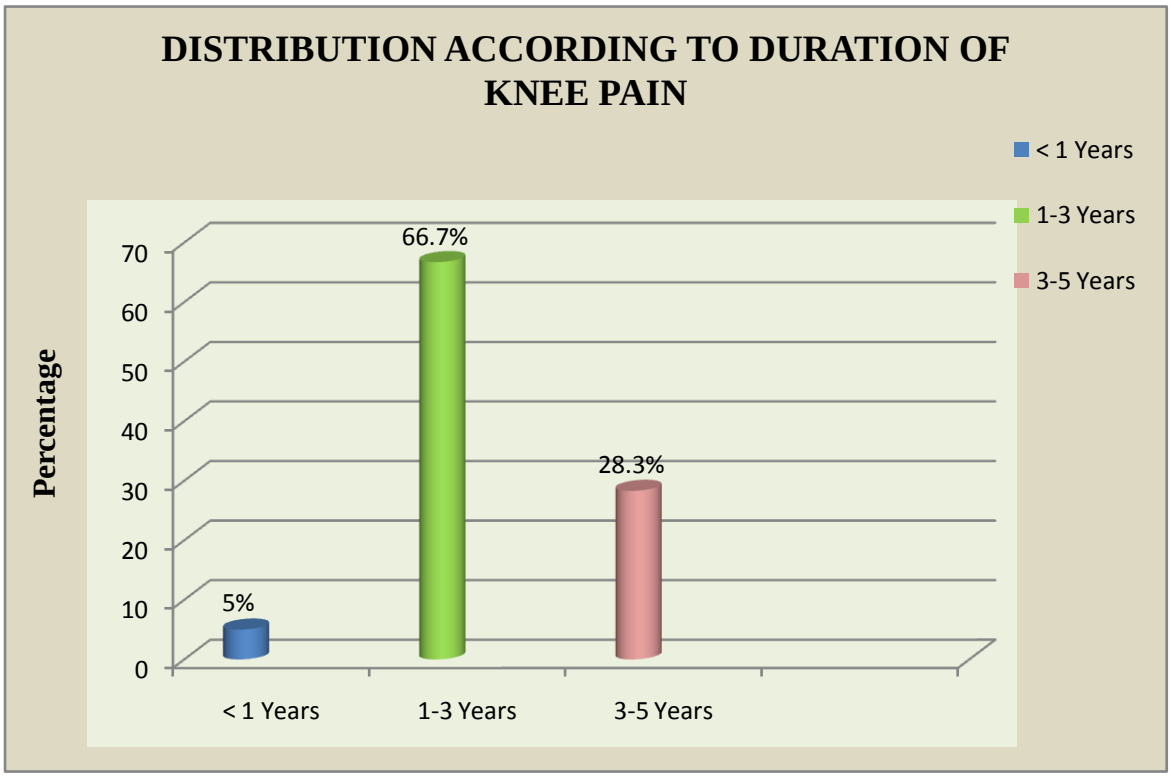


Fig 9. Percentage Distribution of Sample according to Duration of Knee pain .

The above cylindrical diagram illustrates that, Maximum subjects(66.7%) were 1-3 years.

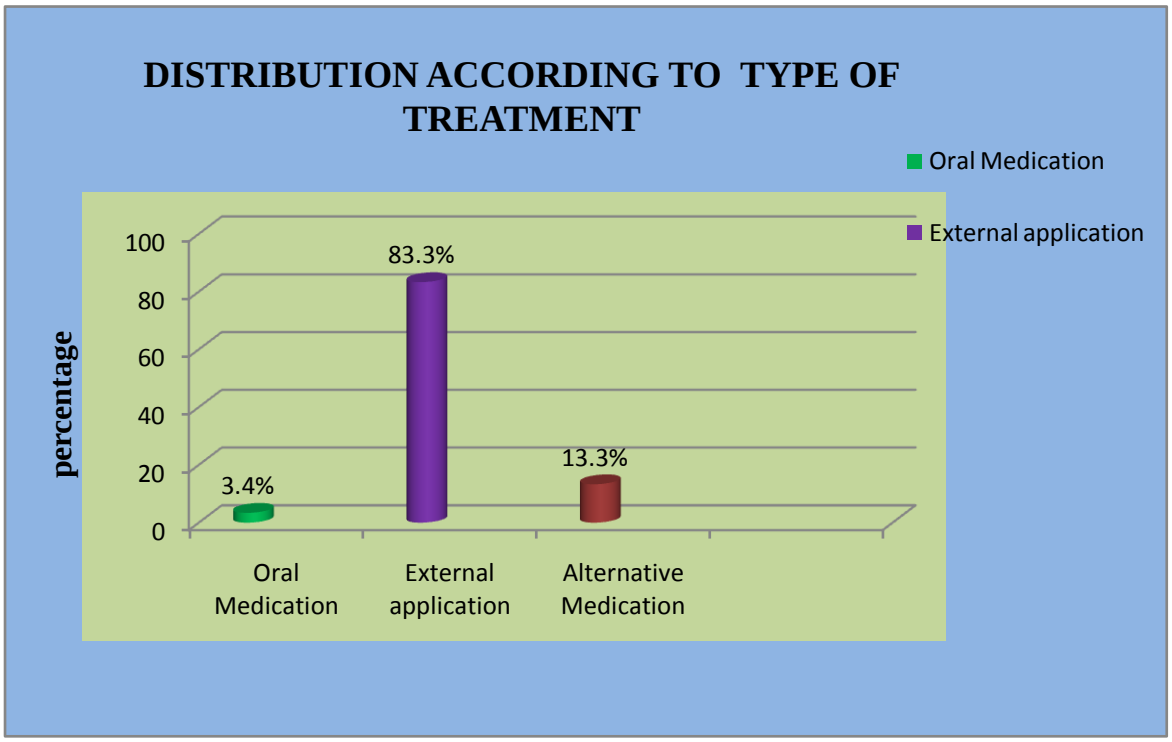


Fig 10. Percentage Distribution of Sample according to type of treatment .

The above figure illustrate that, Majority of the subjects (83.3%) were External application.

