EFFECTIVENESS OF AROMATHERAPY ON ARTHRALGIA AMONG MENOPAUSAL WOMEN IN GANDHINAGAR AT PECHIPARAI PANCHAY AT, KANYAKUMARI DISTRICT.

**A DISSERTATION SUBMITTED TO THE TAMILNADU
DR.M.G.R.MEDICAL UNIVERSITYCHENNAI,
INPARTIAL FULFILMENT FOR THE DEGREE
OF MASTER OF SCIENCE IN NURSING
OCTOBER 2017**

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Internal Examiner   **External examiner**

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BONAFIDE CERTIFICATE

This is to certify that the dissertation entitled "**A study to assess the effectiveness of Aromatherapy on Arthralgia among menopausal women in Gandhinagar at pechiparai panchayat** " is a bonafide research work done by **Mrs Nithya.V.M** II year Msc (N), Sree Mookambika College Of Nursing , Kulasekharam under guidance of **Prof. Dr. Mrs. T. C. Suguna, M.Sc(N), M.A, Ph.D, HOD, Obstetrics and gynaecological Nursing** in partial fulfilment of the requirements for the Degree Of Master Of Science in Nursing under the Tamilnadu Dr. M.G.R Medical University.

Place   : Kulasekharam

Prof. Dr. Mrs. T. C. Suguna, M.Sc(N), M.A, Ph.D,

HOD, Obstetrics and gynaecological Nursing

Date: 7.8.2017

CERTIFICATE

This is to certify that the dissertation entitled **"A study to assess the effectiveness of Aromatherapy on Arthralgia among menopausal women in Gandhinagar, Pechiparai panchayat Kanyakumarai district,"** is bonafide research work done by **Mrs. Nithya .V.M, II year M.Sc (N), sree Mookambika college of Nursing , Kulasekharam under guidance of Prof.Dr. Mrs.T.C Suguna, M.Sc(N), M.A., Ph.D. HOD, Obstetrical and Gynecological** Nursing in partial fulfilment of the requirements for the degree of master of science in Nursing under the **Tamilnadu, Dr M.G.R Medical university.**

Place: Kulasekharam   **Prof.Dr.T.C.Suguna,M.Sc.(N),M.A, Ph.D**

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DECLARATION

I hereby declare that the present dissertation titled **"A study to assess the effectiveness of Aromatherapy on Arthralgia among menopausal women in Gandhinagar, Pechiparai panchayat Kanyakumarai district,"** the outcome of the original research under the guidance of **Prof.Dr. Mrs.T.C Suguna, M.Sc(N), M.A., Ph.D. HOD, Obstetrical and Gynecological Nursing Sree Mookambika College of Nursing, Kulasekharam.** I also declare that the material of this has not formed in anyway, the basis for the award of any degree or diploma in this university or any universities.

Place: Kulasekharam   **Mrs. Nithya.V.M**

Date: 7.8.2017   **II year M.Sc (N)**

ACKNOWLEDGEMENT

INVESTIGATOR

ABSTRACT

Introduction

Arthralgia is experienced by more than half of the women around the time of menopause. The cause of joint pain in postmenopausal women can be difficult to determine as period of menopause coincide with using incidence of chronic rheumatic condition such as Osteoarthritis prevalence of Arthralgia does appear to increase in women with menopausal transition. So it is the nurse's responsibility to help the women to overcome the Arthralgia related to menopause to lead a healthy life. This can be achieved by Pharmacological as well as non pharmacological measures.

Objectives

The overall objective of this study was to assess the effectiveness of aromatherapy massage on Arthralgia among menopausal women.

Methodology

The research design selected for the study was Quasi experimental pre test post test control group design with 60 samples by adopting purposive sampling technique. Among the sixty samples, thirty were assigned to the experimental group and thirty to the control group." Numerical rating scale for pain was used for assessing the Arthralgia among menopausal women. Both the groups were pre tested. After pre testing only the experimental group was given aromatherapy massage three times in a week for one month. Outcome were measured using the same tool for both the groups after one month. The pre and post test data were analysed using inferential and descriptive statistics.

Major findings of the study

The findings of the study depicted that the mean level of arthralgia among menopausal women in experimental and control group were 3.57± 0.42 and 4.66 ±0.22 respectively. The mean level of Arthralgia among the menopausal women in the experimental group after aromatherapy was 1.06±1.02 and the same without intervention in control group was 5.06±1.44. This result revealed that there was a significant decrease in Arthralgia among the experimental group after aromatherapy .

Conclusion

The study concluded that aromatherapy found to be an effective non pharmacological measure to reduce Arthralgia among menopausal women.

Keywords : Aromatherapy massage, Arthralgia, Menopause

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CHAPTER : I

INTRODUCTION

"Pain is temporary Quitting lasts forever"

Lance Armstrong

Menopause is an inevitable milestone in the reproductive life of every women. Natural menopause occur when a women stops menstruation for one year. Menopause is derived from the Greek words "Menos" meaning month and 'pausis' meaning cessation. Menopause is the last menstrual flow of women's life. The year just before and just after the menopause itself are referred to as the 'climacteric'. During this period, ovaries start to produce lower levels of natural sex bromines such as estrogen and progesterone. The level of estrogen is only about one-tenth of the level found in premenopausal women. Progesterone is nearly absent in the menopausal women. It marks the permanent end of fertility (Namratha Sharma 2010)

The age of the menopause does not depend on the age of menarche, the type of menstrual cycle and the number of pregnancy. The menopause usually occurs 45-52 years. In India the average age of menopause is still estimated as 48 years. (Neeraja Bhatia 2001).

The hormonal change influences the women's health. Due to this reduced estrogen and progesterone. Knee pain is another common form of pain experienced by adult over 50. Chronic knee pain often leads to functional impairment reducing quality of life like other treatment for chronic pain, conventional treatment for knee pain focus on symptom rather than underlying cause. Many older adults turn to

complementary treatment for relief. In a double – blind placebo-controlled experimental study, Massage with ginger oil was compared to a massage only and a treatment as usual group. At one week follow – up, knee pain and stiffness were similar among the three groups. At the four week follow up, the aromatherapy intervention group reported a reduction in knee pain rating. Although the results were in conclusive, they suggest that aroma therapy has potential to treat knee pain in addition to standard care.

Arthralgia is experienced by more than half of the women around the time of menopause. The cause of joint pain in postmenopausal women can be difficult to determine as period of menopause coincide with using incidence of chronic rheumatic condition such as Osteoarthritis prevalence of Arthralgia does appear to increase in women with menopausal transition.

Aromatherapy refers to the medicinal or therapeutic use of essential oil absorbed through skin essential oil which are derived from plants are used to treat illness as well as to enhance physical and psychological wellbeing. Although the use of distilled plant materials dates to medieval Persia the term aromatherapy was first used Rene Macrice Gatte fosse in the early 20th century. In this 1937 book, aromatherapies', Gatte fosse claimed that herbal medicine could be used to treat virtually any element throughout the human organ system. Today aromatherapy is popular in the United States and around the world.

Aromatherapy is most common applied topically or through inhalation. When applied topically the oil is usually added to coconut oil and used for massage while more than 40 plant derivatives have been identified for therapeutic use, lavender,

eucalyptus rosemary, chamomile and peppermint are the most frequently utilized extract.

Recent literature has examined the effectiveness of aromatherapy is treating pain. Methods 12 studies examining the use of aromatherapy for pain management were identified through an electronic database search. A Meta analysis was performed to determine the effect of aromatherapy on pain. Result there a significant positive effect of aromatherapy (compared to place or treatment as usual control) in reducing pain reported on a visual analog nociceptive. The finding of this study indicate that aromatherapy of can successfully treat pain when combined with conventional treatment.

The aromatherapy is in expensive a simple intervention early reachable and has more powerful actions on the joint pain and the quality of life among the menopausal women it is being used on this research in order to foster pain relief life in women who attained the menopause.

NEED FOR THE STUDY

As a women older they often suffer from joint pain . Although this is a common ailment in both man and women embarking on their golden years, joint pain also a symptom of menopause that can be eased with proper knowledge and treatment. As a women approaches menopause, typically between the ages of 45 and 55, her body goes through drastic hormonal fluctuations that can affect her in many ways. Hormones play a major role in women's bone and joint health. When her hormone become imbalanced during menopause she will often experience joint pain.

In menopause the women experience individual symptom is about 60% and about 80% of clustered symptoms such as joint pain fatigue, sleep disturbance hot flushes and vaginal dryness have highest impact on quality of life. The prevalence of joint pain among the menopausal women aged 45 to 65 yrs was about (40.1%) and has longer effects on quality of life in women.

Complaints of musculoskeletal system are most prevalent symptoms in the European women's who had reported its prevalence's between 30% and 80%.

Many German researchers have showed the prevalence of joint pain to be more 80% and about 18% to 57% are prevalence's for hip or leg joint approximately. Joint pain among muscular pain is the major cause leading to Osteoarthritis which is foreseen more in female gender.

In north India, 152 women with menopause aged 35-55 years residing at 6 rural villages were interviewed to determine the effect of menopausal symptoms. The finding discovered that the mid age menopause was 44.4 years. More over 53% had outlined five or more symptoms at menopause 85% of women complained on joint pain during menopause.

Massage are a great way to pinpoint and remedy the specific joint that is causing pain, Massaging the joint will improve circulation, relax muscles and ease inflammation, three important elements in alleviating joint pain and stiffness. A lotion or diluted essential oil with a pleasant smell can be used to promote relaxation as well.

A study was conducted to determine the effects of aromatherapy massage on menopausal system in Korean climacteric women. Aromatherapy was applied topically to the subjects in the experimental group in the form of massage once a

week for 8 weeks. The finding suggested that the aromatherapy massage is the better treatment for the joint pain in climacteric women.

Aromatherapy massage effects were recognized among 90 women with menopausal symptoms through 30 minutes of aromatherapy sessions twice a week for 4 weeks with aroma oil. The result explored through the menopause rating scale. After right settings of intervention menopause rating scale score significantly differed about (P<0.001). The study demonstrate that aromatherapy massage was more effective and raised the quality of life in women. Aromatherapy is enhancing its popularity among the nurses in the United Nations.

Eucalyptus oil massage is a good method of providing cutaneous stimulation. Its particularly relaxing at bed time and may block pain. So as to promote more comfortable sleep.

Oil from the Eucalyptus tree (Eucalyptus Globulus) is used today in many over the counter cough and cold products to relieve congestion. Eucalyptus oil is also found in creams and ointment used to relieve muscle and joint pain. If anyone experiencing joint and muscle pain, massaging eucalyptus oil on the surface of the skin helps to relieve stress and pain. The volatile eucalyptus oil is analgesic and anti-inflammatory in nature. Therefore it is often recommended to patients suffering from rheumatism, lumbago, sprained ligaments and tendons, stiff muscles, aches, fibrosis and even nerve pain. The oil should be massaged in a circular motion on the affected areas of the body.

Coconut oil also used by as a natural pain reliever by many people who suffer from joint pain. Warm up some coconut oil and combine it with a few pieces of camphor. Massage the mixture deeply into the area where the joints are aching. The

Home Remedies website states that the camphor mixed with the warm coconut oil will increase the blood supply to the affected joints, leading to a warming effect and reducing the amount of pain that you experience.

In 19th century England eucalyptus oil was used in hospitals to clean urinary catheters. Laboratory studies later showed that Eucalyptus oil contain substances that kill bacteria. It also may kill some viruses and fungi, studies in animals and test tubes also found that eucalyptus oil acts as an expectorant meaning it loosens pain.

In India, the prevalence of the knee joint pain on the adult rural population is estimated to be 5.8% A quasi experimental study (two group pre test and posttest design) done among 60 rural women with knee joint pain. It was observed that majority of the sample were in the age group between 51-55 years. After warm mustard massage and warm mustard oil with camphor massage, the pain level had reduced to mild level. The mean pretest values of pain score in both groups had significant difference during posttest measurement of mean pain score (Ramya mohan 2014).

A prospective observational cohort study was conducted to assess the prevalence of joint pain among elderly in UK (2011). The sample size was 1040 and the sampling technique was purposive sampling. The tools used for data collection was general practice record review (GPRR) and multi Dimensional health assessment (MDHA) conducted by trained research nurses in the participants own home institution. Among the participation 62% of the cohort were women and 99.6% were white. The results showed that among the total participant 803 (63.1%) reported to have moderate to serve point pain. Women reported pain more often than men.

The study in America by Daniel J Denoon on October 2 2005 with 320 samples reported that with 20min essential oil massage relived pain among 56%. The greatest relief from pain Chiro practice comes in find at 11% followed by 8% who got the most pain relief from physical therapy, 3% who said acupuncture was best was best for their pain and 1% whose pain best respondent to feedback. The study proved that essential oil massage relieves pain.

The nurses play a very important role in pain management. As per the above stated literature the investigator identified the experience from various communities and clinical setting, Arthralgia as an important problem. So the investigator, planned to conduct this study by concentrating an alternative therapy that is Aromatherapy on Arthralgia among menopausal women.

STATEMENT OF THE PROBLEM

"A study to assess the effectiveness of aromatherapy on Arthralgia among the menopausal women in Gandhinagar at Pechiparai panchayat, Kanyakumari District"

OBJECTIVES OF THE STUDY

1. To assess the pre test and post test level of Arthralgia among menopausal women.

2. To assess the effectiveness of aromatherapy on Arthralgia among the menopausal women.

3. To associate the Arthralgia with selected demographic variables such as age, educational status, women's occupation, marital status, type of family, number of living children, family's monthly income, duration of menopausal status and duration of Arthralgia.

HYPOTHESIS

H1   :   There is a significant reduction in pain score in the experimental group after Aromatherapy than in control group.

H2   :   There is a significant association between the Arthralgia and selected demographic variable such as age, educational status, women's occupation, marital status, type of family, number of living children, family monthly income, duration of menopausal status and Duration of Arthralgia.

OPERATIONAL DEFINITION

Effectiveness:

It refers to positive outcome expected by the investigator after implementation of aromatherapy among patients in experimental group as measured by numerical rating scale for pain.

Aromatherapy:

It is the therapeutic use of plant derived aromatic essential oil to promote physical and psychological well being.

