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EFFECTIVENESS OF MINT LEAVES PASTE FOR REDUCTION OF DYSMENORRHEA AMONG THE ADOLESCENT GIRLS IN GOVT HIGHER SECONDARY SCHOOL AT PARAVAI

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A dissertation submitted to

THE TAMILNADU Dr. M.G.R. MEDICAL UNIVERSITY, CHENNAI,

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JUNE 2012

CERTIFICATE

This is to certify that dissertation entitled "**EFFECTIVENESS OF MINT LEAVES PASTE FOR REDUCTION OF DYSMENORRHEA AMONG THE ADOLESCENT GIRLS IN GOVT HIGHER SECONDARY SCHOOL AT PARAVAI"** is submitted to the faculty of Nursing the Tamilnadu Dr. M.G.R. Medical University, Chennai by Mrs. R. Vasantha in partial fulfillment of requirement for the degree of Master of Science in Nursing, Branch Obstetrics & Gynaecology Nursing under our guidance and supervision during the academic period from 2010-2012.

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LIST OF ABBREVIATIONS

S.NO.	ABBREVIATIONS
1.	PMS - PRE MENSTRUAL SYNDROME
2.	SP6 - SAN YIN JIAO POINT
3.	OBG - OBSTETRIC AND GYNAECOLOGY

ABSTRACT

The present study is to identify the effectiveness of mint paste on menstrual pain perception among adolescent girls with dysmenorrhea at selected school in Paravai during the year 2011-12 in partial fulfillment of the requirement for the degree of MASTER OF SCIENCE IN NURSING at College of Nursing, Madurai Medical College, Madurai which is affiliated to THE TAMILNADU Dr.M.G.R. MEDICAL UNIVERSITY, CHENNAI.

Objectives : 1. To assess the level of dysmenorrhea before the intervention. 2. To evaluate the effectiveness of mint paste in reducing dysmenorrhea among the adolescent girls. 3. To associate the level of dysmenorrhea with selected demographic variables. **Research Approach :** Quantitative Approach. **Research Design :** One group pretest and posttest design. **Setting :** Govt. Higher secondary school at Paravai. **Sample size : 6**0 Adolescent girls were selected for the study. **Sampling Technique :** Purposive sampling **Conceptual frame work :** Modified Ernestine Widenbach's Helping Art of Clinical Nursing theory (1970) was framed. **Outcome measures :** Menstrual pain perception level was measured of using numeric pain scale. **Intervention :** 5g mint paste on 2 days prior to the menstruation and 3 days during the menstruation. **Results :** Adolescent girls who had mint paste before and after menstruation reported significant reduction on pain perception in post test. P=0.001. **Conclusion :** The result supported that administration of mint paste are very suitable and practicable therapy of non-pharmacological measure of reduction in pain perception while menstruation. The findings suggest that administration of mint paste can be an effective, less cost intervention for reducing pain and anxiety during dysmenorrhea and recommended its use for self care of dysmenorrhea.

CHAPTER - I

INTRODUCTION

Dysmenorrhoea is the most common gynaeclogic complaints it affects half of all female adolescents today. Dysmenorrhea is a common problem in women of reproductive age.

Primary Dysmenorrhea is defined as painful menses in women with normal pelvic anatomy, usually begins during adolescence. It is usually possible to differentiate Dysmenorrhea from the menstrual syndrome based on history. The pain associated with PMS is generally related to breast tenderness and abdominal bloating rather than a lower abdominal cramping pain PRIMARY MENSTRUAL SYNDROME symptoms being before the menstrual cycle and resolve after menstrual flow begins.

The first menstrual period is called menarche. It usually starts between the ages 11 and 14. But it can happen as early as age 9 or as late as 15. Menarche is the sign of growing up. In the days before the periods start, the adolescent may feel tense or emotional, gain water weight and feel bloated, pain the abdomen, back or legs that last few hours of more. **Bodak (2006)**.

The term dysmenorrhea is derived from the Greek words ‘dys’ meaning difficult/painful, Meno’ meaning month and rrhea’ meaning flow. Dysmenorrhea is defined as pain or discomfort (cramps) during or just before a menstrual period. Two types of dysmenorrhea are primary and secondary dysmenorrhea. When the menstrual cycle begins prostaglandins are released by the endometrial cells as they are shed from the uterine lining causing the uterine muscles to contract. If excessive prostaglandin is present, the normal contraction response can become strong and painful spasm. Uterine muscles deprive for oxygen and cause cramps. Dutta D.C (2006).