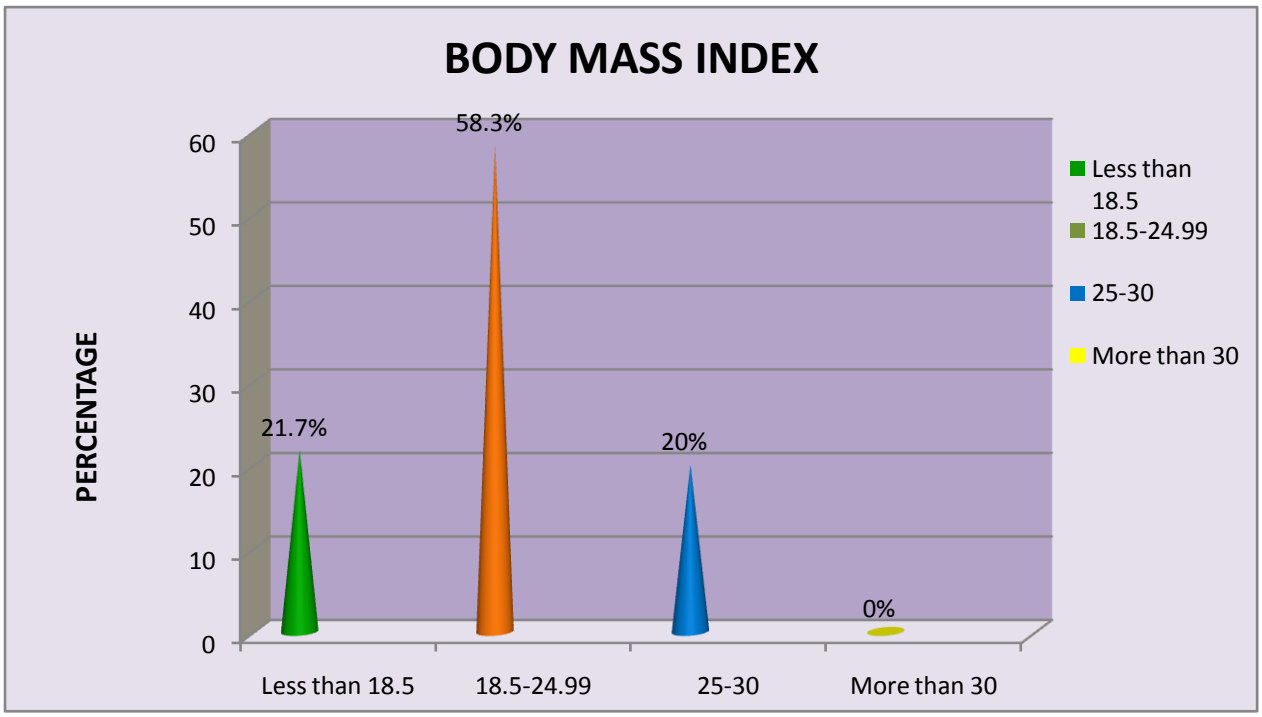


Fig 11. Percentage Distribution of Sample according to Body Mass Index

The above cone reveals that, More than half of the subjects (58.3%) were belongs to 18.5 -24.99 Body Mass Index.

SECTION II

ASSESSMENT OF KNEE PAIN LEVEL AMONG ELDERLY PEOPLE BEFORE MASSAGE WITH AROMATIC GINGER OIL AND ORANGE ESSENTIAL OIL.

TABLE-2

Frequency and Percentage distribution of pre test knee pain level among elderly people at selected old age home .

n =60

Level of pain	Pre test	
	F	%
Mild	6	10.0
Moderate	28	46.7
Severe	19	31.7
Extreme	7	11.6

The above table explains that the Level of knee pain among elderly people before massage with aromatic ginger oil and orange essential oil . The 10% of elderly people had mild knee pain,46.7% of elderly had moderate knee pain ,31.7% of elderly people had severe knee pain ,11.6% of elderly people had Extreme knee pain before application of massage with aromatic ginger oil and orange essential oil.

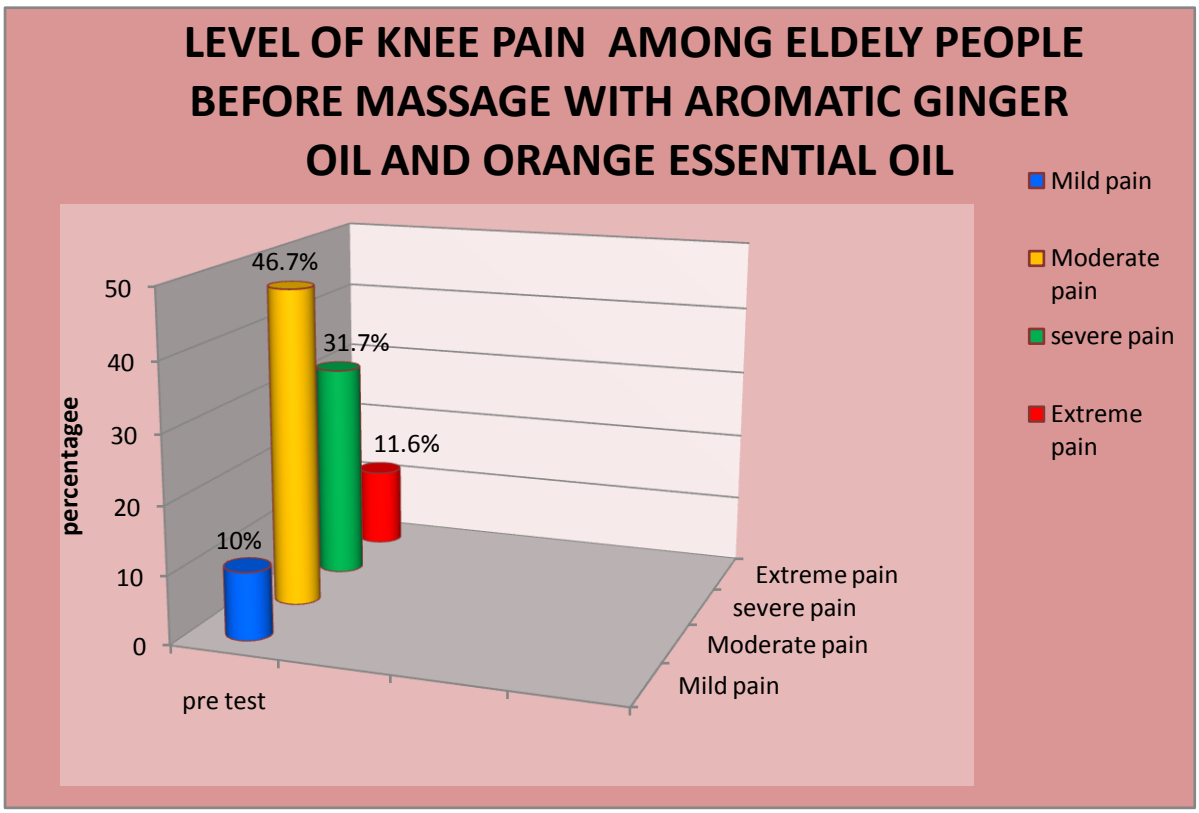


Fig 12. Percentage Distribution of pre test level of knee pain among elderly people at selected old age home.

This graph depicts that, before massage with aromatic ginger oil and orange essential oil 10% had mild knee pain ,46.7% had moderate knee pain ,31.7% had severe knee pain ,11.6%had extreme knee pain .

SECTION - III

ASSESSMENT OF KNEE PAIN LEVEL AMONG ELDERLY PEOPLE AFTER MASSAGE WITH AROMATIC GINGER OIL AND ORANGE ESSENTIAL OIL.

TABLE-3

Frequency and Percentage distribution of post test knee pain level among Elderly People at selected old age home.

Level of pain	Post test	
	F	%
Mild	16	26.7
Moderate	24	40
Severe	15	25
Extreme	5	8.3

In the above table shows that 26.7% of elderly people had mild knee pain ,40% had moderate knee pain ,25% had severe knee pain 8.3% had extreme knee pain after application of massage with aromatic ginger oil and orange essential oil. After the intervention 26.7% of elderly people had mild pain. Similarly moderate severe and extreme pain category of elderly people had decreased their pain level (40%,25%,and 83%)respectively.