In this study aromatherapy refers to a combination of eucalyptus and coconut oil in the ratio of 1:3 and administered in the form of massage for 15 minutes , thrice in a week for one month.

Massage is a technique where the leg is held on various positions (both extended and flexed position) and the knee joints are stroked gently and rhythmically by using

the palm of the hand. Thumbs and knuckles of the fingers are used to knead the muscles of knee joint.

Arthralgia:

Arthralgia refers to pain on joint. In this study it refers to pain on knee joint.

Menopause:

Menopause is defined as the period of permanent cessation of menstruation, usually occurring between the ages of 45 and 55. In this study the menopausal women between the age group of 45-60 were selected as samples.

Variables:

Independent variable   -   Aroma Therapy

Dependent Variable   -   Arthralgia

Demographic Variable -   Age, Educational status, Occupation, Marital Status, Type of Family, Number of Living children, Family's Monthly Income, Duration of Menopause, Duration of Arthralgia.

ASSUMPTIONS

1   Pain is unique and subjective experience for every individual.

2   Essential oil massages relieves muscular aches and pain or stiffness of joints.

3   Pain reduction enhances sense of well being.

Delimitation:

The study was delimited to

-   A sample size of 60

-   Study period of 4 weeks

-   The menopausal women whose age between 45-60years.

Ethical consideration:

The proposed study was conducted after obtaining approval from Sree Mookambika Institute of Medical Science Dissertation committee. The permission to conduct the study was obtained from the medical officer Pechiparai primary health center. Assurance of confidentiality was given to the subjects and oral consent was taken.

CONCEPTUAL FRAME WORK :

The conceptual frame work used for this study was based on Roy's, adaptation model. This model consists of four levels.

1. Adaptation level
2. The control process
3. Effectors
4. Output

1. Adaptation level (Input)

Input is identified as stimuli which can come from the environment or from with a person.

The input consists of 3 stimuli.

a) Focal stimuli

b) Contextual stimuli

c) Residual stimuli

The triggering event results from the interplay of three stimuli. The stimuli and triggering events finally ends in adaptive or maladaptive response.

a) Focal stimuli:

The stimuli immediately confronting the person. In this study Menopausal women with Arthralgia.

b) Contextual stimuli:

This include all the Other stimuli that are present.

In this study contextual stimuli include age, educational status, occupation, marital status, type of family, number of living children, monthly income, duration of menopause, duration of Arthralgia.

c) Residual stimuli:

This is non specific such as beliefs or attitudes about illness. In this study residual stimulus is menopausal women's attitude and belief about aroma therapy.

2) The control Process:

It consists of regulator and cognator mechanisms.

Regulator Mechanisms:

It is such system of coping mechanism which can time from the external environment or from within the person. In this study the response of aromatherapy can Arthralgia in menopausal women. Reduce numerical pain rating scale level in the regulator mechanism.

Cognator Mechanism:

It is a subsystem control internal process related to higher brain function. Such as perception, information processing, learning from past experience, Judgment and emotion, which is not under this study.

3. Effector :

It refers to the physiologic function self concept and role function involved in adaptation. In this study aromatherapy helps to reduce Arthralgia among menopausal women.

5. Output :

The adaptive response provide feedback for the system. In this study menopausal women's adopt to Arthralgia. By showing reduced pain level in the experimental group than the control group.

ADAPTATION LEVEL	INPUT	CONTROL PROCESS	EFFECTOR	OUTPUT

EXPERIMENTAL GROUP

Menopausal women with Arthralgia

Focal stimuli

Menopausal women with Arthralgia.

Contetxtualstimuli

Age, Education, occupation, marital status, type of family, no of children, monthly income, duration of menopause & Arthralgia,

Residual stimuli

Beliefs and attitude

Coping Mechanism

Regulator

Aromatherapy only for experimental group with

Eucalyptus oil

And coconut oil in the ratio of 1:3

Physiologic mode

Measured by numerical pain rating scale.

Adaptive response

Reduced the severity of Arthralgia in experimental group

CONTROL GROUP

Menopausal women with Arthralgia

No intervention for control group

Maladaptive response

No reduction in pain level

Figure 1: **Conceptual Frame Work Based On Roy's Adaptation Model**

CHAPTER -II

REVIEW OF LITERATURE

Literature review is an essential component for the researcher for a great understanding of the research problem and its major aspects. It provides the current fact and selection or development of the theoretical or methodological approaches to the problem.

The literature review arranged in the following g section.

(1) Literature related to prevalence of Arthralgia among menopausal women.

(2) Literature related to effect of Aromatherapy therapy massage on Arthralgia.

(3) Literature related to effect of aromatherapy on other menopausal symptoms among menopausal women.

(1)Literature related to prevalence of Arthalgia among menopausal women.

Akanksha Singh and Shishir Kumar Pradhan(2014) conducted across – sectional study to identify the Menopausal symptoms of postmenopausal women in a rural community of Delhi, India. The aim was to determine the mean age at attaining menopause and the prevalence of various self-reported menopausal symptoms complained by postmenopausal women (40-54 years). The study was conducted in a rural area of New Delhi among 252 postmenopausal women from October 2011 to March 2013. A pretested, self-designed, semi structured, interview based, oral questionnaire was used. The Statistical Package for Social Sciences software Version 21.0 (SPSS) was used for analysis. A total of 225 (89.3%) postmenopausal women experienced at least one or more menopausal symptom(s). The most common

complaints of postmenopausal women were sleep disturbances (62.7%), muscle or joint pain (59.1%), hot flushes (46.4%) and night sweats (45.6%). A total of 32.1% (*n*=81) postmenopausal women suffered from depression and 21.0% (*n*=53) postmenopausal women suffered from anxiety

K. Aoyagi and P Ross et .al (2002) done the descriptive study about prevalence of joint pain regarding lifestyle factor among the Japanese women in rural area and in urban Hawaii survey carried out regarding present and previous pain at the specific joints for 222 women in rural Japan and 638 Japanese women in urban Hawaii aged 60-79. By Using the logistic regression the prevalence of joint pain was compared. The result shows that the prevalence of knee joint pain in Japan is 36% at ages 60-69 yr to 53% at 70-79 yrs whereas in Hawaii 20% of women in both age group. The study concluded that, there is a large difference in the prevalence of pain at particular joint suggests that environmental factor responsible for joint pain.

Yang D and Harnes CT.et al (2004) done a study regarding prevalence of menopausal symptoms among Chinese women aged 40-65 years. A cross sectional population based study was conducted in china. In this study 9939 women were selected by multistage cluster sampling. Questionnaire prepared based on the symptoms experienced 2 months before the survey and the women were interviewed. The result shows that the age of natural menopause was 48.9 years. The most prevalent symptoms were insomnia, joint and muscle pain, dizziness and hot flushes (in 37.2%, 35.7%, 31.5% and 17.5%) of the sample respectively. The factors influenced the frequency of menopausal symptoms such as profession, education type of menopause and the presence of physical or emotional problems. The study

concluded that the prevalence of menopausal symptoms is very low among southern Chinese women.

There was a cross sectional survey of Muscular skeletal pain in 310 post menopausal women in Ibadan Nigeria. M.S.P was assessed using the standardized Nordic Musculoskeletal questionnaire, and overall and central obesity were assessed using body mass index (BMI) waist /height ratio(WHtR) Participants were of the model age group (51-60 yrs) The highest prevalence rates of MSP where in the lower extremity(189;61.0%) and the back(164,52.9%). A direct association was observed between the categories of BMI and lower extremely symptoms (P<0.05) and the categories of WHtR and waist circumference were associated with back and lower extremely symptoms (P<0.05). Lower extremely and back pain symptoms were the most prevalent. For overall and central obesity directly associated with MSP.

Huang C and Ross PD et.al (2003) conducted the population based cross sectional study, to assess the potential factors associated with joint pain among post menopausal women. There were six hundred and ninety post menopausal Japanese America women at the age of 55-93 years were included. Data collection done by using the questionnaire bone density was measured by using ultrasound to measure the heel and with the help of spine x ray vertical fracture were identified No spine fracture were identified based on Such reports and was verified using medical records. The result shows that in this cross sectional analysis bone density quantitative bone ultrasound prevalent vertebral fracture and non pine fracture were not associated with joint pain. The study concluded that joint pain was prevented by avoidance of excess weight.

Sheila A Dugan and Lynda H Powell et.al (2006)conducted a prevalance study of musculo skeletal pain and menopausal status they were examined whether self-reported menopausal status is associated with musculoskeletal pain in a multiethnic population of community-dwelling middle-aged women after considering socio demographics, medical factors, smoking, depression, and body mass index using a cross-sectional study design. Participants were 2218 women from the Study of Women's Health across the Nation assessed at the time of their third annual follow-up exam. Two dependent variables were derived from a factor analysis of survey questions about pain. These 2 outcomes were Aches and Pains, derived from 5 of 6 pain symptom questions and Consultation for Low Back Pain, derived from 1 question The result shows that the Prevalence of aches and pains was high, with 1 in 6 women reporting daily symptoms. Compared with premenopausal women, those who were early perimenopausal (P=0.002), late perimenopausal (P=0.002), or postmenopausal (P<0.0001) reported significantly more aches and pains in age-adjusted analysis. With complete risk factor adjustment, postmenopausal women still reported significantly greater pain symptoms (P=0.03) than did premenopausal women. This study demonstrates an association between pain and self-reported menopausal status, with postmenopausal women experiencing greater pain symptoms than premenopausal women.

Dr C. E. Szoeke and F. M. Cicuttini et.al conducted a longitudinal study to determine factors associated with reported joint symptoms across the menopausal transition of 438 Australian-born women, aged 45–55 years they were interviewed annually over 8 years. A score for this symptom was calculated from the product of the severity and frequency data. These data were analyzed using random-effects time-series regression models. The study result was 'Aches and stiff joints' were the

most commonly reported symptom and reporting increased over time in the longitudinal study. Variables significantly associated with reporting bothersome aches and stiff joints were high body mass index (BMI) ($p < 0.001$), high negative mood ($p < 0.01$), not being employed ($p < 0.001$), and experiencing the menopausal transition ($p < 0.05$). A higher severity and frequency of this symptom were associated with BMI ($p < 0.01$), not being employed ($p < 0.05$) and high negative mood ($p < 0.005$). The study concluded that menopausal status, BMI, employment status and depressed mood were all associated with the experience of bothersome aches and stiff joints

C Huang and P D Ross et al (1997) conducted a research study to identify the factors associated with joint pain among postmenopausal women . This was a population-based cross-sectional study. For that they selected Six hundred and ninety postmenopausal Japanese-American women   (age: 55-93 yrs) from the Hawaii osteoporosis centre. Statistical analysis done by using Pearson's χ^2 -test was used to compare the prevalence of joint pain between overweight subjects and non-overweight subjects. In this study, overweight women were defined as those with body mass index greater than 25 kg/m² . Thus women with excess weight in this paper would include the categories of overweight. Results of this study was almost half of the women reported joint pain at one or more sites. Up to one-third of all women had prevalent fractures or radiographic evidence of osteoarthritis. The results of logistic regression analyses using `joint pain at any site' or joint pain at the arm, leg, or back as the outcome variable. Both BMI and spinal osteoarthritis were significant and strong predictors of joint pain at any site. The estimated ratio of the odds of experiencing joint pain at one or more joints for women with spinal osteoarthritis, relative to those without spinal Factors associated with regional joint pain, BMI was

signficantly associated with joint pain in all three regions (arm, leg, back), but the association was stronger for joint pain in the leg and the back, compared to the arm. Spinal osteoarthritis was more strongly associated with joint pain in the arm (OR =0.05) than with joint pain in the leg (OR = 1.41, P < 0.1), and no association was observed with back pain (OR = 1.18, P > 0.1).Lower back, knee, shoulder and hand showed a much higher prevalence of pain than other sites. About 30% of women were overweight (BMI > 25 kg/m 2). The pre- valence of joint pain at the shoulder and at several weight-bearing sites (foot, ankle, knee, midback, and lower back) was significantly higher among women with BMI > 25 kg/m 2 , compared to those with BMI > 25 kg/m2 . Attributable risk was calculated for each site (including those without significant associations with BMI for the purpose of comparison). For the joints significantly associated with BMI.

Dugan SA and Powell LH et al conducted a study of musculo skeletal Pain and menopausal status: The authors examined whether self-reported menopausal status is associated with musculoskeletal pain in a multiethnic population of community-dwelling middle-aged women after considering socio demographics, medical factors, smoking, depression, and body mass index using a cross-sectional study design. Participants were 2218 women from the Study of Women's Health across the Nation assessed at the time of their third annual follow-up exam. Two dependent variables were derived from a factor analysis of survey questions about pain. These 2 outcomes were Aches and Pains, derived from 5 of 6 pain symptom questions and Consultation for Low Back Pain, derived from 1 question. Result of this study was Prevalence of aches and pains was high, with 1 in 6 women reporting daily symptoms. Compared with premenopausal women, those who were early perimenopausal (P=0.002), late perimenopausal (P=0.002), or postmenopausal

(P<0.0001) reported significantly more aches and pains in age-adjusted analysis. With complete risk factor adjustment, postmenopausal women still reported significantly greater pain symptoms (P=0.03) than did premenopausal women. Menopausal status was marginally related to consulting a healthcare provider for back pain. This study demonstrates an association between pain and self-reported menopausal status, with postmenopausal women experiencing greater pain symptoms than premenopausal women.

Ruchika Garg and Rajani Rawat et .al (2015) conducted a cross sectional study regarding Menopausal Symptoms among Postmenopausal Women of North India. They selected 218 postmenopausal women from March 2012 to 2015. The result of the study was the mean age of attaining menopause was 48.26 years. Prevalence of symptoms among ladies were muscle and joint pains (70%), mood swings (65%), low backache (46.7%), hot flush and excessive sweating (45%), change in sexual desire (44%), dryness of vagina (41%), urinary symptoms (35%) and anxiety and irritability in (11%) females. The study stated that all the women were suffering from one or more number of menopausal symptoms. Women should be made aware of these symptoms, their causes and treatment respectively.