Dysmenorrhea is the most common gynecological problem in women in all ages. Most adolescence experience dysmenorrhea in the first 3 years after menarche. Young adult women ages 17 to 24 years are most likely to report painful menses between 50% and 80%of women report some level of discomfort associated with menses and 10 to 18% report severe dysmenorrhea. It has been estimated that up to 10% of women have severe pain which interfere with their functioning for 1-3 days a month. **Lowder milk (2004)**

Harel .Z, (2006) Dysmenorrhea is the most common gynecologic complaint among adolescent and young adult females. Dysmenorrhea in adolescents and young adults is usually primary, and is associated with normal ovulatory cycles and with no pelvic pathology. In approximately 10% of adolescents and young adults with severe dysmenorrhea symptoms, pelvic abnormalities such as endometriosis or uterine anomalies may be found. Potent prostaglandins and potent leukotrienes play an important role in generating dysmenorrhea symptoms.

Several non pharmacological approaches to alleviate dysmenorrhea exist. These include homeopathy, acupuncture, relaxation techniques and exercises. Other solutions include heat pad or hot bath which minimizes cramping by increasing vasodilatation, muscle relaxation and minimizing uterine ischemia. Massaging the lower back can reduce pain by relaxation para vertebral muscles and increasing blood supply. Soft rhythmic rubbing of the abdomen as it provides distraction and an alternative focal point in reducing pain during dysmenorrhea. Certain herbs like Black cohosh, raspberry leaf, chaste berry, morning's oleifera and similarly mint leaves.

Mint leaves have been found to relieve the menstrual discomfort by relaxing the uterine muscles. Leaves and their volatile oil are aromatic, stimulant, carminative and anti spasmodic. This is also used in case of vomiting, gastric colic, and diarrhea and also in dysmenorrhea together with tea. **Panda.H (2006)**

NEED FOR THE STUDY

In our country, the most young girls (75%) experience in painful menstruation, that is Dysmenorrhoea; it is the leading cause of recurrent short term school or college absenteeism. It affects their academic performance social and sports activities

Dysmenorrhoea is a disorder characterized by lower abdominal pain that occurs during menstruation, but the pain may start 2 or more days before menstruation. It is sometimes associated with headache, nausea, vomiting, diffuse abdominal pain, and backache, general malaise, weakness, and other gastrointestinal symptoms. Dysmenorrhea is often under treated because physicians are not fully aware of its high prevalence and morbidity. Primary dysmenorrhea is generally believed to affect 50% of menstruating women, and some degree of dysmenorrhea may be present in as many as 90%. Some women could not have much botheration about it even it interferes with their daily activities and some women are not taking any medications.

Cakir et all (2007) conducted a study to find out the prevalence of dysmenorrhea and its effect on social activities and school attendance among 480 female students between the age group of 9-17 years. The study results show the prevalence of dysmenorrhea of 89.5%. 10% of dysmenorrhea subjects had severe dysmenorrhea and school absentism and need to consult a physician were more common in those subjects.

Schroeder 8. (2000) reported in dysmenorrhea and pelvic pain in adolescents as the incidence of dysmenorrhea has been reported to be 92% of adolescents. For 1 5% of respondents reported their clearly curtailed activity during dysmenorrhea. A correlation was found between severity of dysmenorrhea, duration of menstruation, and the quantity of menstrual flow. This study also noted that a total of 50.9% of the respondents had missed time from work or school as a result of dysmenorrhea. Among all women, only 31% reported dysmenorrhea to their physicians.

Widholm and Kante (2006) observed that the frequency of dysmenorrhea among 13 to 20-years old ranged from 36% to 56%, with an overall absence rate of 23.4%. This study noted that a significant number of adolescents suffered from dysmenorrhea, and many did not seek help from health care professionals for the problem.

Rosenwaks Z. et.al. (2007) has identified uterine prostaglandins as substantially contributing to the pathogenesis of primary dysmenorrhea. It is now known that at the end of the menstrual cycle, prostaglandins increase myometrial contractions and cause constriction of small endometrial blood vessels, with consequent tissue ischemia, endometrial disintegration, bleeding and pain. Dysmenorrhea may be due to tissue ischemia resulting from increased intrauterine pressure, vessel constriction and decreased uterine blood flow. The most compelling evidence for the Prostaglandin theory' is the success of prostaglandin synthesis inhibitors in the treatment of dysmenorrhea. The pain relief can be achieved by the various treatments by suppression of the prostaglandins level and decreasing the intrauterine pressure.