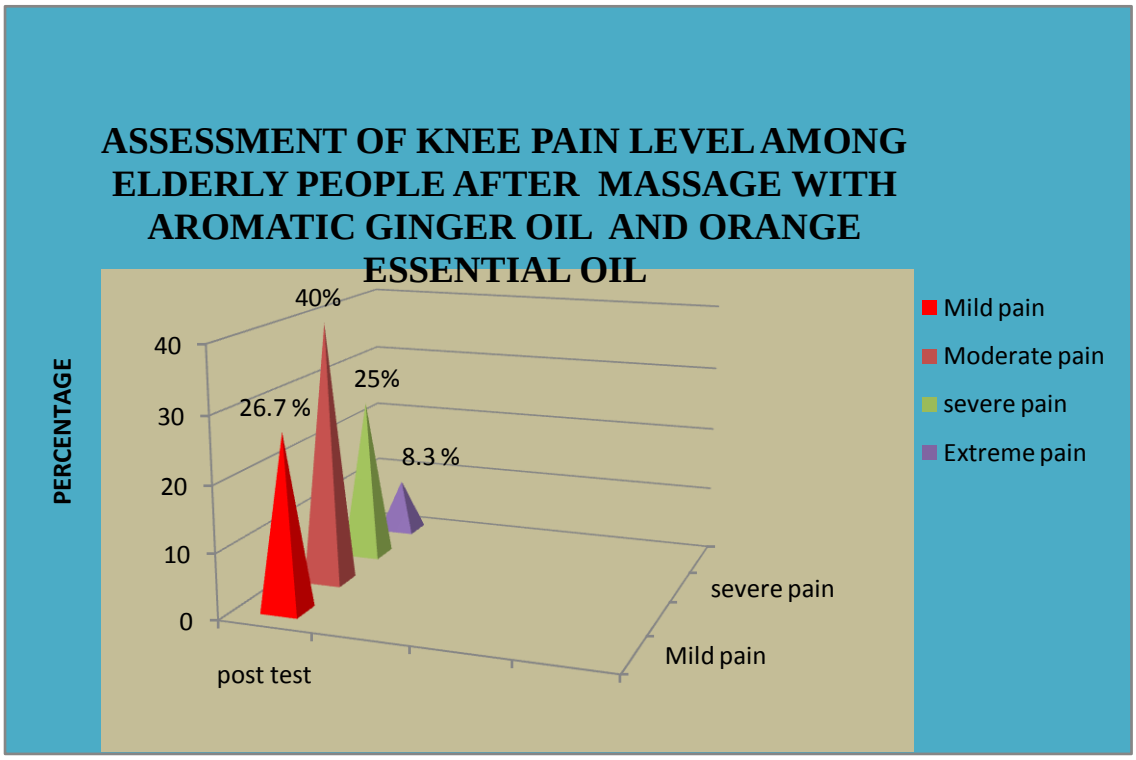


Fig 13.Percentage Distribution of post test level of knee pain among elderly people.

This graph depicts that, After massage with Aromatic ginger oil and orange essential oil 26.7% had mild pain ,40% had moderate pain ,25% had severe pain ,8.3% had Extreme pain.

SECTION IV

EFFECTIVENESS OF MASSAGE WITH AROMATIC GINGER OIL AND ORANGE ESSENTIAL OIL ON KNEE PAIN AMONG ELDERLY PEOPLE.

Table-4

Score	N	Pre test		Post test		Reduction		Paired 't'	df	Significance
		M	SD	M	SD	M	SD			
Knee pain	60	49.1	19.4	42.1	18.6	7.0	5.4	10.083	59	P<0.001

The above table -3 shows the effectiveness of massage with aromatic ginger oil and orange essential oil in reduction of the knee pain of the elderly people. The mean pre test knee pain level was 49.1 with standard deviation of 19.4 and the post test mean was 42.1 with standard deviation of 18.6 respectively. Reduction of mean is 7.0 and standard deviation is 5.4.The test significance of was calculated using paired t – test. The obtained t –value is 10.083 ($p< 0.001$) , which was significant .

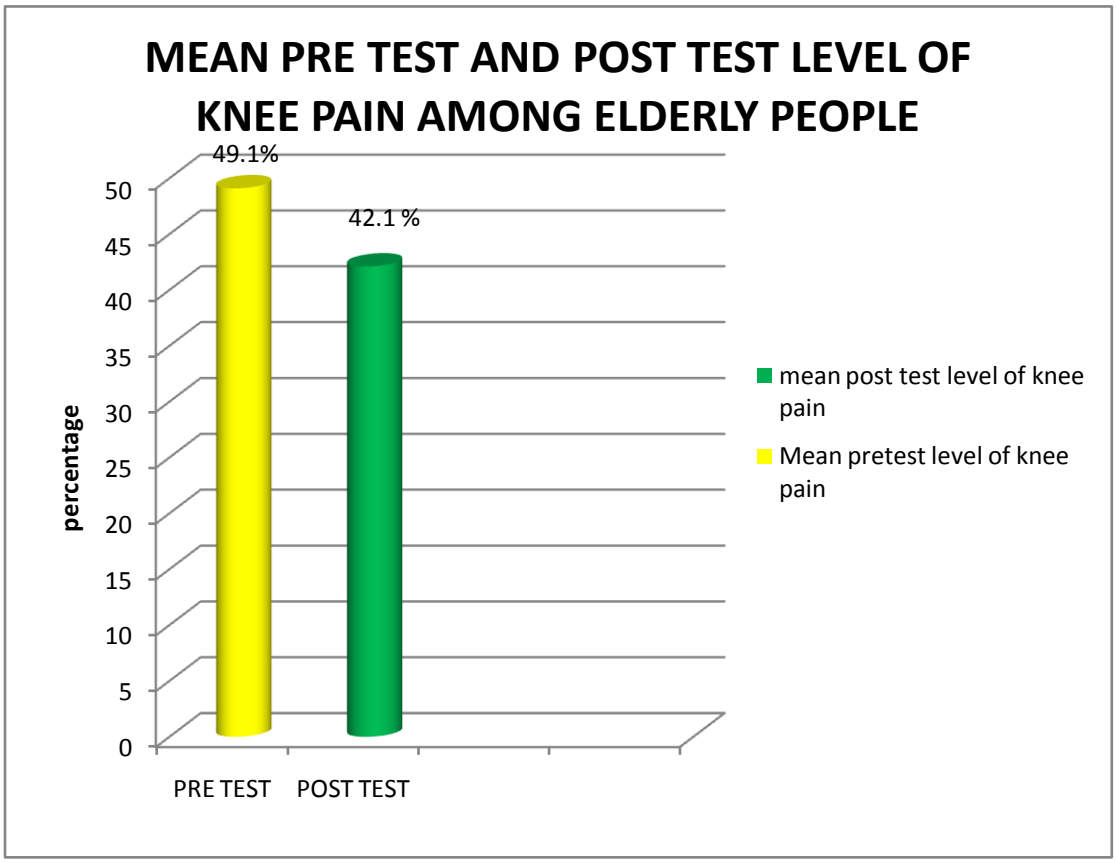


Fig 14. Distribution of mean pretest and post test level of knee pain among elderly people.

The above diagram shows that the mean pre test level of knee pain was 49.1% which was reduced to 42.1% in post test .

SECTION IV

ASSOCIATION OF LEVEL OF KNEE PAIN SCORE AMONG ELDERLY CLIENTS WITH THEIR SELECTED DEMOGRAPHIC VARIABLES .

TABLE-5

Association between post test level of knee pain score among elderly people with their selected demographic variable

Demographic variables	Mild + Moderate		Severe +Extreme		χ^2	p-value
	F	%	F	%		
Age						
a.60-65	19	32	10	17	6.13	P<0.05
b.66-70	15	25	4	6		
c.71-75	6	10	6	10		
Sex					4.21	P<0.05
a. Male	8	14	4	6		
b. Female	32	53	16	27		
Religion					1.294	p>0.05
a. Hindu	34	57	19	32		
b. Christian	6	10	1	1		
Diet habit					1.803	p>0.05
a. Vegetarian	7	12	1	1		
b. Non- Vegetarian	33	55	19	32		
Exercise					4.48	P<0.05
a. Irregular	1	1	1	2		

Demographic variables	Mild + Moderate		Severe +Extreme		χ^2	p-value
	F	%	F	%		
b. Not doing	39	65	19	32		
Duration of Knee Pain (years)	3	5	0	0	1.983	p>0.05
a. 0-1	27	45	13	21		
b. 1-3	10	17	7	12		
c. 3-5						
Treatment type						
a. Oral	2	3	0	0	1.410	p>0.05
b. External	32	53	18	31		
c. Alternative	6	10	2	3		
Body mass index						
a. <18.5	4	7	9	15	6.78	P<0.05
b .18.5-25	23	38	12	20		
c. 25-30	7	12	5	8		

The above table shows that association between post test knee pain level reduction score and their demographic variables .Statistical significance calculated using Chi square (χ^2) test. Age (χ^2 = 6.13, p<0.05), Sex(χ^2=4.21, p=<0.05) Eercise(χ^2=4.48, p=<0.05),Body max index (χ^2=6.78, p<0.05. Were significantly associated with post test level of knee pain . Apart from this other variables were not significantly associated.