Bahiyah Abdullah, and Burhanuddin Moize et al(2017) conducted a cross sectional study toidentify the Prevalence of menopausal symptoms and its effect on quality of life among Malaysian women and their treatment seeking behaviour .Data was obtained by face-to-face interview using standardised questionnaires on socio demographic data, Menopause Rating Scale questionnaire, effect to quality of life and treatment sought .Result was total of 258 women, including Malays (82%),Indians (1 4.1 %) and Chinese (3.9%) were recruited. The median age was 58 (range 45-86)

years old. Joint and muscular discomfort (73.3%) and fatigue (59.3%) were the most prevalent symptoms. Significant association with ethnicity were demonstrated with Malays was found to have3.1 times higher incidence of sexual problems than Indians,(Odds Ratio (OR) 3.1 03; 95%CI 1 .209, 7.967) and Indian had2.6 times higher incidence of irritability compared to Malays(OR 2.598; 95%CI 1 .1 26, 5.992). Fifty-two percent of women felt that menopausal symptoms affected their quality of life but there were only 2.7% who were severely affected. There were 24.8% of women who sought treatment and only 20.3%of those who took hormone replacement therapy. There was no significant association found between their treatment seeking behaviour in association with ethnicity, age, parity, marital and occupational status. Conclusion that the Menopausal symptoms were prevalent among menopausal women.

2. Literature related to effect of massage therapy on arthalgia.

S. Sylvia Deva Roopa and Dr. M.A sabbanathul Missiriya conducted a study regarding effectiveness of castor oil massage with hot application of knee joint pain among women. The study objectives were to assess the level of knee joint pain among women to evaluate the effect of castor oil with hot application on knee joint. Joint pain among women in selected community area and to associate between selected demographic variables with post test score among women with knee joint pain selected community area . One group pre test post test design was used in this study. Totally 50 women in the age of 30-60 years who met the inclusion criteria, were selected by random sampling method. In the pre-test 28% of the women had severe knee joint pain and 72% of the women had moderate knee joint pain and in the post test after 2 weeks of intervention of east or oil massage with hot water

application 24% of or men had moderate knee joint pain and 76% of the women had mid knee joint pain.

Bing Yip conducted 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 controlled in a double blind, place ho controlled experimental study group from the community centre senior citizens Hong Kong. The intervention was six massage sessions with ginger and orange oil over a 3 week period. The place to 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. There were significant mean changes between the three time points within the intervention knee pain intensity (p=0.02); stiffness level (p=0.03) and enhancing physical function (p=0.04). The improvement of physical function and pain were superior in the intervention group compared with both the place to 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 changes in quality of life were not statistically significant for all three groups, conclusion that the aroma massage therapy seems to have potential as an alternative method for knee pain relief.

Carol P brooks and D Lynda et.al (2006) conducted the research study to improve the power grip performance the manual massage is needed. It was conducted in suburban allied health school, with pre-test and post test study .There are 52 volunteers participated in the study. The person such as massage school clients, staff faculty and students. The subject assigned randomly and gave 5 minutes of forearm

bend massage of effleurage and friction (to either the dominant hand or non dominant hand side) 5 minutes of passive shoulder and elbow range of motion or 5 minutes of non intervention rest. The result show that power group was fatigues after 3 minutes of isometric exercise and need recovery for 5 minutes. The statistical analysis reveals that there is a greater effect of massage than the placebo after fatigue. The study concluded that manual massage has great impact on grip performance than non massage. Analysed 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.

Shuk Kwan Tang and M. Y. Mimi Tse (2014) Department of Orthopaedics & Traumatology, United Christian Hospital, Kowloon, Hong Kong to examine the effectiveness of an aromatherapy programme for older persons with chronic pain. The community-dwelling elderly people who participated in this study underwent a four-week aromatherapy programme or were assigned to the control group, which did not receive any interventions. Their levels of pain, depression, anxiety, and stress were collected at the baseline and at the post intervention assessment after the conclusion of the four-week programme. Eighty-two participants took part in the study. Forty-four participants (37 females, 7 males) were in the intervention group and 38 participants (30 females, 8 males) were in the control group. The pain scores were 4.75 (SD 2.32) on a 10-point scale for the intervention group and 5.24 (SD 2.14) for the control group before the programme. There was a slight reduction in the pain score of the intervention group. No significant differences were found in the same-group and between-group comparisons for the baseline and post intervention assessments. The depression, anxiety, and stress scores for the intervention group before the programme were 11.18 (SD 6.18), 9.64 (SD 7.05), and 12.91 (SD 7.70),

respectively. A significant reduction in negative emotions was found in the intervention group . The aromatherapy programme can be an effective tool to reduce pain, depression, anxiety, and stress levels among community-dwelling older adults.

Shini Varghese and S. Rajeswari et.al effectiveness of aromatherapy on joint pain and quality of life among the women at selected villages of Thiruvallur district .The study discovered the effects of aromatherapy on joint pain and quality of life among the women with menopause. A randomized pre test post test control group research design was conducted at two villages of Rural Health and Training Centre of SRMC at Thirvallur district. 60 menopausal women with joint pain and impaired quality of life aged 45-55 years were divided as 30 in both the study and the control groups .Numerical Rating Scale (NRS) and Menopausal Rating Scale (MRS) are utilized to assess the joint pain and quality of life .Study group participant received 15mins massage on knee joints for thrice a week for 4 weeks with eucalyptus oil. Routine practices were followed in the control group. The collected data were examined using descriptive and inferential statistics. A significant difference at the level of p<0.001 was found between the pre test and post test on joint paint and the quality of life .The study concluded that aromatherapy (eucalyptus oil) was the effective method to reduce joint pain and had improved the quality of life among women with menopause.

3 Literature related to effect of aromatherapy on other menopausal symptoms among menopausal women.

Fatemeh Darsareh and Simin Taavoni et. al (2012) done a randomized placebo-controlled clinical trial on menopausal clinic at a gynecology hospital in Tehran. The study population comprised 90 women who were assigned to an

aromatherapy massage group, a placebo massage group, or a control group. Each participant in the aromatherapy massage group received 30-minute aromatherapy treatment sessions twice a week for 4 weeks with aroma oil, whereas participants in the placebo massage group received the same treatment with plain oil. No treatment was provided to participants in the control group. The outcome measures in this study were menopausal symptoms, as obtained through the Menopause Rating Scale .The result mean baseline level of the menopausal score did not differ among all groups. However, after eight sessions of intervention, the Menopause Rating Scale score differed significantly among the three groups (P < 0.001). Post hoc analysis revealed that women in both the aromatherapy massage group and the placebo massage group had a lower menopausal score than the control group (P < 0.001). When the aromatherapy massage and the placebo massage groups were compared, the menopausal score for the aromatherapy massage group was found to be significantly lower (P < 0.001) than for the placebo group.

S Taavoni and F Darsareh (2013)conducted a randomized clinical trial to assess the effect of aromatherapy massage on the psychological symptoms of postmenopausal Iranian women . The study population comprised 90 women. The outcome measures were psychological symptoms, as obtained through the psychological subscale of the Menopause Rating Scale total of 87 women were evaluated. A statistically significant difference was found between the participants' pre- and post-application psychological score in intervention groups, whereas the score in the control group did not differ significantly. Aromatherapy massage decreased the psychological score MD: −3.49 (95% Confidence Interval of Difference: −4.52 to −2.47). Massage therapy also decreased the psychological score MD: −1.20 (95% Confidence Interval of Difference: −2.19 to −0.08). To distinguish

the effect of aromatherapy from massage separately, we compared the reduction in the psychological score. Aromatherapy massage decreased the psychological score more than massage therapy MD: −2.29 (95% Confidence Interval of Difference: −3.01 to −0.47).They concluded that both aromatherapy massage and massage were effective in reducing psychological symptoms but the effect of aromatherapy massage was higher than the massage.

Myung-Haeng Hur and Yun Seok Yang et al(2006) conducted a controlled clinical trial of Aromatherapy Massage Affects Menopausal Symptoms in Korean Climacteric Women.This study investigated the effects of aromatherapy massage on menopausal symptoms in Korean climacteric women. Kupperman's menopausal index was used to compare an experimental group of 25 climacteric women with a wait-listed control group of 27 climacteric women. Aromatherapy was applied topically to subjects in the experimental group in the form of massage on the abdomen, back and arms using lavender, rose geranium, rose and jasmine in almond and primrose oils once a week for 8 weeks (eight times in total). The experimental group reported a significantly lower total menopausal index than wait-listed controls ($P < 0.05$). There were also significant intergroup differences in subcategories such as vasomotor, melancholia, arthralgia and myalgia (all $P < 0.05$). These findings suggest that aromatherapy massage may be an effective treatment of menopausal symptoms such as hot flushes, depression and pain in climacteric women. However, it could not be verified whether the positive effects were from the aromatherapy, the massage or both.

Shini Varghese and S. Rajeswari et.al effectiveness of aromatherapy on joint pain and quality of life among the women at selected villages of Thiruvallur

district .The study discovered the effects of aromatherapy on joint pain and quality of life among the women with menopause. A randomized pre test post test control group research design was conducted at two villages of Rural Health and Training Centre of SRMC at Thirvallur district. 60 menopausal women with joint pain and impaired quality of life aged 45-55 years were divided as 30 in both the study and the control groups .Numerical Rating Scale (NRS) and Menopausal Rating Scale (MRS) are utilized to assess the joint pain and quality of life .Study group participant received 15mins massage on knee joints for thrice a week for 4 weeks with eucalyptus oil. Routine practices were followed in the control group. The collected data were examined using descriptive and inferential statistics. A significant difference at the level of p<0.001 was found between the pre test and post test on joint paint and the quality of life .The study concluded that aromatherapy (eucalyptus oil) was the effective method to reduce joint pain and had improved the quality of life among women with menopause.

A study conducted in Korean country investigating the effect of aromatherapy on pain, depression and feelings of satisfaction in life of arthritis patients. This study used a quest experimental design with a non equivalent control group, pre and post test. Kanganam st. Mary's hospital, South Korea. The essential Acts and were lavender, marjoram eucalyptus, rosemary and peppermint blended in proportion of 2:12:1:1. They were mixed with a carrier act composed of almond (45%) apricot (45%) and jojoba oil (10%)and they were diluted to 1.5%after blending the data were analysed using 2 t 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 effect on decreasing pain and depression levels.

CHAPTER – III

METHODOLOGY

Research methodology is a systematic way of solving problem.

This chapter includes research approach, research design, setting of the study, population, sampling technique, selection criteria, data collection tool, description of tool, tool validation, data collection procedure and plan for data analysis. The study was intended to evaluate the effect of aromatherapy massage on Arthralgia among menopausal women.

Research Approach:

Research approach used for this study was quantitative evaluation approach

Research Design:

The design used in this study was quasi experimental pre test, post test control group design.

The design can be represented as follow:

E O_1 x O_2

C O_1 O_2

E – Experimental group

C – Control group

O_1 – Pre test to assess Arthralgia in menopausal women

X- Intervention (Aromatherapy massage)

O$_2$ – Post test to assess the level of Arthalgia

Setting of the study

The study was conducted in Gandhinagar village of Pechiparai panchayat, in Kanyakumari district. This rural area is situated 12.5 km away from Sree mookambika college of nursing. The population of Pechiparai panchayat is around 8,686 . In this population of women is around 4,346 and postmenopausal women comprising age group 45 to 60 years were around 1000. The population of Gandhinagar rural area is around 1200. In this population of women is around 600 and the post menopausal women is around 200, among that 60 post menopausal women were selected as samples for the study.

Population:

The population under the study refers to menopausal women who have Arthralgia, in Gandhinagar at Pechiparai panchayat.

Accessible Population:

Menopausal women whose age group between 45-60 years.

Sample:

Menopausal women who had satisfied the inclusion criteria.

Sample size:

The total sample size selected was 60 menopausal women (30 in experimental group and 30 in control group.) who had moderate to severe Arthalgia.

Sample Technique:

The menopausal women were selected by purposive sampling method.

SAMPLE SELECTION CRITERIA

Inclusion Criteria:

The menopausal women

- whose age between 45-60 years
- who have moderate to severe Arthralgia.
- who are willing to participate in the study.
- who are not taking treatment for Arthalgia.

Exclusion criteria:

1. Those who are not willing to participate in the study.
2. The menopausal women who are on regular analgesics.
3. The menopausal women who are allergic to eucalyptus oil.

DATA COLLECTION TOOL.

The tool consist of two parts,

Section – A : Demographic Variable

Section – B : Numerical Rating Scale for Pain

DESCRIPTION OF THE TOOL

Section A: Demographic Variable

Demographic data consists of age, educational status, women's occupation, marital status, type of family, number of living children, family's monthly income, duration of menopausal status and Duration of Arthralgia.

Section B: Numerical Rating scale for pain

The numerical rating scale is a standardized 11 point scale for a assessing of pain.
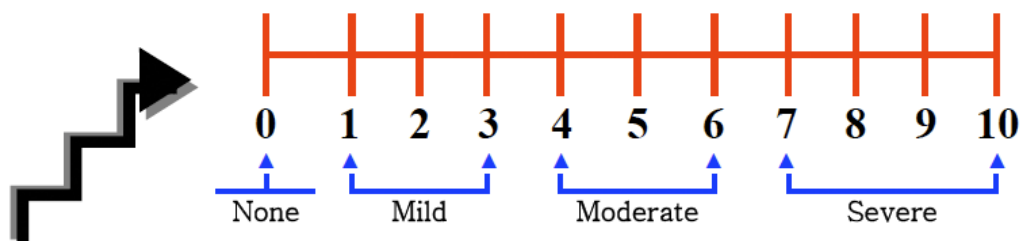
The classification of score as follows;

Rating	Pain level
0	No Pain
1-3	Mild Pain
4-6	Moderate Pain
7-10	Sever pain

Validity and Reliability

Content validity of the tool was established on the basis of the opinion of five experts that is from five obstetrics and gynecology nursing personal. The necessary suggestions and modification was done in the final preparation of the tool.

Reliability:

The reliability of the tool was identified by test-retest methods Karl Pearson's correlation formula. The r value 1.00. Hence the tool was reliable.