Jennifer S. et.al., (2004) reported that the treatment available in the present scenario is not giving enough relief from dysmenorrhea. Estimates of the effectiveness of current treatments including oral contraceptives and non-steroidal anti-inflammatory drugs ranging from 64 to 90% of patients but some women have intolerable side effects like upset and infertility. The available treatments decrease impairment but not to the non menstruating level of productivity for all women. Some patients resort to surgical treatment. The long-term and associated health risks of dysmenorrhea have not been studied. Using of treatment with different mechanism of action for the treatment of dysmenorrhea may benefit some women to have complete relief from dysmenorrhea.

For this commonly seen problem among the adolescents, there is a lot of research done on the physiological and psychological aspects of the same. Many such solutions like

regular exercise, a application of heating pad, a warm bath and Yoga were offered by the way of research. One such physiological alleviating remedial measure with mint leaves was tried here by the way of research among a group of adolescent girls.

Panda H. (2006) reported peppermint has been shown during various researches to be a very volatile and strongly antibacterial agent. At the same time, the compound menthol is a constituent of the oil which is also antiseptic and anti fungal. It can induce cooling in the body and it also function as an anesthetic to the skin. Entire herb is known to have an antispasmodic effect on the digestive system and can be used as a remedy. In many clinical trials the value of the peppermint in the treatment of irritable bowel syndrome has been reported. One direct area of possible application for this antispasmodic property of the herbs may be seen in the popularity of peppermint herbal tea as a household remedy for painful menstrual cramps in women.

The dysmenorrhea will increase the intra uterine pressure from 100 mm Hg to 200 mm Hg at very frequent disorganized intervals. Uterine arterial pulsations disappear, suggesting ischemia in the dysmenorrheic uterus. Transdermal glyceryl trinitrate decreases uterine pain. The Decrease in intrauterine pressure can be achieved through decreasing the frequency and strength of uterine contractions and or decreasing cervical os resistance by certain interventions.

Mint leaves Paste has been found to relieve the menstrual discomfort by relaxing the uterine muscles and decreasing the intra uterine pressure. Leaves and their essence are aromatic, stimulant, carminative and antispasmodic. This is also used in case of vomiting, gastric colic, diarrhea and dysmenorrhea.

Therefore it was intended to do an experimental study to examine the effect of mint leaves paste on dysmenorrhea with an assumption that this food item may relieve dysmenorrhea.

STATEMENT OF THE PROBLEM

Effectiveness of mint leaves paste for reduction of dysmonorrhoea among the adolescent girls in Govt. higher secondary school at Paravai.

OBJECTIVES OF THE STUDY:

- To assess the level of dysmenorrhea among adolescent girls
- To evaluate the effectiveness of mint leaves paste administration among adolescent girls.
- To associate level of dysmenorrhea score before and after intervention with selected demographic variables.

HYPOTHESES

H_1 There will be a significant difference in the dysmenorrhea score before and after the mint leaves paste administration among adolescent girls.

H_2 There will be a significant difference in the mean post dysmenorrhea score among adolescent girls.

H_3 There will be a significant association between the mean post dysmenorrhea score and selected background factors among adolescent girls.

OPERATIONAL DEFINITIONS

1) Dysmenorrhea: Dysmenorrhea refers to the discomfort among adolescent girls such as spasmodic lower abdominal pain and other physiological symptoms such as nausea, vomiting, fatigue, diarrhea and headache appears few days before menstruation.

2) Mint leaves paste: Mint leaves paste was prepared from 5 grams of mint leaves powder and a pinch of salt administered twice a day, 2 days before menstruation and 3 days during menstruation.

3) Effectiveness: It refers to the outcome of the mint leaves paste upon dysmenorrhea among adolescent girls. It was measured in terms of mean dysmenorrhea score.

(4) Background factors: It refers to those issues which are thought to influence the treatment of dysmenorrhea such as age, duration of menstrual cycle, amount of menstrual bleeding, income, family members suffering from dysmenorrhea, who suffers from dysmenorrhea, diet preferences.