CHAPTER-V

DISCUSSION

The focus of this study is to assess the effectiveness of massage with aromatic ginger oil and orange oil on knee pain among elderly people at selected old age home , Madurai.

The researcher adopted pre experimental study –One group Pre test Post test Design. The 60 subjects selected for this study .A structured interview schedule was used to collect demographic data .The Western Ontario Mac Master Scale was used to assess the level of knee pain .This research study has been discussed based on the objectives and the following supported studies .

DISCUSSION OF BASELINE VARIABLES

The present study subjects were maximum (48.3%) age group of 60-64years and their mean age was 66.1±3.4 years. The female participants were more (80%) than males. The Hindus were more (88.3%). Similarly, school education (95%) and non- vegetarian (86.7%), were more than the counter parts of no formal education and vegetarian respectively. Majority (96.7%) of elderly were not doing exercise. Similarly external treatment (83.3%), 1-3 years pain (66.7%) and BMI 18.5-24.9(58.3%) were maximum than the other respective components. The 10% of subjects had mild pain before intervention and the same was increased as 26.7% after intervention. The other pain level such as moderate (46.7%), Severe (31.7%) and extreme (11.7%) were decreased after intervention as 40%, 25% and 8.3% respectively.

World health organization (2007), reported prevalence of arthritis in the world as 1% but the rate varies among the age groups. More than 70% 0f individual in North America affected by arthritis are over the age of 65. In United States ,55%of individuals age 65 and the older reports arthritis. It is estimated that prevalence of arthritis will rise from 43 million in 1997 to 60 million in 2020. In Canada, it is projected that the prevalence of arthritis will increase from 2.9 million to 6.5 million in 2031.

Sharma.et.al (2007) The present study consistent with epidemiological study correlates osteoarthritis in geriatric population of the result shows 5.3% of males and 4.8% of females are aged more than 65 years ,The prevalence of this disorder in certain elderly group is as high as 85%. The prevalence of osteoarthritis among elderly as per the present study was 56.6%.Community survey data in rural & urban areas of India Shows the prevalence of osteo-arthritis to be in the range of 17 to 60.6%. The prevalence of osteoarthritis amongst elderly in rural areas of Amritsar was 60.6% while it is 17% amongst the elderly of rural areas of Wardha (Maharashtra) .In Aligarh the prevalence of osteoarthritis was 30.2%.

FINDING BASED ON THE OBJECTIVES

The first objective to assess the level of knee pain among elderly people at selected old age home,Madurai

The knee pain level was assessed by Western Ontario MAC Master scale. The findings were majority of the elderly people 46.7% had moderate pain,10% had mild pain,31.7% had severe pain ,11.6% had extreme pain. After the massage with aromatic ginger and orange essential oil the knee pain level was reduced to 26.7% had mild pain ,40% had moderate pain, 25% had severe pain ,8.3% had extreme pain.

Jenkinsion,et,al,(2009) conducted a comparative study on ginger oil and knee strengthening exercise on older people with knee osteoarthritis. The investigator assigned experimental one group pre test post test design with 10 older men and 12 older women for to ginger oil and knee strengthening exercise. The intervention was given for 15 minutes session twice a week for four weeks. The result revealed that the level of knee pain was reduced in both the groups, but significantly more in the ginger oil application group.

Altman RD, Marcussen KC (2001) Conducted a study on effects of a ginger extract on knee pain in patients with osteoarthritis. Two hundred sixty-one patients with Osteoarthritis of the knee and moderate-to-severe pain were enrolled in a randomized, double-blind, placebo-controlled, multicenter, parallel-group, 6-week study. After washout, patients received ginger extract or placebo twice daily, with acetaminophen allowed as rescue medication. The primary efficacy variable was the proportion of responders experiencing a reduction in "knee pain on standing," using an intent-to-treat analysis. A responder was defined by a reduction in pain of > or = 15 mm on a visual analog scale. In the 247 evaluable patients, the percentage of responders experiencing a reduction in knee pain on standing was superior in the ginger extract group compared with the control group (63% versus 50%; P = 0.048). Analysis of the secondary efficacy variables revealed a consistently greater response in the ginger extract group compared with the control group, when analyzing mean values: reduction in knee pain on standing (24.5 mm versus 16.4 mm; P = 0.005), reduction in knee pain after walking 50 feet (15.1 mm versus 8.7 mm; P = 0.016), and reduction in the Western Ontario and McMaster Universities osteoarthritis composite index (12.9 mm versus 9.0 mm; P = 0.087).

The second objective was to evaluate the effectiveness of massage with aromatic ginger and orange essential oil on knee pain among elderly people selected old age home,Madurai.

Massage with aromatic ginger and orange essential oil was given to subjects on knee pain among elderly people is selected old age home and then effectiveness was evaluated through post test. The Findings revealed that the effectiveness of the aromatic ginger and orange essential oil in reduction of the knee pain of the elderly. The pre test mean score was 49.1± 19.4 and the same after application of the aromatic ginger and orange essential oil was reduced as 42.1±18.6. The mean reduction 7.0±5.4 was statistically very highly significant (P<0.001) and it was attributed to the effect of aromatic ginger and orange essential oil in reduction of knee pain of the elderly.

Atman RD (2009) who conducted a quasi experimental study to effects of a ginger extract on knee pain in elderly people with osteoarthritis Analysis of the secondary efficacy variables revealed a consistently greater response in the ginger extract group compared with the control group, when analyzing mean values: reduction in knee pain on standing (24.5 mm versus 16.4 mm; P = 0.005), reduction in knee pain after walking 50 feet (15.1 mm versus 8.7 mm; P = 0.016), and reduction in the Western Ontario and McMaster Universities osteoarthritis composite index (12.9 mm versus 9.0 mm; P = 0.087). Change in global status and reduction in intake of rescue medication were numerically greater in the ginger extract group. Change in quality of life was equal in the 2 groups.

Thus, H_1 : There will be significant difference in the level of knee pain before and after massage with aromatic ginger and orange essential oil was accepted.

The third objective was to associate the level of knee pain score among elderly clients with selected demographic variables .

Statistical significance calculated using Chi square (χ^2) test. Age (χ^2 = 6.13, p<0.05), Sex(χ^2=4.21, p=<0.05) Eercise(χ^2=4.48, p=<0.05),Body max index (χ^2=6.78, p<0.05. Were significantly associated with post test level of knee pain . Apart from this other variables were not significantly associated.

The pre test study was consistent with **Yip YB,Tam AC(2008)** Who conducted experimental study to evaluate the effectiveness of massage with aromatic ginger and essential oil for moderate to severe knee pain among elderly people. There were significant mean changes between the three time-points within the intervention n group on three of the outcome measures: knee pain intensity (p=0.02); stiffness level (p=0.03); and enhancing physical function (p=0.04) but these were not apparent with the between-groups comparison (p=0.48, 0.14 and 0.45 respectively) 4 weeks after the massage. The improvement of physical function and pain were superior in the intervention group compared with both the placebo and the control group at post 1-week time (both p=0.03) but not sustained at post 4 weeks (p=0.45 and 0.29).

The study result showed that there was a statistically significant association between post test level of knee pain score and selected demographic variable .More over calculated value.