Pilot Study:

In order to find out the feasibility and practicability of the study. A pilot study was conducted in Gandhinagar at Pechiparai panchayat, Kanyakumari District., with 6 samples (3 experimental group and 3 in control group) pilot study was conducted for a period of 1 week. Six patients who fulfilled the selection criteria were selected and the purpose of study was explained to subjects and ensured the confidentiality of their response ensured the confidentiality of their response.

The pilot study helped in testing the reliability, feasibility and practicability of the tool and designed methodology. The tool was assessed among the study population and pretest was done for both groups with the help of numerical rating scale for pain. Followed that, aromatherapy was given about 15 minutes for 3 days to the experimental group. Then post test was done for both the group by using the same tool.

Since adequacy of the tool was established through the pilot study, final study was conducted without any change in the tool or technique.

Data collection Procedure:

Data collection was done from 1.02.2017 to 03.03.2017. The study subject were selected by purposive sampling technique. Obtained their willingness to participate in the study. The purpose of the study was explained in detail to the selected subjects and the confidentiality of their response was ensured. The procedure also explained to study sample. Both the group was pretested using numerical rating scale. After pretesting, the aroma therapy (1 ml eucalyptus oil and 3 ml coconut oil) was given to experimental group. By using palm of the hand the long sweeping strokes that alternate between firm and light pressure applied. The thumbs and the knuckles of the fingers are used to knead the muscles of knee area. The massage was given about 15 minutes in both knee joint for three days in a week for one month. The post test was done for both groups by using numerical rating scale for pain.

Plan for data analysis

The data was organized, tabulated, summarized and analyzed by using descriptive and inferential statistical analysis. To compare experimental and control group paired test was used. Association between aromatherapy massage and demographic variables was tested using chi square test.

Design	Setting	Population	Sample	Tool for data collection	Data collection procedure	Data analysis
Quasi experimental group pretest post test control group design	Gandinagar village of Pechipparai panchayat	Menopausal women with Arthralgia in Gandinagar village	Purposive sampling technique was used sample consist of 30 each in experimental and in the control group	1. Demographic variable 2. Numerical rating scale for pain	Pretest for both experimental group and control group Aromatherapy massage for only experimental group .(three times in a week for one month). Post test on after one month for both group.	Descriptive and inferential statistics (t test and chi square test)

Figure 2 : **Schematic Representation Of Research Design**

CHAPTER IV

DATA ANALYSIS AND INTERPRETATION

This chapter deals with the description of statistical analysis and interpretation of data. Analysis and interpretation of data is the most important phase of the research process which involves the computation of certain measures along with collected data are analysed and interpreted of data includes compilation, editing coding, classification and presentation of data.

The purpose of analysing the data collected in a study is to describe the data in meaningful terms as the data collected does not answer the research question or test research hypothesis. The data used is to be systematically analysed so that trends and patterns of relationship can be detected.

The collected data was organized tabulated, summarized and analysed based on the objectives and hypothesis by using descriptive and inferential statistical method.

Presentation of data

The data analysed are presented under the following section

Section A:

This section deals with the description of the study subjects based on their demographic variable

Section B:

This section deals with the pre test level of Arthralgia among menopausal women.

Section C:

This section deals with the post test level of Arthralgia among menopausal women.

Section D:

This section deals with the comparison of pre test and post test pain score among menopausal women.

Section E:

This section deals with the effectiveness of Aromatherapy among menopausal women.

Section F:

This section deals with the association between Arthralgia and demographic variables such as age, educational status, occupation, marital status, type of family, number of living children, family's monthly income, duration of menopause and duration of Arthralgia.

Section A: Demographic variables

This section deals with the distribution of the study subject based on their demographic variable such as age, educational status, occupation, marital status, type of family,, number of living children, family's monthly income, duration of menopause, duration of Arthralgia and homogenity of the sample between experimental and control group.

Table 1

Distribution of samples according to demographic variables.

Sl. No	Demographic variables	Experimental group		Control group		χ^2
		f	%	f	%	
1.	Age in years					
	a) 45-49 years	10	33.3	11	36.66	
	b) 50-54 years	12	40	11	36.66	0.08
	c) 55-60 years	8	26.66	8	26.66	
2	Educational Status					
	a) Primary school	14	46.66	20	66.66	
	b) High school	13	43.33	10	33.33	
	c) Higher secondary school	3	10	0	0	4.4
	d) Collegiate	0	0	0	0	
3.	Occupation					
	a) Unemployed	15	50	25	83.33	
	b) Employed	15	50	5	16.66	7.5
4.	Marital Status					
	a) Married	30	100	28	93.33	2.06
	b) Unmarried	0	0	2	6.66	

Table One Continued..............

Sl. No	Demographic variables	Experimental group		Control group		χ^2
		f	%	f	%	
5.	Type of Family					
	a) Single family	19	63	18	60	
	b) Joint family	11	36.66	12	40	3.07
6.	Number of living children					
	a) 1	7	23.33	3	10	
	b) 2	16	53.33	19	63	1.68
	c) >2	7	23.33	8	26.66	
7.	Family's monthly income					
	a) <5000	7	23.33	4	13.33	
	b) 5000 – 10000	20	66.66	23	76.66	0.81
	c) >10000	3	10	3	10	
8.	Duration of Menopause					
	a) 3 years	9	30	12	40	
	b) > 3 years	21	70	18	60	.64
9	Duration of Arthralgia					
	a) 3 years	13	43.33	8	26.66	
	b) >3 yrs	17	56.66	22	73.33	1.82

The table 1 shows that majority of the sample (40%) was 50- 54 years of age .Most of the sample (46.66%) having primary school education and (50%) women were un employed. All are married. Majority (63%)of women are living in single family. Most of the subject (53.3%) have two children. Majority of the women

(66.66%) have 5000-10000 monthly income. And majority of the women (70%) have Arthralgia more than three years. This study findings also reveal that both group of homogenous.

The above findings are represented as bar diagrams from figure 3 to figure 12

- Distribution of sample according to the age is represented as bar diagram in figure 3

- Distribution of sample according to the educational status is represented as bar diagram in figure 4

- Distribution of sample according to the occupation is represented as bar diagram in figure 5

- Distribution of sample according to the marital status is represented as bar diagram in figure 6

- Distribution of sample according to the type of family is represented as bar diagram in figure 7

- Distribution of sample according to the number of living children is represented as bar diagram in figure 8

- Distribution of sample according to the family's monthly income is represented as bar diagram in figure 9

- Distribution of sample according to the duration of menopausal status is represented as bar diagram in figure 10

- Distribution of sample according to the duration of Arthralgia is represented as bar diagram in figure 11