ASSUMPTIONS

"The study had the following assumptions

1. Participants will cooperate with the investigator during the study
2. Information provided by the adolescent girls will represent their true level of dysmenorrhea
3. The dysmenorrhoea scale was adequate to measure the dysmenorrhoea among adolescent girls.
4. Mint leaves paste administration will reduce the dysmenorrhoea score among adolescent girls.

DELIMITATIONS

The study will be delimited to

1. Samples were selected from the Higher secondary school at Madurai
2. Samples selected by purposive sampling method
3. The level of dysmenorrhoea was measured by the items in the numerical pain scale.

CHAPTER – II

REVIEW OF LITERATURE

Review of literature is defined as a broad, comprehensive, in depth, systematic and critical review of scholarly publications, unpublished scholarly print material and audio visual material and personal communications.

Major goal is to develop a strong knowledge base to carry out research and other non research scholarly activities in educational and clinical practice setting.

Review of literature of the present study is arranged in the following headings:

Part - 1

1. Studies related to prevalence of dysmenorrhea
2. Studies related to treatment for dysmenorrhea
3. Studies related to mint leaves
4. Studies related to Peppermint
5. Studies related to mint leaves and dysmenorrheal

Part – 2

Conceptual frame work

1. STUDIES RELATED TO PREVALENCE OF DYSMENORRHEA

Unsal A., et. al., (2010) conducted a cross sectional study to evaluate the prevalence of dysmenorrhea and determine its effect on health-related quality of life among 623 female university students. The severity of dysmenorrhea was determined with a 10-point visual analog scale. Chi-square test, Student's 't' test, and logistic regression and variance analyses (ANOVA) were used for statistical analyses. The average age of the study group was 20.8 +/- 1.8 years (range 17-30). Prevalence of dysmenorrhea was found to be 72.7% and was significantly higher in coffee consumers, females with menstrual bleeding duration > or =7 days, and those who had a positive family history of dysmenorrhea when compared to the others. By multivariate analysis, coffee consumption

(OR 2.084), menstrual bleeding duration > or =7 days (OR 1.590), and positive family history of dysmenorrhea (OR 3.043) were important risk factors for dysmenorrhea. Except for social functioning, role-emotional, and mental health domains, the SF-36 points received from the other domains were higher in females with dysmenorrhea (for each one $P < 0.05$). Dysmenorrhea is a common health problem, having negative effects on the health related quality of life among university female students.

Okusanya B.O., (2009) conducted a prospective questionnaire based study on prevalence of dysmenorrhea and associated factors among undergraduates in a Nigerian University. Cluster sampling technique was used and tests of statistical significance were done using Yates corrected chi square. The prevalence of dysmenorrhea was 76.3%. The mean age at menarche was 13.8 years. Dysmenorrhea occurred at menarche in 36.9% respondents. Primary dysmenorrhea was found in 40.6% respondents. Having a sister with dysmenorrhea have no significant influence on dysmenorrhea, (P=0.76). Daily activity was affected by dysmenorrhea in 35% of respondents while 68 % of those with dysmenorrhea did not seek any help. Hospital admission 6.9% mood changes 59.4% pimples 53.1%.lt was found through this study that high proportion of the students are not seeking help for dysmenorrhea.

Polat A., et. al., (2009) conducted a study to determine the prevalence of primary dysmenorrhea and attitudes and behavior towards dysmenorrhea in the female students of a university towards this problem. A total of 1266 female students were surveyed by doctors. Mean age of the surveyed students was 21.02+/- 2.13 years, mean age of menarche was 13.3 +1/- 1.4 years and frequency of menstruation was found to be 32.58 +/- 19.8 days. Of the students 45.35% were found to suffer from pain in each menstruation, 42.5% in some menstruation and 12.2% in none, 66.9% were established to

take analgesic drugs. It was that found prevalence of dysmenorrhea and its treatment is high and common.

Olabisi M.L., et. al., (2008) conducted a study to assess about 409 students for dysmenorrhea and to identify the prevalence of dysmenorrhea. The prevalence of dysmenorrhea was 53.3% and most of them experience pain during the onset of menses, and about half of them reported that dysmenorrhea interfere the daily activity. This study suggested the health care providers to screen routinely and offer treatment for dysmenorrhea.