Thus , H_2 There will be a significant association between knee pain among elderly people with selected demographic variables was proved.

CHAPTER –VI

SUMMARY, CONCLUSION, IMPLICATIONS AND RECOMMONDATIONS

This chapter deals with the summary of the study and conclusions drawn. It also clarifies the limitations of the study ,the implications for different areas like nursing education ,administration ,nursing practice , nursing research and recommendation.

6.1 SUMMARY

The present study was aimed to assess the effectiveness of Massage with aromatic ginger oil and orange essential oil on knee pain among elderly people at selected old age home in Madurai.

The objective of the study were

- To assess the level of knee pain among elderly people.
- To evaluate the effectiveness of massage with aromatic Ginger oil and Orange essential oil on knee pain among elderly people.
- To determine the association of level of knee pain among elderly people with selected demographic variables.

The following Hypotheses were tested,

H_1 - There will be significant difference in the level of knee pain before and after massage with aromatic ginger oil and orange essential oil.

H_2- There will be significant association between knee pain elderly people with selected demographic variables.

The investigator adopted Lydia .E.Hall's Core, Care, Cure theory. Quantitative approach – One Group Pre test Post test design was used for the study. The subjects were selected using Purposive sampling .The data collection tool used were,

Section I : Demographic variables

Section II : Western Ontario Mc Master Scale used to assess level of knee pain

Section III : Massage with aromatic Ginger and Orange essential oil .

The study was validated by 5 experts , including 3 nursing experts , Director of Department of Prevention and Social Medicine , Madurai, Madurai Medical College , Madurai .The reliability co-efficient obtained for this tool is ranging from 0.86 -0.95 and yield high validity.

Data collection was carried out for four weeks from16.09.2013 to 22.09. 2013.Based on the objective and hypotheses, the data collected were analyzed by using descriptive and inferential statistics.

MAJOR FINDINGS OF THE STUDY :

- Majority (48.3%) of the elderly were in the age bracket of 60-64 years and the remaining were belonging to 65-69 (31.7%) and 70-74 (20%) years.
- Based on population males and females were 20 and 80 percentages respectively.
- All (100%) Sample were married.

- Regarding the religion the Hindus were 88.3% and Christians were 11.7%.
- A 5% were no formal education and the remaining (95%) up to school level.
- Regarding Diet habit of them was vegetarian (13.3%) and non vegetarian (86.7%).
- Irregular exercise was performed by 3.3% and the balance(96.7%) did not perform exercise.
- The duration of knee pain was 5%, 66.7% and 28.3% for 0-1, 1-3 and 3-5 years respectively.
- Regarding treatment 13.3% had alternative, 88.3% external and 3.4% oral.
- In respect of Body mass index 21.7%, 58.3% and 20% had <18.5, 18.5 -25, and 25-30 respectively.
- The averages of ages were mean 66.1±3.4, median 65 and mode 64 years with minimum 62 and maximum 74 years.
- The mean pretest level of knee pain score is reduced from 49.1 to 42.1. This improvement is statistically highly significant and confirmed by paired 't' test ($t=10.083$) and $p < 0.001$).
- Highly Significant association was noted between post test score of level of knee pain among elderly people at 0.05 level of significance.

6.2 CONCLUSION

Community health nurse plays an important role in health promotion and prevention of disease in geriatric population . Knee pain is more common in geriatric people .This problem is quite frequent and often resulted in interruption of activities of daily living. In inferential statistics this study showed that there is decrease in the

knee pain level after massage with aromatic ginger oil and orange essential oil among elderly people when compared with pre test.

6.3 IMPLICATIONS OF THE STUDY

Nursing Education

Alternative and Complementary Medicine were included in the nursing curriculum. It has to be updated to include newest techniques of aroma oil to help the clients which helps to provide up-to-date service to clients by stressing the importance of holistic nursing.

Nursing administration

The administration can draw written policies regarding this method of intervention to reduce the knee pain. Thereby the staff nurses are kept in pace with the evidence based practice.

Nursing Practice

This Alternative and Complementary method facilitates the elderly persons to cope with the comfortness and knee pain reduction in shorter duration. These research based evidenced can be applied in the clinical set up those who experienced knee pain.

Nursing Research

The study has tested the effect of massage with aromatic ginger oil and orange essential oil in the reduction of knee pain. Importance of research in this fibeneficial to prevent the further complication of knee pain.

6.4 RECOMMENDATIONS

1. The study can be replicated with a larger size for wider generalization of findings.
2. A similar study can be conducted among with adult persons with joint pain
3. A similar long term study can be conducted to determine the association of demographic variables with knee pain.
4. A follow-up study can be conducted to determine the level of knee pain.
5. A comparative study can be conducted with the use of other aroma oil.

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APPENDIX- I

SECTION - A

DEMOGRAFIC VARIABLE

Kindly read the following and please tick (✓) mark against the correct answer.

Sample No:

1. Age

(a) 60-65 years ☐

(b) 66-70 years ☐

(c) 71 -75 years ☐

(d) above -75 years ☐

2. Sex

(a) Male ☐

(b) Female ☐

3. Marital status:

(a) Married ☐

(b) Unmarried ☐

4.. Religion

(a) Hindu ☐

(b) Christian ☐

(c) Muslim ☐

(d) Others ☐

5..Educational status

(a) Non formal ☐

(b) Primary ☐

(c) Higher Secondary ☐

(d) College ☐

6.Diet habits

(a) Vegetarian ☐

(b) Non Vegetarian ☐

7.Exercise

(a) Regular ☐

(b) Irregular ☐

(c) Not doing ☐

8.**Duration of Knee pain(years)**

(a) 0-1 years ☐

(b) 1-3 years ☐

(c) 3-5 years ☐

9.Type of treatment

(a) Oral Medication ☐

(b) External appilication ☐

(a) (c) Alternative Medicines ☐

10. Body Max Index

(a) <18.5 ☐

(b) 18.5-25 ☐

(c) 25 – 30 ☐

(b) More than 30 ☐

SECTION-B

WESTERN ONTARIO MACMASTER SCALE (WOMAC)

S.NO	DESCRIPTION	SCORES				
1.	**PAIN**	None (0)	Mild (1)	Moderate (2)	Severe (3)	Extreme (4)
	1. Twisting / pivoting on your knee 2. Straightening knee fully 3. Bending knee fully 4. Walking on the flat surface 5. Going up or down stairs					
2.	**STIFFNESS** 6. How severe is your knee joint stiffness after first wakening in the morning? 7. How severe is your knee stiffness, lying or resting later in the day ?					
3.	**PHSICAL FUUNCTION**	None (0)	Mild (1)	Moderate (2)	Severe (3)	Extreme (4)
	8. Descending stairs 9. Ascending stairs 10. Rising from sitting					

S.NO	DESCRIPTION	SCORES				
1.	**PAIN**	None (0)	Mild (1)	Moderate (2)	Severe (3)	Extreme (4)
	11. Standing 12. Bending to floor/ pick up an object 13. Walking on the flat surface 14. Getting in / out of car 15. Going shopping 16. Putting on socks / stockings 17. Rising from bed 18. Taking off socks / stockings 19. Lying in the bed (turning over, maintaining knee position) 20. Getting in/out of bath 21Sitting 22. Getting on/off toilet 23. Heavy domestic duties (moving heavy boxes, scrubbing floors, etc)					

SCORING

Maximum score – 4

Minimum score – 0

The responses are for None ‘0’.Mild ‘1’.Moderate ‘2’, Severe ‘3’, Extreme ‘4’..

INTERPRETATION

High score of the WOMAC indicate worse pain, stiffness, functional limitation.