- Distribution of sample according to the duration of Arthralgia is represented as bar diagram in figure 12.
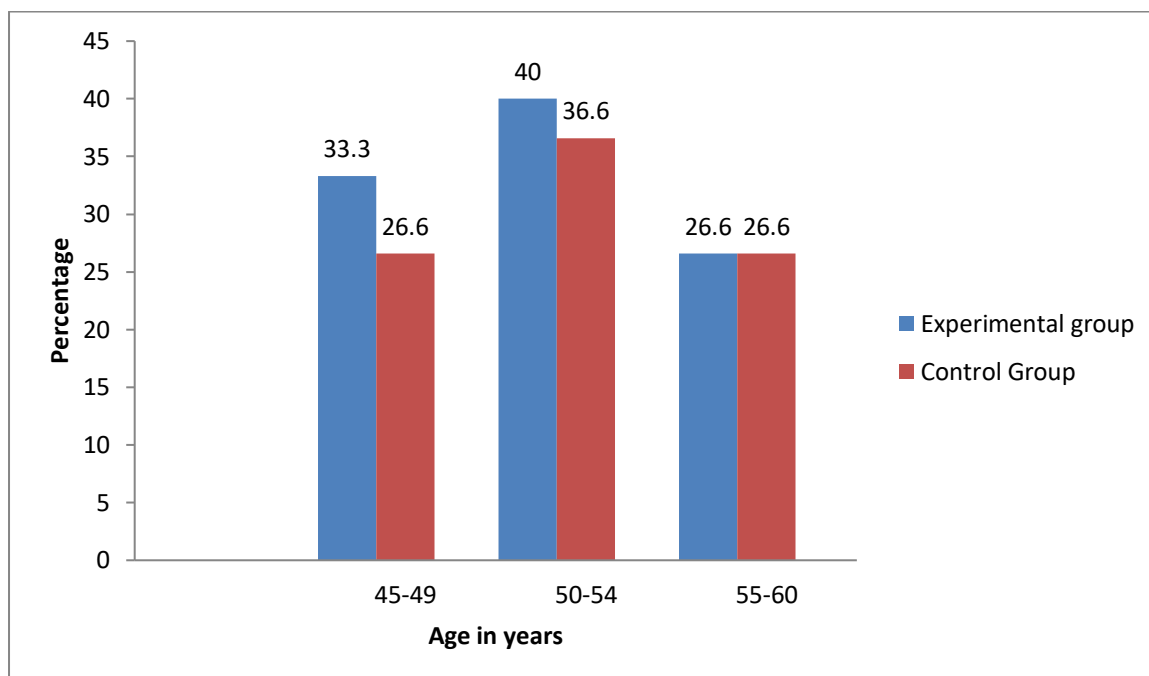
Figure 3: **Distribution Of Samples According To Age.**
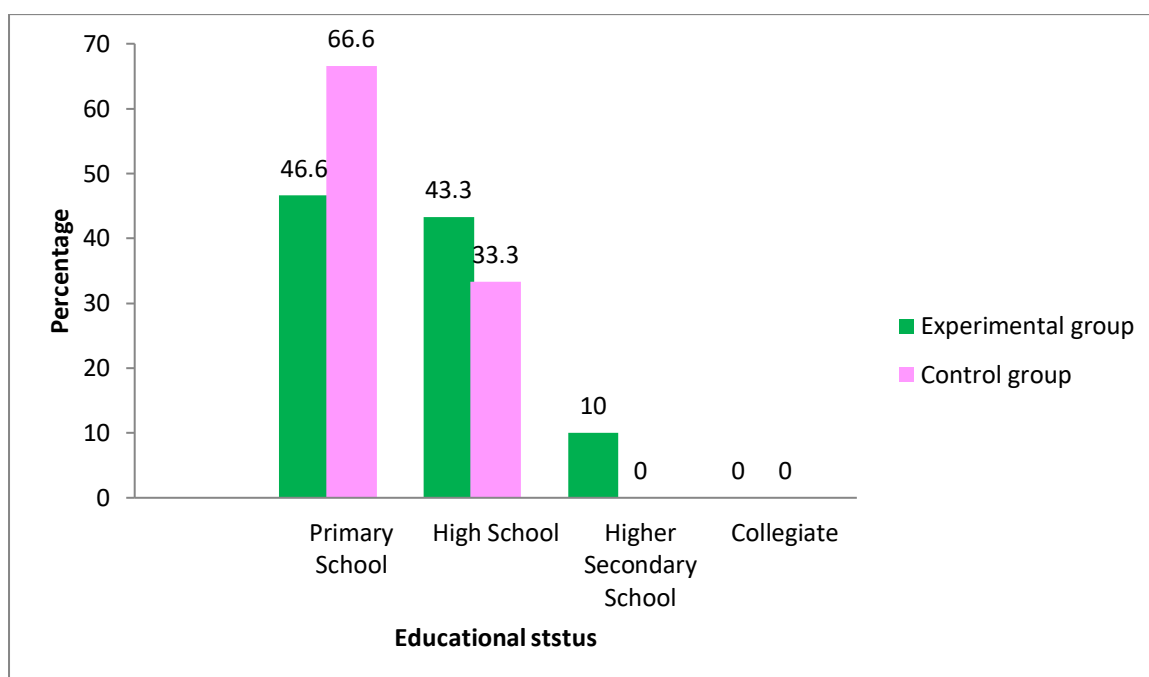
Figure4: **Distribution Of Samples According To Educational Status**
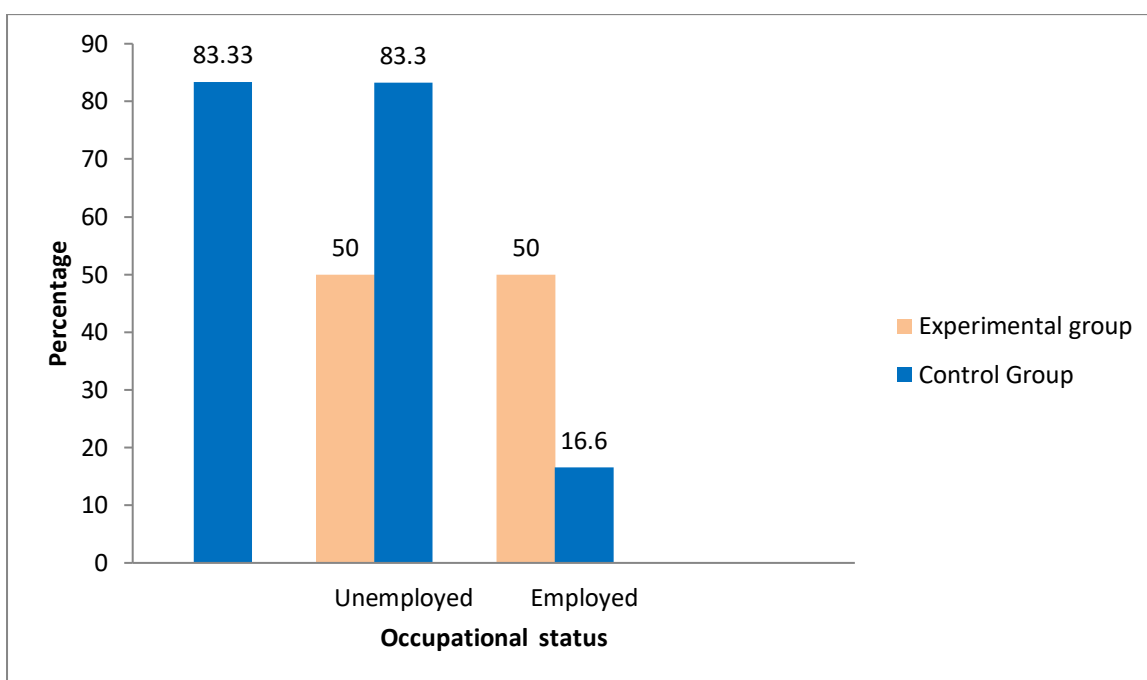
Figure5: **Distribution Of Sample According To Occupational Status**
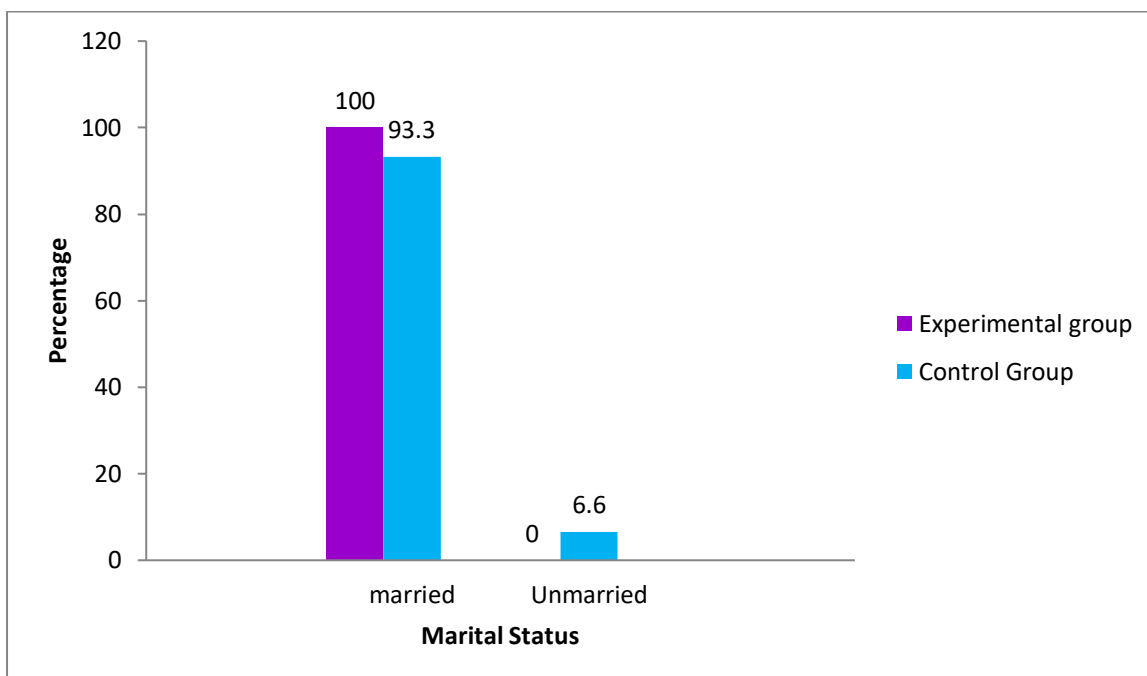
Figure 6: **Distribution Of Sample According To Marital Status**
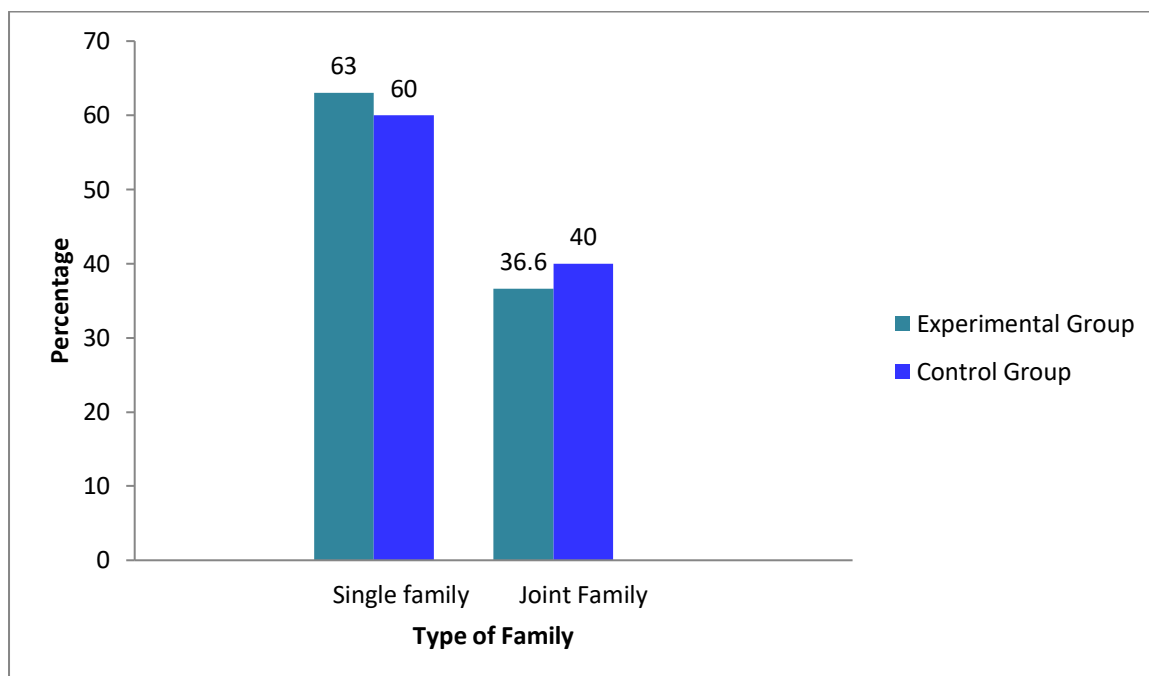
Figure7: **Distribution Of Sample According Type Of Family.**
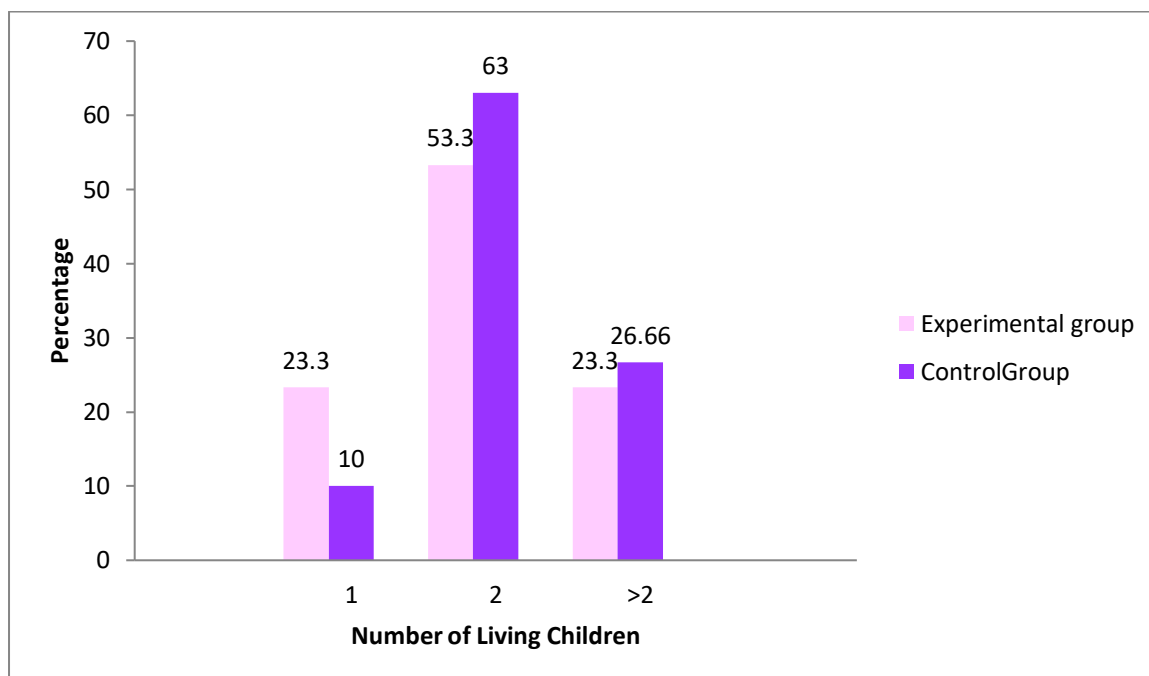
***Figure 8*:Distribution Of Sample According To Number Of Living Children**
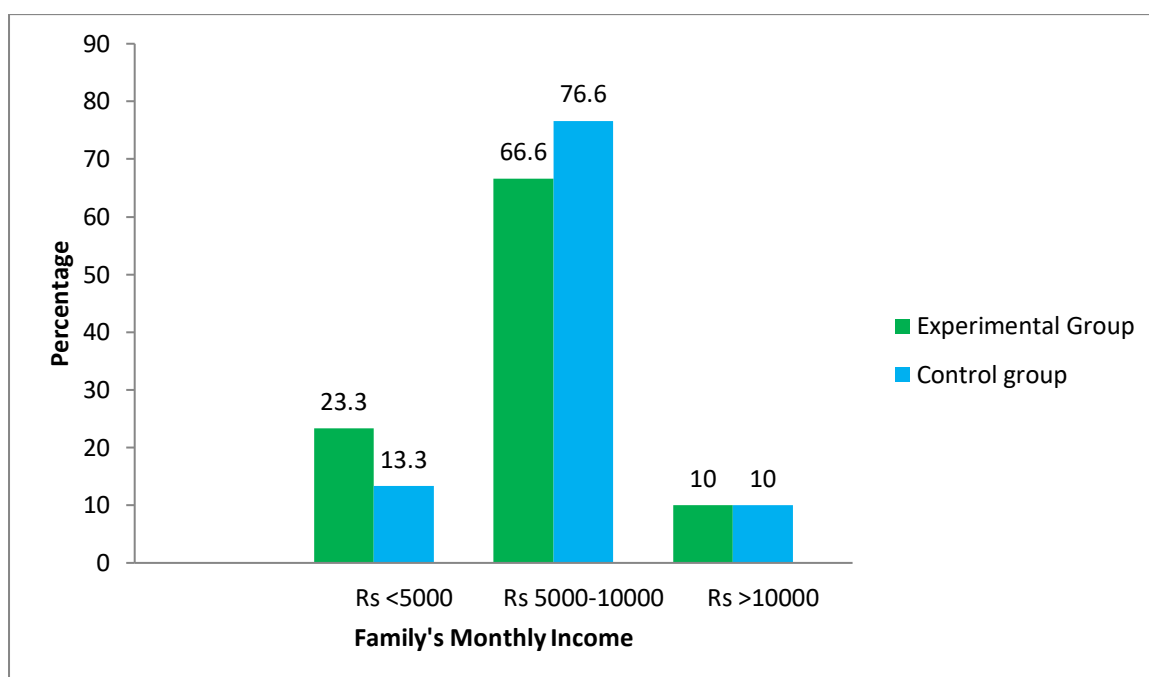
Figure9: **Distribution Of Sample According To Family's Monthly Income.**
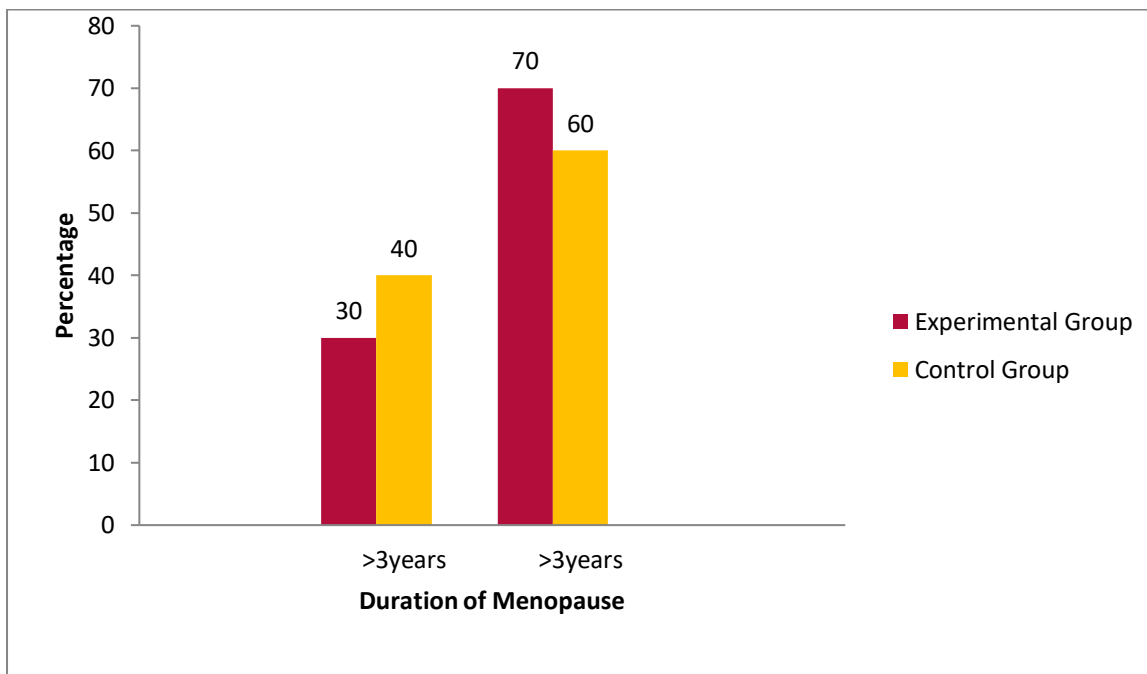
Figure10:**Distribution Of Sample According To Duration Of Menopause.**
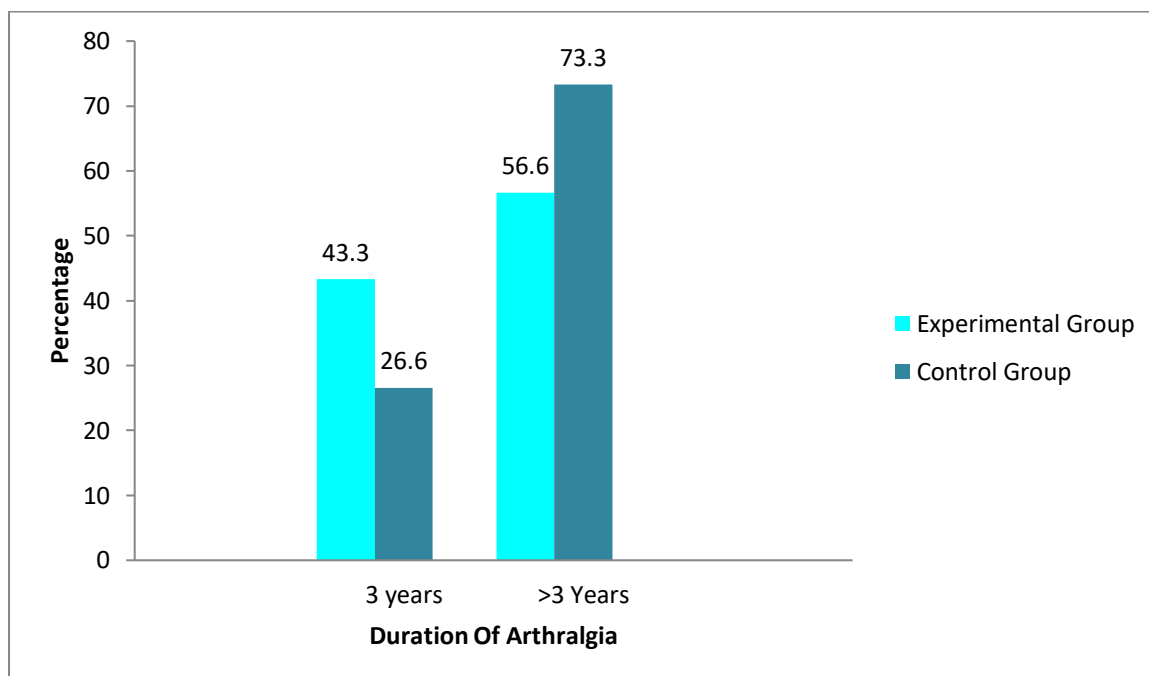
Figure 11: **Distribution Of Sample According Duration of Arthralgia.**

Section B: Assessment of pre test level of Arthralgia.