Singh A., et al., (2008) conducted a cross sectional descriptive study among 107 female medical students to evaluate the menstrual problem and its severity. The verbal multi dimensional scoring system was used. The mean age of subjects at menarche was 12.5 (±1.52) years, with a range of 10-15 years. The prevalence of dysmenorrhea was 73.83 %; approximately 4.67% of subjects had severe dysmenorrhea. The average duration between two periods and the duration of menstrual flow were 28.34 (±7.54) days and 4.5 (±2.45) days respectively. Among female medical students who reported dysmenorrhea; 31.67 % and 8.68 % were frequently missing college & classes respectively. Dysmenorrhea is highly prevalent among female medical students, it is related to college or class absenteeism, Most of the participants do not seek medical advice and self treat themselves with prostaglandin inhibitors; like Ibuprofen.

Sharma P. (2008) conducted a study to identify the problem related to menstruation among adolescent girls and their effect on daily routine. Among 198 adolescent girls (35.9 %) are in the age group of 13-15 years. Dysmenorrhea (67.2%) was the commonest problem.

About 60 % girls daily routine was affected due to dysmenorrhea, 17.24 % had missed classes and abstain from work.

Rostami M., (2007) estimated that the correlation between the prevalence and severity of dysmenorrhea and relevant biological and social variables ($p < 0.05$) among 660 high school girls and found 14.4 % of participants had dysmenorrhea and found no improvement after the use of analgesics. There was a significant correlation between age at menarche and severity of dysmenorrhea and duration of menstrual flow. It was identified that early age of menarche was related to severity of dysmenorrhea.

Johnson J., (2005) conducted a study to measure the level of knowledge among adolescent girls regarding the effectiveness of treatment for dysmenorrhea. A total of 182 adolescent girls between 14-18 years were selected to assess the prevalence of dysmenorrhea, the morbidity associated with dysmenorrhea, and the level of knowledge regarding available treatment. Among the group 72.7% reported 'pain or discomfort" during their period, 58.9% reported decreased activity, and 45.6% reported school or work absenteeism, of the dysmenorrheic sample, only 15.5% had used medications. The prevalence of school and work absenteeism provides evidence for the continuing importance of dysmenorrhea as a public health problem of this age group. Appropriate therapeutic options for dysmenorrhea should be a part of routine health care visits for adolescent women.

Babi C., et al., (2000) conducted a study to investigate the prevalence of primary dysmenorrhea and its relationship with menstrual factors and dietary habits by survey method in educational institute, Italy, among 356 females with the age group of 10-16 years, through interview method menstrual history, dietary habits and information about pain were collected. It shows the association of dietary habits on dysmenorrhea due to dietary changes on dysmenorrhea.

Banikarim., et al, (2000) conducted a study to find the effective treatment modalities for dysmenorrhea and the result shows that among 85% of adolescents who had

dysmenorrhea treatments taken for dysmenorrhea included rest (58%) medications (52%) heating pad (26%) tea (20%) exercise (15%) and herbs (7%) 14% consulted physician and 49% saw a school nurse for help. Menstrual pain was significantly associated with school absenteeism and decreased academic performance (P<O.01)

2. STUDIES RELATED TO TREATMENT FOR DYSMENORRHEA

Nahid K., et. al., (2009) conducted a study to examine the effect of Iranian herbal drug in the treatment of primary dysmenorrhea. A randomized double-blind, placebo controlled pilot trial among 180 female students at Isfahan university dormitory aged 18-27 who suffered from primary dysmenorrhea was undertaken. The groups were randomly divided as herbal drug, mesenteric acid and placebo. The herbal drug group was given 500mg of highly purified saffron, celery seed, and anise extracts three times a day for three days, starting from the onset of bleeding or pain. There were statistically significant reductions in pain scores in the groups that took Saffron, celery seed and anise extracts ($p<0.001$) and mefenemic acid ($P<0.01$). The decrease in pain scores was reflected by a significant reduction in other drug use among the treatment groups compared with the placebo group. Both drugs effectively relieved menstrual pain compared to placebo.

Ozgoli G., et al, (2009) conducted a study to compare the effects of ginger, mefenemic acid, and ibuprofen on dysmenorrhea among 150 students from medical universities and they were divided into three groups. A verbal multi-dimensional scoring system was used for assessing the severity of dysmenorrhea. After the treatment mentioned severity of dysmenorrhea decreased in all the three groups and no difference was found between the groups (P<O.05). Ginger was as effective as mefenemic acid and ibuprofen in relieving pain in women with dysmenorrhea.