The grading are,

Mild knee pain	:	1 - 24
Moderate knee pain	:	25 – 48
Severe knee pain	:	49 - 72
Extreme knee pain	:	73 - 96

Neh;Kff; fhzy; gbtk;

gphpT - m

jd;dpiy tpguf; Fwpg;G

fPNo nfhLf;fg;gl;Ls;s gFjpapy; cq;fis gw;wpAk;> Kl;L typiag; gw;wpAk; Nfs;tpfs; cs;sJ. ,J rhpah jtwh vd;W Fwpg;gplTk;. nghUj;jkhd gjpiy **(✓)** nra;aTk;. ePq;fs; mspf;Fk; vy;yh tpguq;fSk; ufrpakhf ghJfhf;fg;gLk;.

khjphp vz; : ----------

1) taJ (tUlq;fspy;)

m) 60 - 65 taJ tiu ☐

M) 66 - 70 taJ tiu ☐

,) 71 - 75 taJ tiu ☐

<) 75 tajpw;F Nky; ☐

2) ghypdk;

m) Mz; ☐

M) ngz; ☐

3) jpUkz jFjp

m) jpUkzkhdth; ☐

M) jpUkzkhfhjth; ☐

4) kjk;

m) ,e;J ☐

M) fpwp];jth; ☐

,) K];yPk; ☐

<) kw;wit ☐

5) fy;tpj;jFjp

m) gbg;G ,y;iy ☐

M) Muk;gf; fy;tp ☐

,) Nky;epiyf; fy;tp ☐

<) fy;Y}hpf; fy;tp ☐

6) czT Kiw

m) irtk; ☐

M) mirtk; ☐

7) clw;gapw;rp Nkw;nfhs;Sjy;

m) njhlh;r;rpahf Nkw;nfhs;tJ ☐

M) vg;nghOjhtJ Nkw;nfhs;tJ ☐

,) vg;nghOJkpy;iy ☐

8) Kl;Ltyp vj;jid tUlkhf ,Uf;fpwJ

m) xU tUlj;jpw;F fPo; ☐

M) 1 -3 tUlq;fs; ☐

,) 3-5 tUlq;fs; ☐

9) kUj;Jt Kiw

m) tha;topahf cl;nfhs;Sk; kUe;J ☐

M) Nky;Gwkhf gad;gLj;jg;gLk; kUe;J ☐

,) clw;gapw;rp ☐

<) khw;W kUe;J ☐

10) gp.vk;.l.

m) 18.50f;F fPo; ☐

M) 18.50 – 25 ☐

,) 25 - 29.99 ☐

<) 30f;F Nky; ☐

gphpT - M

nt];l;ld; Mz;bhpNah khf; kh];lh; msTNfhy;

t. vz;.	mirtpd; msT	,y;iy	kpjkhd msT	eLj; jukhd msT	mjpfkhd msT	kpfTk; mjpfkhd msT
		0	1	2	3	4
1.	**typ :** 1. Kl;bia gf;fthl;by; mirf;Fk; NghJk; / Rw;Wk; NghJk; 2. Kl;bia Neuhf itf;Fk; NghJk; 3. Kl;bia klf;Fk; NghJk; 4. rkkhd jiuapy; elf;Fk; NghJk; 5. gbapy; VWk; NghJk;/,wq;Fk; NghJk;					

t. vz;.	mirtpd; msT	,y;iy	kpjkhd msT	eLj; jukhd msT	mjpfkhd msT	kpfTk; mjpfkhd msT
		0	1	2	3	4
2.	**Kl;b jir gpbg;G** 6. fhiyapy; gLf;ifapy; ,Ue;J vOe;J Kjypy; elf;Fk; NghJ Kl;b jirg;gpbg;G ve;j msT cs;sJ. 7. gfypy; Xa;T vLf;Fk; NghJk;> gLf;Fk; NghJ ve;j msT jirg;gpbg;G cs;sJ.					
3.	**Ra Ntiyg;ghl;Lj; jpwd;** 8. ehw;fhypia tpl;L ,wq;Fk; NghJ					

t. vz;.	mirtpd; msT	,y;iy	kpjkhd msT	eLj; jukhd msT	mjpfkhd msT	kpfTk; mjpfkhd msT
		0	1	2	3	4
	9. ehw;fhypapy; cl;fhUk; NghJ 10. ,Uf;ifapy; ,Ue;J vOk; nghOJ 11. epw;Fk; NghJ 12. jiuia Nehf;fp FdpAk; NghJ / VjhtJ xU nghUs; vLf;Fk; NghJ 13. rkkhd jiuapy; elf;Fk; NghJ 14. thfdj;jpy; cs;Ns VWk; NghJ/ ,wq;Fk; NghJ					

t. vz;.	mirtpd; msT	,y;iy	kpjkhd msT	eLj; jukhd msT	mjpfkhd msT	kpfTk; mjpfkhd msT
		0	1	2	3	4
	15. filapy; nghUl;fs; thq;f nry;Yk; NghJ 16. fhyzpia mzpAk; NghJ 17. gLf;ifapy; ,Ue;J vOk; nghOJ 18. fhyzpia fol;Lk; nghOJ 19. gLf;ifapy; gLf;Fk; NghJ 20. Fspf;Fk; NghJ 21. cl;fhUk; NghJ 22. foptiwapy; cl;fhUk; NghJ					

t. vz;.	mirtpd; msT	,y;iy	kpjkhd msT	eLj; jukhd msT	mjpfkhd msT	kpfTk; mjpfkhd msT
		0	1	2	3	4
	rikayiw Ntiyfs; mjpfkhf nra;Ak;nghOJ					

typ msT Nfhy; :

0 - ,y;iy

1 - kpjkhd msT

2 - eLj;jukhd msT

3 - mjpfkhd msT

4 - kpfTk; mjpfkhd msT

mirtpd; msT :

1-24 - kpjkhd msT typ

25-48 - eLj;jukhd msT typ

49-72 - mjpfkhd typ

73-96 - kpfTk; mjpfkhd typ

APPENDIX-II-A

LETTER SEEKING PERMISSION TO CONDUCT THE STUDY

FROM

R. Mageshwari,

II Year MS.c(N),

College of Nursing,

Madurai Medical College,

Madurai.

To:

The Managing Trustee

Aravind Home for the Aged,

No-46,Bharathiyar Main Road,

k.Pudur,Madurai -625007.

Through the principal, college of nursing,Madurai medical college, Madurai .

Sub: Requesting permission to conduct a dissertation study at Aravind Home for the Aged, Barathiyar Main Road, K. Pudur,Madurai-regarding.

As per the curriculum recommended by the Indian nursing council and the Tamilnadu Dr. M.G.R Medical University ,all the M.Sc Nursing students are required to conduct a dissertation study for the partial fulfillment of the course.

I selected a study topic **"Effectiveness of Massage With Aromatic Ginger And Orange Essential oil on Knee Pain Among Elderly People At selected Old Age Home ,Madurai".**For my dissertation. As I am willing to conduct the study among the elderly group residing at Aravind Home for the aged ,Barathiyar Main Road, K.Puthur, Madurai ,I kindly request you to consider my letter and allow me to conduct the study in the Aravind Home for the Aged, K.Puthur, Madurai.

Thanking you

yours sincerely,

Place : MADURAI

Date :

Permitted by

Forwarded
S.P
04/10/13
Principal
COLLEGE OF NURSING
Madurai Medical College
Madurai-20.

for Arawind Old Aged Home Trus

MANAGING TRUSTEE.

4/10/13

APPENDIX - III

Ref. No. 9101/E4/3/2013 **Govt Rajaji Hospital,**
Madurai-20. Dated: 20.09.2013

Institutional Review Board I independent Ethics Committee,
Dr. N. Mohan, MS., F.LC.S F.A.I.S.,
Dean, Madurai Medical College &
Govt Rajaji Hospital, Madurai 625020. **Convener.**

Sub: Establishment-Govt. Rajaji Hospital. Madurai-20-
Ethics committee-Meeting Minutes- for August 2013
Approved list -regarding.