This section deals with the pre test level of Arthralgia among menopausal women

Table 2

Pre test level of Arthralgia among menopausal women(N=60).

Group	Moderate		Severe	
	f	%	f	%
Experimental Group	22	73.3	8	26.6
Control group	26	86.66	4	13.3

The above table shows that in experimental group there was 73.3% of post menopausal women had moderate pain and 26.6% of sample had severe pain . In control group, 86.6% of the sample had moderate pain and 13.3% of the sample had severe pain.

The above findings are presented as bar diagram in Figure : 12
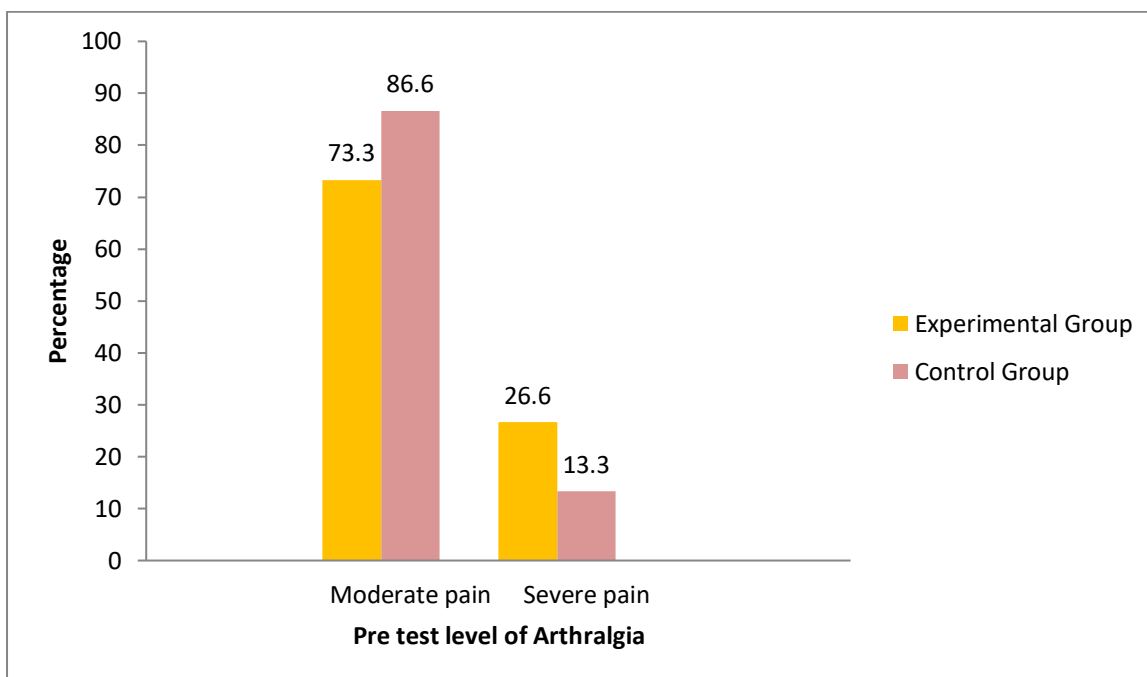
Figure 12 : **Pre test Level Of Arthralgia Among Menopausal Women.**

Section C: Post test Level of Arthralgia among menopausal women

This section deals with the post test level of Arthralgia among menopausal women in experimental and control group

Table 3

Post test level of Arthralgia among post menopausal women.(N=60).

Group	No Pain		Mild		Moderate		Severe	
	f	%	f	%	f	%	f	%
Experimental group	7	23.33	23	76.66	0	0	0	0
Control group	0	0	3	10	24	80	3	10

The table shows that in Experimental group 23.33% f the sample had no pain, 76.66% had mild pain and none of them had moderate and severe pain. In control group 10 % of the sample had severe pain, 80% of them had moderate pain, 10% of the sample had moderate pain and none of them had no pain.

The above findings are presented as bar diagram figure 13.

Figure 13: **Post Test Level Of Arthralgia Among Menopausal women In Both**

Group.

Section D: Comparison of pre test and post test level of Arthralgia

This section deals with the comparison of pre test and post test scores of Arthralgia between experimental group between control group.

Table 4

Comparison of pre test and post test scores of Arthralgia.

	Pre test				Post test			
Group	No Pain	Mild pain	Moderate pain	Sever pain	No Pain	Mild pain	Modera te pain	Sever pain
Experimental group	0	0	73.33	26.6	23.33	76.66	0	0
Control group	0	0	86.66	13.33	0	10	80	10

The above table shows that in experimental group, the pre test score was 73.33% had moderate pain, 26.66% had severe pain and none of them having no pain and mild pain the post test scores shows that 23.33% had no pain ,76.66% had mild pain and none them had moderate and severe pain.

In control group, the pre test score was 86.66% had moderate pain, 13.33% had severe pain and none of them gad no pain and mild pain. The post test score was 10% had mild pain, 80% had moderate pain, 10% had severe pain and none of them had no pain.

The above findings are presented as bar diagram figure 14.

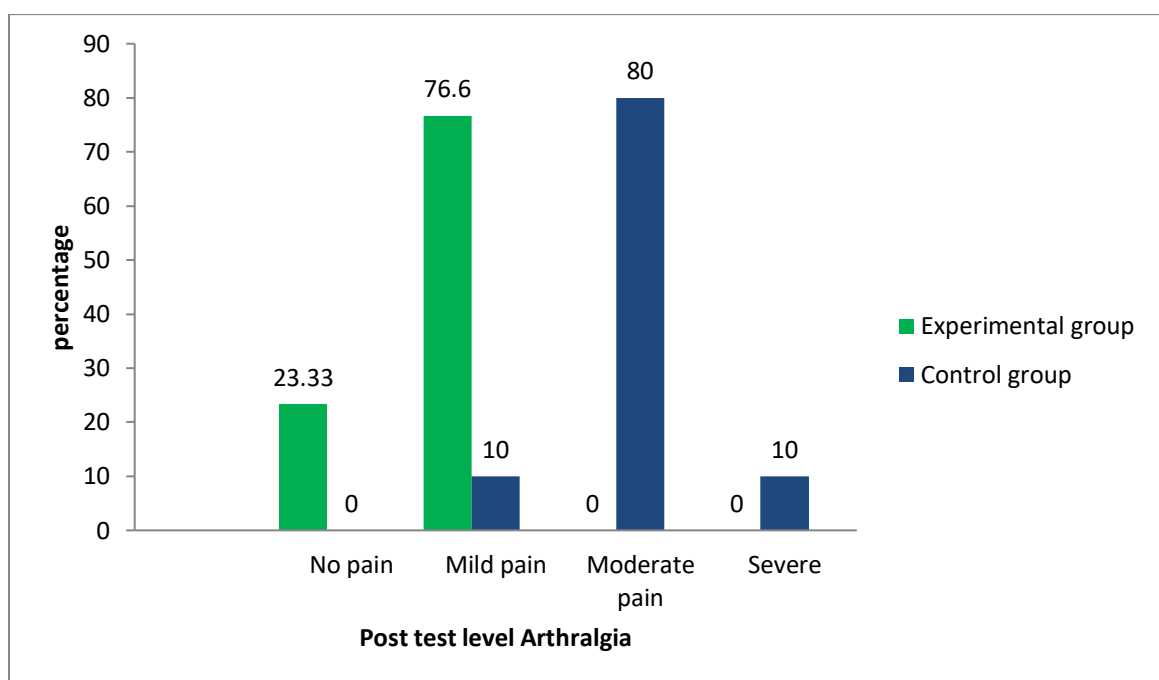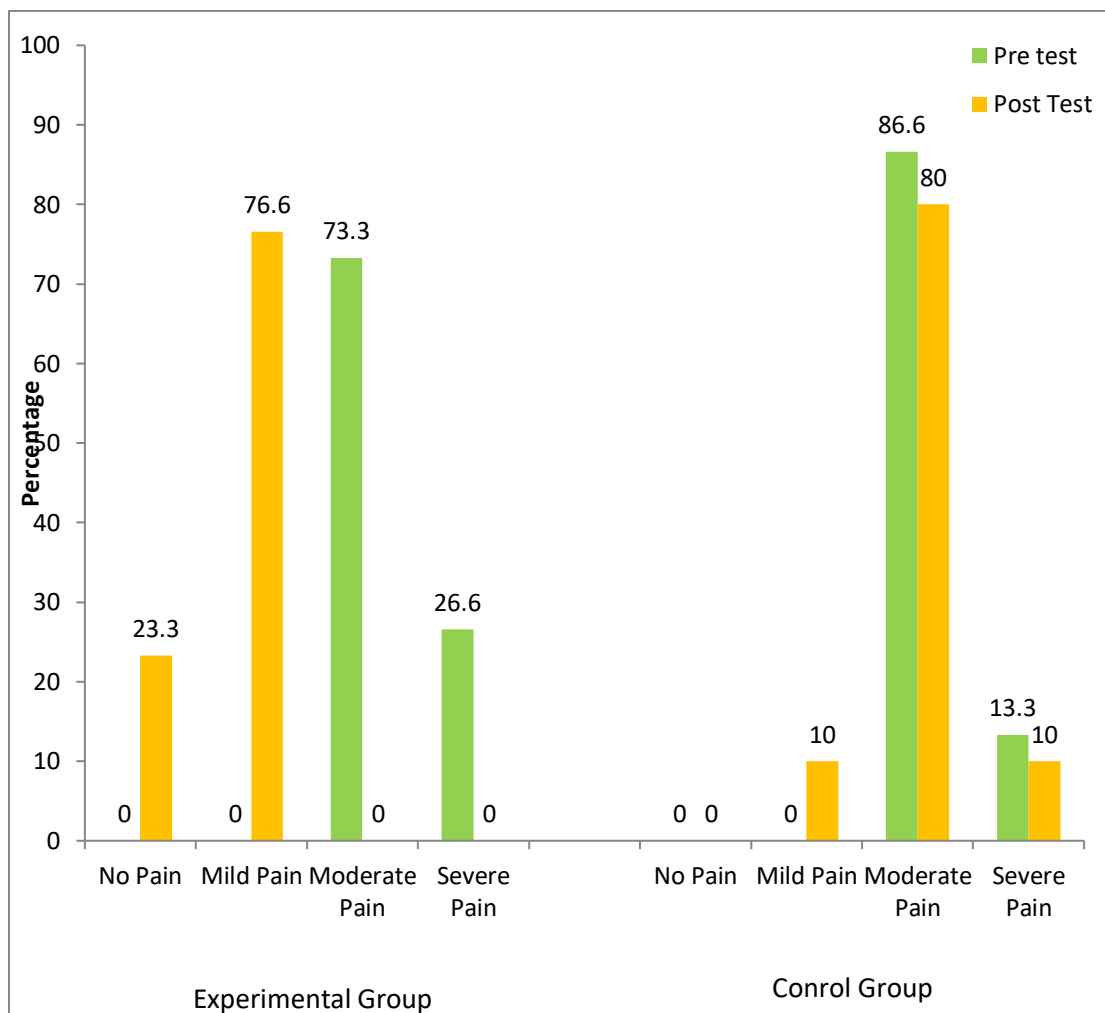*Figure 14*: **Comparison Of Pre And Post Test Level Of Arthralgia Among**

Menopausal Women.

Section E: Effectiveness of Aromatherapy on Arthralgia among menopausal women.

This section deals with the effectiveness of Aromatherapy massage on Arthralgia among menopausal women.

Table 5

Effect of Aromatherapy on Arthralgia.

Group	N	Pre Test		Post Test		Difference		t	df
		Mean	SD	Mean	SD	Mean	SD		
Experimental group	30	5.69	2.46	1.06	1.02	4.63	1.44	17.80**	29
Control group	30	5.46	2.66	5.06	1.44	0.44	1.22	1.81	29

*Significance at p<0.01

The above table shows the comparison of mean scores of Arthralgia in Experimental group and control group. The reduction of Arthralgia in menopausal women from pre test scores to post test scores among experimental group was 4.63±1.44 and the same of control group was 0.4±1.22.The mean reduction in the experimental group after aromatherapy massage was statistically highly significance (t=17.80 df=29 and p<0.01) and the control group without aromatherapy massage was not significance (t=0.4 df=29 and p> 0.05).