The Ethics Committee meeting of the Govt. Rajaji Hospital, Madurai was held on 08.08,2013, Wednesday at 10.00 am to 12.00.pm at the Anesthesia Seminar Hail, Govt. Rajaji Hospital, Madurai. The following members of the committee have attended the meeting.

I Dr. V, Nagarajan, M.D., D.M (Neuro) Ph: 0452-2629629 Cell.No 9843052029	Professor of Neurology (Retired) D.No.72, Vakkil New Street, Simmakkal, Madurai -1	Chairman
2. Dr.Mohan Prasad. MS M.Ch Cell,No.9843050822 (Oncology)	Professor & H.O.D of Surgical Oncology(Retired) D.No.72, West Avani Moola Street. Madurai -1	Member Secretary
3. Dr. I. Jeyaraj, M.S... (Anatomy) Cell.No 9566211947	Director & Professor Institute of Anatomy /V,P Madurai Medical College	Member
4. Dr. Parameswari M.D (Pharmacology) Cell.No.9994026056	Director of Pharmacology Madurai Medical College	Member
5. Dr.S. Vadivel Murugan, MD., (Gen.Medicine) Cell.No 9566543048	Professor of Medicine Madurai Medical College	Member
6. Dr.S. Meenakshi Sundaram, MS (Gen.Surgery) Cell.No 9842138031	Professor & H.O.D of Surgery i/c Madurai Medical College	Member
7. Miss, Mercy Immaculate Rubalatha, MA., Med,, Cell. No. 9367792650	50/5, Corporation Officer's quarters, Gandhi Museum Road, Thamukam, Madurai-20	Member
8. Thiru. .Pala. .Ramasamy , BA.,B.L.,Cell.No 9842165127	Advocate, D.No,72.Palam Station Road, Sellur, Madurai -2	Member
9. Thiru. P.K.M. Chelliah,B.A Cell.No 9894349599	Businessman, 21 Jawahar Street. Gandhi Nagar, Madurai-20	Member

The following Projects were approved by the committee

S.No	Name of P.G	Course	Name of the Project	Remarks
1.	R.Mageshwari	M.Sc Nursing in Community health Nursing, Govt. Rajaji Hospital, Madurai	A study to assess the effectiveness of massage with aromatic ginger oil and orange essential oil on knee pain among elderly people at Selected old age home, Madurai.	Approved

Please note that the investigator should adhere the following: She / He should get a detailed informed consent from the patients/participants and maintain it confidentially.

1.She / he should carry out the work without detrimental to regular activities as well as without extra expenditure to the institution or to Government,

2. She/he should inform the institution Ethical Committee, in case of any change of study procedure, site and investigation or guide.

3. She / He should not deviate the area of the work for which applied for Ethical clearance, She / He should inform the JEC immediately, in case of any adverse events or Serious adverse reactions.

4, She / He should abide to the rules and regulations of the institution,

5. She / He should complete the work within the specific period and if any Extension of time is required He / She should apply for permission again and do the work,

6. She / He should submit the summary of the work to the Ethical Committee on Completion of the work.

7. She / He should not claim any funds from the institution while doing the work or on completion.

8. She / He should understand that the members of IEC have the right to monitor the work with prior intimation.

Member Secretary **Chairman**
Ethical Committee

DEAN/Convenor
Govt. Rajaji Hospital,
Madurai- 20.

20/9/13

To
The above Applicants
-thro. Head of the Department concerned

APPENDIX-II-B

LETTER SEEKING PERMISSION TO CONDUCT THE STUDY

FROM

R. Mageshwari,

II Year MS.c(N),

College of Nursing,

Madurai Medical College,

Madurai.

To:

The Managing Trustee,

Aravind old age home,

K. Puthur,

Madurai

Through the principal, college of nursing, Madurai medical college, Madurai .

Respected sir,

Sub: Requesting permission to conduct a dissertation study at Aravind old age home, Viswanathapuram,Madurai-regarding.

As per the curriculum recommended by the Indian nursing council and the Tamilnadu Dr. M.G.R Medical University ,all the M.Sc Nursing students are required to conduct a dissertation study for the partial fulfillment of the course.

I selected a study topic **"Effectiveness of Massage With Aromatic Ginger And Orange Essential oil on Knee Pain Among Elderly People At selected Old Age Home ,Madurai".**For my dissertation. As I am willing to conduct the study among the elderly group residing at Aravind old age home ,K.Puthur, Madurai ,I kindly request you to consider my letter and allow me to conduct the study in the Aravind old age home, K.Puthur, Madurai.

Thanking you

yours sincerely,

Place : :

Date :

Forwarded
S.P
16/8/13
Principal
COLLEGE OF NURSING
Madurai Medical College
Madurai-20.

Permitted
16/8/13
MEDICAL OFFICER
SIDDHA WING
GOVT. RAJAJI HOSPITAL
MADURAI- 625 020.

APPENDIX- IV

CERTIFICATE OF VALIDATION

This is to certify that the tool

SECTION A — DEMOGRAPHIC DATA

SECTION B — Standardized WOMAC Scale

Prepared for data collection by MAGESHWARI .R, II Year M.Sc Nursing student, College Of Nursing, Madurai Medical College, Madurai who has the undertaken the study field on dissertation entitled **"A STUDY TO ASSESS THE EFFECTIVENESS OF MASSAGE WITH AROMATIC GINGER OIL AND ORANGE ESSENTIAL OIL ON KNEE PAIN AMONG ELDERLY PEOPLE AT SELECTED OLD AGE HOME , MADURAI"** has been validated by me.

SIGNATURE OF THE EXERT

NAME: Y. John SAM Arun PRABU.

DESIGNATION: Professor.

DATE: 3/9/13.

Dr. Y. John Sam Arun Prabu,
M.Sc.,(N)M.Sc.,(Psy),PGDHM
HOD, Community Health Nursing
CSI Jeyaraj Annapackiam
College of Nursing
Pasumalai, Madurai-625 004

CERTIFICATE OF VALIDATION

This is to certify that the tool

SECTION A — DEMOGRAPHIC DATA

SECTION B — Standardized WOMAC Scale

Prepared for data collection by MAGESHWARI .R, II Year M.Sc Nursing student, College Of Nursing, Madurai Medical College, Madurai who has the undertaken the study field on dissertation entitled **"A STUDY TO ASSESS THE EFFECTIVENESS OF MASSAGE WITH AROMATIC GINGER OIL AND ORANGE ESSENTIAL OIL ON KNEE PAIN AMONG ELDERLY PEOPLE AT SELECTED OLD AGE HOME, MADURAI"** has been validated by me.

SIGNATURE OF THE EXERT

NAME: M. Saleem 11/9/13.

DESIGNATION: Dr. M. SALEEM

DATE:

ASSOCIATE PROFESSOR
Institute Of Community Medicine
Madurai Medical College
Madurai

CERTIFICATE OF VALIDATION

This is to certify that the tool

SECTION A — DEMOGRAPHIC DATA

SECTION B — Standardized WOMAC Scale

Prepared for data collection by MAGESHWARI .R, II Year M.Sc Nursing student, College Of Nursing, Madurai Medical College, Madurai who has the undertaken the study field on dissertation entitled **"A STUDY TO ASSESS THE EFFECTIVENESS OF SMASSAGE WITH AROMATIC GINGER OIL ON KNEE PAIN AMONG ELDERLY PEOPLE AT SELECTED OLD AGE HOME , MADURAI"** has been validated by me.

SIGNATURE OF THE EXERT

NAME: Dr. Juliet Sylvia

DESIGNATION: Professor

DATE: 10/09/18

JULIET SYLVIA. H
Professor & Head of the Department.
Community Health Nursing
Sacred Heart Nursing College
MADURAI 625020

CERTIFICATE OF VALIDATION

This is to certify that the tool

SECTION A — DEMOGRAPHIC DATA

SECTION B — Standardized WOMAC Scale

Prepared for data collection by MAGESHWARI .R, II Year M.Sc Nursing student, College Of Nursing, Madurai Medical College, Madurai who has the undertaken the study field on dissertation entitled **"A STUDY TO ASSESS THE EFFECTIVENESS OF SMASSAGE WITH AROMATIC GINGER OIL ON KNEE PAIN AMONG ELDERLY PEOPLE AT SELECTED OLD AGE HOME , MADURAI"** has been validated by me.

SIGNATURE OF THE EXERT

NAME: Dr. S.C. VIVEKANANTHAN, M.D.,D.T.C.D.

DESIGNATION:

DATE: 11.9.2013

CERTIFICATE OF TAMIL EDITING

TO WHOMSOEVER IT MAY CONCERN

This is to certify that the dissertation by **MAGESWARI.R** II year M.Sc., (N) student, College of Nursing, Madurai Medical College, Madurai, who has undertaken by study field on Dissertation entitled "**A STUDY TO ASSESS THE EFFECTIVENESS OF SMASSAGE WITH AROMATIC GINGER OIL ON KNEE PAIN AMONG ELDERLY PEOPLE AT SELECTED OLD AGE HOME , MADURAI**" has been edited for Tamil language appropriateness.

NAME: K.SOUNDARAPANDIAN

SIGNATURE

DESIGNATION: P.G. ASST IN TAMIL

அறிஞர் அண்ணா
அரசினர் மேல் நிலைப் பள்ளி,
அய்யன்பேட்டை.

INSTITUTION: A.A. Govt. HR SEC. SCHOOL
AYYANPETTAI.

அறிஞர் அண்ணா அரசினர் மேல்நிலைப் பள்ளி
நாள் 9.1.13
அய்யன்பேட்டை-631601

CERTIFICATE OF ENGLISH EDITING

TO WHOMSOEVER IT MAY CONCERN

This is to certify that the dissertation by **MAGESWARI.R** II year M.Sc., (N) student, College of Nursing, Madurai Medical College, Madurai, who has undertaken by study field on Dissertation entitled "**A STUDY TO ASSESS THE EFFECTIVENESS OF SMASSAGE WITH AROMATIC GINGER OIL ON KNEE PAIN AMONG ELDERLY PEOPLE AT SELECTED OLD AGE HOME , MADURAI**" has been edited for Tamil language appropriateness

NAME: R. JAYA

SIGNATURE:

DESIGNATION: P.G. Assistant (ENGLISH)

INSTITUTION:

APPENDIX-V

xg;Gjy; gbtk;

ngah; : Njjp :

taJ : Muha;r;rp vz; :

kJiu khtl;lk;> Nf.GJ}hpy; cs;s mutpe;j; KjpNahh; ,y;yj;jpy; trpf;Fk; Kl;L typ Nehahspahd vdf;F ,Q;rp vz;nza; kw;Wk; MuQ;R vz;nzia Kl;bapy; Nja;j;J krh[; nra;tij Fwpj;J> vdf;F ghpG+uz rk;kjk;. ,jdhy; vt;tpj ,ilA+Wk;> tpisTk; Vw;glhJ vd;W Muha;r;rpahsh; %yk; tphpthf vLj;Jiuf;fg;gl;lJ. ,e;j Muha;r;rpia elj;j vd;Dila xj;Jiog;giAk;> rk;kjj;ijAk; KOkdJld; njhptpj;Jf; nfhs;fpNwd;.

ifnahg;gk;

APPENDIX – VI

PROCEDURE FOR MASSGE WITH AROMATIC GINGER OIL AND ORANGE ESSENTIAL OIL

INTRODUCTION

Knee pain is the major locomotive problem among elderly people age more than 60 years. According to World Health Organization (WHO) knee pain is the 8th leading cause of non – fatal burden of disease in the world. Many modalities are there to relieve knee pain. But massage with aromatic ginger and orange essential oil is the alternative method to relieve knee pain in shorter duration.

DEFINITION

Massage

The Massage is the application of ginger and orange essential oil over the knee area in a rotating, kneading and tapping movements for 20 minutes for each leg.

Benefits of Ginger and Orange essential oil

i. Ginger oil reduce muscle pain hence it has an analgesic effect

ii. Ginger oil reduce the arthritis pain

iii. Ginger oil increase blood circulation

iv. Orange oil has an anti-inflammatory effect hence it relieve the pain

Benefits of Massage

i. Massage relieve muscle tension , stiffness

ii. Massage reduce muscle spasm

iii. Massage improve circulation of blood and movement of lymph fluid

iv. Massage strengthen the immune system

v. Massage treats musculoskeletal problem

vi. Massage increases joint flexibility

PROCEDURE:

Articles needed

A tray containing,

i. 1 small Mackintosh

ii. A small bowl

iii. 1 dropper

iv. Ginger oil

v. Orange oil

vi. Coconut oil

Pre preparation

1. Explain the procedure to the sample.
2. Provide privacy.
3. Wash hands.
4. Arrange the articles near to the sample.
5. Make them to sit in comfortable position.

Application

1. Mix ginger oil 1 drop, orange oil 1 drop and coconut oil 8 drops in a small bowl.
2. Expose the knee joint.
3. Apply this mixture of oil over the knee area.
4. Massage the knee in a rotating, kneading and tapping movement for 10 minutes for each leg.
5. Perform the procedure for 20 minutes for each sample once in a day.
6. Make the sample to walk for 2 minutes after the procedure.

7.After the procedure instruct then to avoid strenuous activities like lifting weight, climbing stairs up and down, prolong standing

SUMMARY

Till now we have seen massage with aromatic ginger and orange essential oil about the definition, benefits and procedure.

CONCLUSION

Knee pain is the curable one, if it is identified in early stage. Aromatic ginger and orange essential oil massage is one of the alternatives and complementary therapy to relieve knee pain. This has been scientifically proved.

APPENDIX-VII

THE VALLIAMMAL INSTITUTION (TVI)

11/6 B.B. Road 2nd St., Pankajam Colony , Madurai-625 009.
✆ 98430 40226; 98942 49630 email: ananthibetsy@rediffmail.com

Certificate Course in Basic Counselling Skills and Massage Therapy

Reg. No. PCC/33/Aug. 2013/251 Date: 31/08/2013

This is to certify that R. MAGESHWARI *has completed our* **CERTIFICATE COURSE IN BASIC COUNSELLING SKILLS AND MASSAGE THERAPY** *(24 hrs Part-time Education Programme designed and offered by experts) by effectively participating in theory & practical classes and successfully completing all the exercises. She has been placed in First Class*

THE VALLIAMMAL INSTITUTION (TVI)
11/6 B.B. Road
2nd St.,
Pankajam Colony ,
Madurai-625 009
Ph: 2312206

Prof. Dr. S. Jeyapragasam M.Sc.,M.A.,M.A.,Ph.D.,
Director
Rajarajan Institute of Science (RISE)

Dr. B. Ananthavalli M.Sc.,M.A.,M.Phil.,Ph.D.,
Director & Secretary
The Valliammal Institution (TVI)

APPENDIX – VIII

PHOTOGRAPHS

THE RESEARCHER SETTING ARAVIND OLD AGE HOME, MADURAI

RESEARCHER IS GEETING CONSENT FROM SAMPLE

RESEARCHER INTERVEWING OLD AGE PEOPLE

RESEARCHER APPLYING OIL MASSAGE ON KNEE