The above findings are presented as bar diagram figure 15.
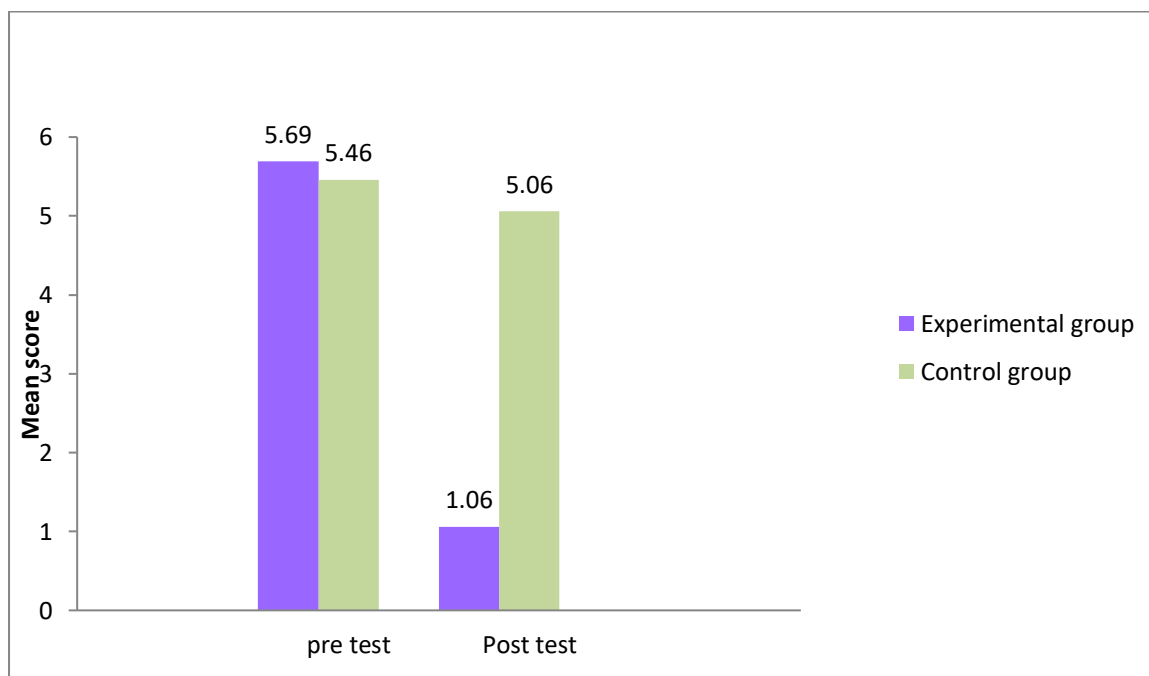
Figure 15 : **Effect Of Aromatherapy On Arthralgia among Menopausal Women.**

Section F: Association between the Arthralgia and demographic variables.

This Section deals with the association between the Arthralgia with selected demographic variables such as age, educational status, occupation, marital status, type of family,, number of living children, family's monthly income, duration of menopause and duration of Arthralgia .

Table 6

Association between the Arthralgia and the demographic variables.

Sl. No	Demographic variables	Experimental group		Control group	
		f	%	f	%
1.	Age in years				
	a) 45-49 years	21	35	0	0
	b) 50-54 years	17	28	6	10
	c) 55-60 years	10	16.66	6	10
	$\chi^2=6.58^*$, df =2, p<0.05				
2	Educational Status				
	a) Primary school	25	41	5	8.3
	b) High school	20	33.33	2	2.3
	c) Higher secondary school	3	5	5	8.3
	d) Collegiate	0	0	0	0
	$\chi^2=10.87^*$, df =3, p<0.05				
3.	Occupation				
	a) Unemployed	31	51	9	15
	b) Employed	17	28	3	5
	$\chi^2=0.046$, df =1, p>0.05				

Table six continued..............

Sl. No	Demographic variables	Experimental group		Control group	
		f	%	f	%
4.	Marital Status				
	a) Married	47	78	11	18
	b) Unmarried	1	1.6	1	1.6
		$\chi^2=1.15$, df =1, p>0.05			
5.	Type of Family				
	a) Single family	31	51	6	10
	b) Joint family	17	28	6	10
		$\chi^2=0.84$, df =1, p>0.05			
6.	Number of living children				
	a) 1	6	10	4	6.6
	b) 2	27	45	8	18.3
	c) >2	15	25	0	0
		$\chi^2=3.17$, df =2, p>0.05			
7.	Family's monthly income				
	a) <5000	6	10	5	8
	b) 5000 – 10000	38	63	5	8
	c) >10000	4	6	2	3
		$\chi^2=6.98^*$, df =2, p<0.05			
8.	Duration of Menopause				
	a) 3 years	21	35	0	0
	b) > 3 years	27	45	12	20
		$\chi^2=8.07^*$, df =1, p<0.05			

Table six continued.............

Sl. No	Demographic variables	Experimental group		Control group	
		f	**%**	**f**	**%**
9	Duration of Arthralgia				
	a) 3 years	19	31	3	5
	b) >3 yrs	20	49	9	15
		$\chi^2=0.86$, df =1, p>0.05			

The above table shows that there is association between the Arthralgia and demographic variable such as age, educational status, family's monthly income and duration of menopause. There is no association between Arthralgia and other demographic variables such as occupation, marital status, type of family, number of living children, and duration of Arthralgia.

Sl. No	Demographic variables	Experimental group		Control group	

CHAPTER : V

RESULTS AND DISCUSSION

This chapter gives a brief account of the presents study including results and discussion compared with some of the relevant studies done in different settings.

The present study was under taken to assess the effectiveness of aromatherapy massage on Arthralgia among menopausal women at Gandhinagar, Pechiparai panchayat Kanyakumari district. Quasi experimental design was adopted with two group pre and post test design for the study. The level of Arthralgia was assessed by numerical rating scale for pain. The result and discussion of the study are based on the findings obtained from the statistical analysis.

Objectives of the study

1. To assess the pre test and post test level of Arthralgia among menopausal women.

2. To assess the effect of aromatherapy on Arthralgia among menopausal women.

3. To associate the Arthralgia with selected demographic variables such as age, educational status, women's occupation, marital status, type of family, number of living children, family's monthly income, duration of menopausal status and Duration of Arthralgia .

Distribution of selected characteristics of study subject

The demographic variables of sample were age, educational status, women's occupation, marital status, type of family, number of living children, family's monthly

income, duration of menopausal status, Duration of Arthralgia and treatment taken for Arthralgia

The study findings reveal that in the experimental group 33.33% of the samples were in the age group 45-49 years 40% of the sample were in t he age group o50- 54 years 8% of the samples were in the age group 55-60 years and in the control group 36.6%of the sample were in the age group 45-49 years.36.66% of the samples were in the age group 50-54 years and 26.66% of the samples were in the age group 55-60years.

The percentage distribution based on education reveals that in the experimental group 46.66% of the samples having primary school education 43.3% of the sample having high school education and 3% of the sample higher secondary education and in the control group 66.6% of the sample having primary school education and 333.3% of the sample having high school education.

Among the total sample in the experimental group 50% of the sample were unemployed 50% of the sample were in employed and in the control group 83.3% of the sample were unemployed and 16.6% of the sample were in employed.

The percentage distribution based on marital status in the experimental group all samples were married and in the control group 93.3% women were married 6.6% women were unmarried. Based on the type of family in the experimental group 63% women belongs to single family 36.6% of women belongs to joint family and in control group 60% women under single family and 40% of women were joint family.

Among total sample in the experimental group 23.3% of women have one child, 53.3% of women have two children, 23.3% of women have more than two

children and in the control group 10% of women have one child, 63% of women have two children and 26.6% of women have more than two children.

Among total sample in the experimental group 23.3% of women have less than 5000 monthly income 66.6% of women have 5000-10000 monthly income 10% of women have more than 10000. And in the control group 13.3% of women have less than 5000 monthly income 76.6% of women have 5000-10000 monthly income and 10% of women have more than 10000 rupees monthly income.

Among total sample in the experimental group 30% of women have less than three years duration of menopause 70% of women were more than three years duration of menopause and in the control group 40% of women were less than three years duration of menopause and 60% of women were more than three years duration of menopause.

Among total sample in the experimental group 43.3% of women have history of Arthralgia less than three years , 56.6% of women have history of Arthralgia more than three years and in the control group 26.6% women have history of Arthralgia more than three years and 73.3% of women have history of Arthralgia more than three years.

The study findings of the 60 sample were discussed based on the objectives of the study.

The first objective of the study was to assess the level of Arthralgia among menopausal women . This study reveals that out of 60 menopausal women in experimental group 73.3% of menopausal women had moderate pain, 26.6% had severe pain .In control group 86.6% had moderate pain and 13.3% had severe pain.

The study finding was congruent with the study conducted by Akanksha singh and Shishar Kumar Pradhan (2014). The result showed from post menopausal complaint 59.1% of cases are joint pain.

The second objectives of the study was to assess the effectiveness of aromatherapy on Arthralgia among menopausal women, This study reveals that among the selected 60 sample in experimental group there was 73.3% of menopausal women had moderate pain 26.6% had severe pain .In control group 86.6% had moderate pain and 13.3% had severe pain.

This study reveals that after administration of aromatherapy massage there was a reduction of Arthralgia in experimental group there was 23% of women were no pain and 76% of women were mild pain and in control group 10% of women were mild pain , 80% of women were moderate and 10% of women were sever pain. A mean difference is 4.63±1.44 was highly significant (t=17.80, df=29and p>0.05). But in respect to the control group, the difference in Arthralgia from pre test to post test was .4±1.22 without aromatherapy massage.

The study finding was congruent with Shini Varghese and S.Rajeswari et al who conducted a study to investigate the effect of aromatherapy on joint pain and the result showed the difference at the level of p<0.001 was found between pre test and post test on joint. Hence it is conducted aromatherapy massage helps to reduce Arthralgia.

The third objective of the study was to find out the association between the effectiveness of aromatherapy massage with demographic variable such as age, educational status, women's occupation, marital status, type of family, number of living children, family's monthly income, duration of menopausal status, Duration of

Arthralgia and treatment taken for Arthralgia. The table 5 shows that there was a significant association between the age , education and duration of menopausal status. And there is no association found between   women's occupation, marital status, type of family, number of living children, family's monthly income,   Duration of Arthralgia and treatment taken for Arthralgia.

The study findings was congruent with the study conducted by Sheila A Dugan and Lynda H Powell et al (2006). The study findings shows that association between pain and self reported menopausal status, with post menopausal women experiencing greater pain symptoms than premenopausal women post menopausal women (p=0.03).

CHAPTER VI

SUMMARY, CONCLUSION, IMPLICATION, LIMITATION AND RECOMMENDATIONS.

This chapter gives a brief account of the presents study analong with the summary of the findings, conclusion s, limitation of the study, implications, and recommendations of the study.

Summary

As a women approaches menopause, typically between the ages of 45 and 55, her body goes through drastic hormonal fluctuations that can affect her in many ways. Hormones play a major role in a women's bone and joint health. When her hormones become imbalanced during menopause, she will often experience Arthralgia.

In this contest the present study attempt to assess the effectiveness of aromatherapy on Arthralgia among menopausal women in Gandhinagar village at Pechiparai panchayat , Kanyakumari district.

The researcher adopted a quantitative evaluative approach with quasi experimental pre test and post test control group design . The study was done at Gandhinagar village. The study samples were selected by purposive sampling technique. Both the group was pre tested by using numerical rating scale. After pre testing, the aromatherapy massage by using eucalyptus oil and coconut oil (1:3) was given experimental group. For that provided supine position to the sample and provided long sweeping strokes that alternate between firm and light pressure and performed by using the palm of the hand. The thump and the knuckles of the fingers

are used to knead the muscle of the knee area. The massage was given for 15 minutes in both knee joint for three days for one month. The post test was done for both groups by using numerical rating scale . The data was organized, tabulated, summarized , and analysed by using descriptive and inferential statistical analysis.

OBJECTIVES OF THE STUDY

1   To assess the pre test and post test level of Arthralgia among menopausal women.

2   To assess the effectiveness of aromatherapy on Arthralgia among the menopausal women.

3   To associate the Arthralgia with selected demographic variables such as age, educational status, women's occupation, marital status, type of family, number of living children, family's monthly income, duration of menopausal status and Duration of Arthralgia .

HYPOTHESIS

H1   :   There is a significant reduction in pain score in the experimental group after Aromatherapy than in control group.

H2   :   There is a significant association between the Arthralgia and selected demographic variable such as age, educational status, women's occupation, marital status, type of family, number of living children, family monthly income, duration of menopausal status and duration of Arthralgia

CONCLUSION

The conclusion drawn from the findings of they are as follows.

1. Aromatherapy on Arthralgia are found to be an effective nursing intervention in reducing pain.

2. Eucalyptus oil massage are found to have no side effects when compared with other pharmacological treatment.

3. Samples satisfaction is very much higher in this intervention.

4. The findings of the study enlighten the fact that eucalyptus oil can be used as a cost effective nursing intervention in reducing Arthralgia.

Major finding

This study reveals that after administration of aromatherapy massage there was reduction of Arthralgia in experimental group, 23% of women have no pain and 76% of women have mild pain and none of the sample have moderate and severe pain. Mean difference is 4.63%±1.44 was highly significant (t=17.80, df =29, and p <0.01).

Nursing implication

The findings of the study reveal the implication on nursing practice, nursing education, nursing research and administration.

Nursing administration

1. 1. The result of the study encourages the nurse administrator to conduct in service education   programs on various type of non pharmacological treatment in reducing Arthralgia.

2. This helps the nurse administrator to develop and provide effective non pharmacological measures for reducing Arthralgia.

3. Nurse Administrator can create awareness among nurse that eucalyptus oil massage on knee is a very good cost effective nursing intervention to reduce Arthralgia.

Nursing education

This study can motivate student nurse to explore new strategies for effective reduction of Arthralgia among menopausal women.

1. This research report can be kept in library for reference of nursing personnel and other health care professions.

2. The nurse educator can take independent decision based on principles of health care.

3. Nurse educator can train and encourage the student nurses to implement eucalyptus oil massage on Arthralgia among menopausal women.

Nursing practice

1. Eucalyptus oil massage is a safe and modality which bring a higher level of satisfaction among menopausal women.

2. This intervention could bring benefits to the menopausal women who are having Arthralgia.

3. It also brings higher level of pain reduction, thus the sample feel better and can avoid complications.

Nursing research

The nursing implication of the study lies in the scope for expanding the quality of nursing service in this area evidence based practice , publication of these studies will take nursing to a new horizon.

1. Nurse researcher can do various studies related to effectiveness of aromatherapy   on reduce Arthralgia among menopausal women.
2. A experimental study can done to determine the effectiveness of aromatherapy massage with eucalyptus oil and other oil .
3. Similar study can be conducted on a large sample so it could be generalized

Limitation

1 The sample size of post menopausal women were 60, hence generalization of findings is not possible.
2 The data collection period was only one month.

Recommendations

1 The study may be replicated with randomization in selection of a large sample.
2 Nurse researcher can do studies related to other type of alternative therapies in reduction of Arthralgia.
3 A study can be conducted by including more number of variables and at different geographic locations.

BIBLIOGRAPHY

Books

1. Basvanthappa B.T (2013). *Nursing Research*, 3rd edition. New Delhi. Jaypee Brothers Medical Publication.

2. Dutta D. C (2016). *Text Book Of Gynaecology*. 7th edition Central Agency Calcutta.

3. Krishna M .K and Devi K P,(2011) .*Obstetrics and gynaecology* . 4th edition Chennai orient Long Man Ltd.

4. Mahajan B.K. (2010*). Methods of Biostatiatics*. 7th edition. Philedelphia. Jaypee Brothers Medical Publishers 225.

5. Marilyn, J. Wood.,(2011). *Basic steps in planning Nursing Research*. 1st edition. Jones Bartlett publishers .

6. Padubiri V. N.,(2012). *Text Book of Gynaecology*. 12th edition . New Delhi: B. I Churchill Living Stone Pvt Ltd.

7. Polit D.F and Hungler B. P . (2015) .*Nursing Research Principles and Methods*. 7th edition . Philadelphia. Lippincott.

8. Prabhakara, G. N.,(2016*). Biostatistics*. 2nd edition. New delhi: B. I Churchill Living Stone Pvt Ltd

9. Suresh Sharma, K., (2011).*Nursing Research and Statistics*. 1st edition New Delhi ; Elseveir.

Journals:

1. Akansksha (2014). *Study to assess the menopausal symptoms of post menopausal women.* Journall of Mid-Life Health,vol-5,No.62-67.

2. Catherine(2013).*Menopause related Arthralgia.*The Journal Of North American Meopause Society.vol-20,No.591-593.

3. Dugan and Howard et. al.(2006).*Musculo skeletal pain and Menopausal Status,* Clinical Journal Of Pain. Vol-22, No.325-331.

4. Fatemeh. et. al. (2012). *Effect of aromatherapy massage on menopausal symptoms,*The Journal of the North American Menopause society, vol. 19, No.9, 995-999.

5. Huang and Lydick et.al. (1997). *Factors Associated With Joint Pain Among Menopausal Women.*International Journal of Obesity,No.349-354.

6. Miranda and Peggy et.al.(2006). *Complimentary and alternative therapy of menopause related symptoms,* Journal of science, No.1453-1465.

7. Myung and Yang et. al.(2008). *Aromatherapy Massage Affects Menopausal Symptoms.*Journal of traditional Chinese medicine vol-5(3),No.325-328.

8. Omoyemi O .et. al. (2016) . *Musculo skeletal pain among post menopausal women in Nigeria,* Hong Kong Physiotherapy Journal, vol. 34, 41-46.

9. Remya M et. al. (2014). *Effect of warm mustard oil for relief joint pain,* IOSR Journal of Nursing and Health Science, vol-3, No.5, 35-38.

10. Shaheen E and Deborah et. al. (2016). *Effectiveness of aromatherapy in reducing pain,*vol-2016.

11. Shini V et . al. (2014). *Effectiveness of Aromatherapy on joint pain and quality of life among the women with menopause at selected villages ,* Journal of science, vol-4, No.9, 575-582.

12. Silva andDuarte et.al.(2003). *Analgesic Effect Of eucalyptus oil.*journal of Science,vol3, No. 2773-283.

13. Sylvia and Missiriya. (2015). *Effectiveness of castor oil massage,* International Journal Of Innovative Research In Technology,vol-2, No.2349-6002.

14. Taavoni (2004).*Effect of Aromatherapy Massage on Arthralgia.* Journal of Research in Nursing And Midwifery.

15. Yip Y B(2008). *Effectiveness of massage with Aromatic oil for knee pain,*The journal of North American Menopause Society,vol.16.

Net Reference.

1. www.elsevier.com/locate/ctnm

2. www.medscape. Com/view article/835719

3. http://www.women-info.com/en/menopause

4. http://online library.wiley.com

5. http://www.jpma.org.pk

6. http://www.hindawi.com

7. http://www.scopemed.org

8. www.google. Com

9. www.pubmed.com

10. www.biomedscridirect.com

APPENDIX : A

ETHICAL CLEARANCE CERTIFICATE

SREE MOOKAMBIKA COLLEGE OF NURSING

(Approved by the Goverment of Tamil Nadu & Recognised by Indian Nursing Council, New Delhi, Tamil Nadu state Nurses & Midwives Council, Chennai.) Affiliated to The Tamil Nadu Dr. M.G.R. Medical University, Chennai.

PADANILAM WELFARE TRUST, V.P.M.HOSPITAL COMPLEX, PADANILAM, KULASEKHARAM, K.K.DIST., TAMIL NADU, PIN : 629 161

Phone : 04651 - 280743, 280866, 280742, 280745

ETHICAL COMMITTEE CLEARANCE

Date :...
*Lr. No.*16-08-2016

To

Mrs. Nithya. V. M,

I YR .M.Sc (N),

Sree Mookambika College of Nursing,

Kulasekharam.

Ref: Research Topic: "A study to assess the effectiveness of aroma therapy on arthralgia among menopausal women at Gandhi Nagar, Pechipparai panchayat, Kanyakumari District".

Sub: Approval of the above reference study .

Dear Nithya. V. M,

Ethics committee of Sree Mookambika College of Nursing, Kulasekharam reviewed and discussed the study proposal documents submitted by you related to the conduct of the above referenced study in the meeting held on 16-08-2016.

The following ethical committee Members were present at the meeting held on 16-08-2016.

NAME	PROFESSION	POSITION IN THE COMMITTEE
Prof. Mrs. Santhi Letha	Nursing	Chair Person
Dr. Kani Raj Peter	Medical	Basic Medical Scientist
Dr. T.C. Suguna	Nursing	Clinician
Adv. Mohanan	Legal	Legal Expert
Prof. Mrs.Ajitha Retnam	Nursing	Member secretary
Dr.P. Selva Raj	Management	Philosopher
Mr. Natarajan	Social	Medical Social Worker
Mrs. Latha	Lay Person	Community Person

After due ethical and scientific consideration, the ethics committee has approved the above presentation submitted by you.

Regards,

PRINCIPAL
Sree Mookambika College of Nursing
Kulasekharam 629 161

Mrs. Santhi Letha PhD (N)

Ethics Committee Chairperson,

Sree Mookambika College of Nursing,

V.P.M. Complex, Padanilam, Kulasekharam.

Date : 16-08-2016

Place :Kulasekharam

APPENDIX : B

Letter seeking Expert Opinion for Tool Validity

SREE MOOKAMBIKA COLLEGE OF NURSING

(Approved by the Goverment of Tamil Nadu & Recognised by Indian Nursing Council, New Delhi, Tamil Nadu state Nurses & Midwives Council, Chennai.)
Affiliated to The Tamil Nadu Dr. M.G.R. Medical University, Chennai.

PADANILAM WELFARE TRUST, V.P.M.HOSPITAL COMPLEX, PADANILAM, KULASEKHARAM, K.K.DIST., TAMIL NADU, PIN : 629 161
Phone : 04651 - 280743, 280866, 280742, 280745

Date :...................................
Lr. No.

LETTER SEEKING EXPERT OPINION FOR TOOL VALIDITY

To

Madam/Sir

Sub : M.Sc Nursing Programme dissertation – Validation of study tool request – reg:

Ms/Mrs. **Nithya.V.M.** a bonafide if II Year M.Sc Nursing student of Sree Mookambika College of Nursing is approaching you to obtain validation of study tool pertaining to her dissertation in practical fulfillment of the requirement for the degree of Master of Science in Nursing. The selected topics "A study to assess the effectiveness of aroma therapy on arthralgia among menopausal women at Gandhi Nagar, Pechipparai panchayat, Kanyakumari District". In this regard I request you to kindly extent possible technical guidance and support for successful completion of dissertation.

I enclosed here with a check list for your evaluation.

Thanking You

Yours Sincerely

PRINCIPAL
Sree Mookambika College of Nursing
Kulasekharam-629 161

APPENDIX : C

List of Experts for tool Validation

1. **Prof. Asha .K.V, M.Sc.,(N)**
   Assistant Professor.
   Government College of Nursing,
   Thiruvananthapuram.

2. **Prof. Mrs.Arzta Sophia M.Sc.,(N),**
   Associate professor,
   Obstetrics and Gynacological Nursing,
   C.S.I College of Nursing,
   Neyyoor.

3. **Prof. Mrs. TarsisHenita H.J. M.Sc., (N),**
   HOD, Obstetrics and Gynaecological Nursing,
   C.S.I, College of Nursing,
   Karakonam, Trivandrum.

4. **Mrs. Archana C.K. M.Sc.,(N),**
   Assistant Professor,
   SreeGokulam Nursing College,
   Trivandrum.

5. **Prof. Mrs. Shanthi, M.Sc., (N)**
   HOD, Obstetrics and Gynaecological Nursing,
   CSI Jeyaraj Annapackiam College of Nursing,
   Madurai.

APPENDIX : D

Training Certificate of massage

Dr. M.JERIN SUBHA,B.N.Y.S;M.Sc.,(Psy)
(Reg No.0164)
Asst.Professor
Dept.of Physiology
Sree Ramakrishna Medical College of
Naturopathy and Yogic Sciences,
Kulasekharam.

Plot No.26,
Holy Cross Nagar,
Nagercoil,
9489013941
E-mail:jerinjenix@yahoo.com

Date : 04-02-2017

This to certify that **Ms. Nithya V.M., M.Sc II** nd year student of Sree Mookambika College of Nursing has undergone one month Training Programme on Massage & Acupressure. I wish her all the Success in her future

Dr. M. JERIN SUBHA B.N.Y.S.
Reg. No.: 306,
PLOT No.-26, HOLYCROSS NAGAR,
NAGERCOIL-4, K.K.(Det) T.N.

APPENDIX : E

DESCRIPTION OF THE TOOL

SECTION A

DEMOGRAPHIC VARIABLE

1. Age in years
   a. 45-49years
   b. 50-54years
   c. 55-60years

2. Educational status
   a. Primary school
   b. High school
   c. Higher secondary school
   d. collegiate

3. Occupation
   a. Unemployed
   b. Employed

4. Marital status
   a. Married
   b. Unmarried

5. Type of family
   a. Single family
   b. Joint family

6. Number of living children
   a. One
   b. two
   c. More than two

7. Family's monthly income in rupees
   a. Less than 5000
   b. 5000-10000
   c. More than 10000

8.   Duration of menopause

      a.   Less than 3 years

      b.   More than 3 years

9. Duration of Arthralgia

      a.< 3 yrs

      b.>3 yrs

SECTION B

NUMEERICAL RATING SCALE (NRS) FOR PAIN

The numerical rating scale (NRS-11) is standardised 11 point scale for assess pain.

RATING	PATIENT LEVEL
0	No pain
1-3	Mild pain
4-6	Moderate pain
7-10	Severe pain
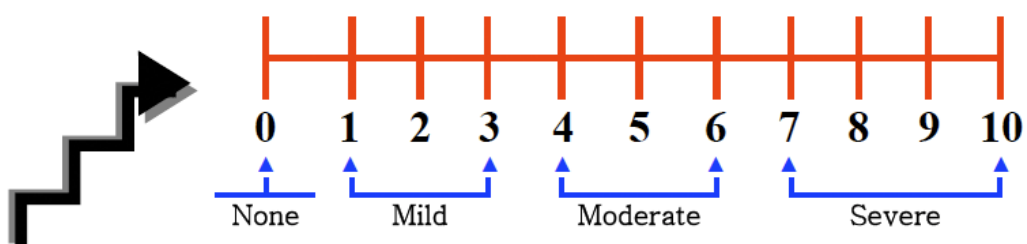
APPENDIX : F

EVALUATION TOOL CHECKLIST

Name of the expert:

Designation:

College:

Respected Madam/sir,

Kindly go through the content and place the (√) marks against the check list in the following columns ranking from relevant. Whatever there is a need for modification, kindly give your opinion in the remarks column.

DATE   SIGNATURE

SECTION A

DEMOGRAPHIC VARIABLES

Item No	Relevant	Need modification	Not relevant	Remarks

SECTION B

NUMERICAL RATING CCALE FOR PAIN

Item No	Relevant	Need modification	Not relevant	Remarks

APPENDIX - G

PRCEDURE ON AROMATHERAPY ON

ARTHRALGIA AMONGMENOPAUSAL WOMEN

Preparatory phase

1. Select the post menopausal woman
2. Set the articles in a tray.

   - Eucalyptus oil in a container.
   - Coconut oil a containers.
   - Measuring cup   -   to measure the oil.
   - Small bowl for carry the oil for massage.

Procedure

- Explain the procedure to the client.
- Take 2 ml eucalyptus oil and mix with 6 ml cocunut oil in a small bowl.
- Expose the area need to be massage.
- Take 4 ml of oil in the palm of the hand of investigator.
- Apply this oil all over the knee joint of one leg.
- First massage the left knee with long sweeping strokes that alternate between firm and light pressure by using the palm of the hand.
- The thumbs and the knuckles of the fingers are used to knead the muscle of the knee joint.
- Massage the knees about 15 minutes for three days in a week.
- Repeat the same on the next leg.