Lakshmi., (2008) conducted a study to evaluate the effectiveness of pelvic rocking exercise on dysmenorrhea among 31 school girls by simple random technique and used

visual analogue scale was used in the data collection. Inferential statistics was used to evaluate the effectiveness of pelvic rocking exercise. The findings revealed that the dysmenorrhea was reduced significantly after practicing of pelvic rocking exercise t = 8.26 ($P<0.05$).

Oya A., (2008) conducted a retrospective study to identify the clinical efficacy of Kampo medicine in the treatment of dysmenorrhea among 176 samples with dysmenorrhea. Severity of the dysmenorrhea was noted among 108 samples before and after Kampo treatment. The severity was reduced after kampo treatment ($P<0.0001$). This Japanese herbal drug was used for the treatment of dysmenorrhea.

Chang S., et al, (2007) evaluated the efficacy of acupressure as a non-Pharmacologic nursing intervention for dysmenorrhea and its effects on temperature changes in two related accupoints. A non-equivalent control group pre and post test design was employed. College women with primary dysmenorrhea from two universities were recruited, 58 eligible participants were allotted to either a SP6 acupressure group or placebo group. The experimental group received acupressure treatment within the first 8 days of menstruation. There was a significant difference in severity of dysmenorrhea between the two groups immediately after ($F=18.50$, $P = 0.000$) and for up to 2 hours ($F = 8.04$, $P = 0.032$) post treatment. It is concluded that acupressure to the meridian can be an effective non-invasive nursing intervention for alleviation of dysmenorrhea with effects lasting 2 hours post treatment.

Proctor M., et al., (2007) evaluated the behavioral intervention for dysmenorrhea among 213 women and assessed the trial quality and extracted the data. One trial of pain management training reported reduction in pain and symptoms compared to a control. Three trials of relaxation compared to control reported varied results, two trials showed no difference in symptom severity scores however one trial reported relaxation was effective

for reducing symptoms in menstrual sufferers with spasmodic symptoms. Two trials reported less restriction in daily activities following treatment with either relaxation of pain management training compared to a control. One trial also reported less time absent from school following treatment with pain management training compared to a control.

Tugay N., et al., (2007) conducted a prospective randomized controlled trial on the effectiveness of transcutaneous electrical nerve stimulation and interferential current in primary dysmenorrhea among the students in Physical Therapy and Rehabilitation centre. Thirty-four volunteer subjects with primary dysmenorrhea (mean age: 21 .35 ± 1 .70 years) were included. Statistical analyses were performed in 32 subjects who completed all measures. Fifteen subjects received interferential current application for 20 minutes, and 17 subjects received transcutaneous electrical nerve stimulation for 20 minutes when they were experiencing dysmenorrhea. Visual Analogue Scale was used to identify the intensities. Intensities of the evaluated parameters decreased beginning from just after the applications in both groups ($P < 0.05$). Intensity of referring low back pain in first three measurement times was different between the groups ($P < 0.05$), but this difference is thought to be due to the baseline values of the groups. So, it can be said that no superiority existed between the methods ($P > 0.05$). Both transcutaneous electrical nerve stimulation and interferential current appear to be effective in primary dysmenorrhea

Jia W., et at., (2006) conducted a study to evaluate the common traditional Chinese medicinal herbs for dysmenorrhea. This study explains the treatment of dysmenorrhea through the use of combination-herbal-formula therapeutics. These herbal treatments are effective for dysmenorrhea with minimal side effects. Pharmacological studies suggest Chinese herbal dysmenorrhea therapies likely decrease prostaglandin levels, modulate nitric oxide, increase plasma 3-endorphin levels, block calcium-channels and improve microcirculation. Conventional therapy for dysmenorrhea, which usually

includes non-steroidal anti inflammatory drugs (NSAIDs), provides symptomatic relief but has increasing adverse effects with long-term use. Chinese herbal medicines, including simple herbal and combination formulas, are the ideal therapeutics of choice.

Deutch B., et al., (2005) conducted a double blind placebo controlled trial on menstrual discomfort in Danish women reduced by dietary supplements of omega 3, B_{12} in which, 78 young women were given 5 capsules a day of either fish oil, fish oil with B_{12}, seal oil, placebo with Danish fat for 3 months. There was significant reduction in the dysmenorrhea and their interference with the daily activities of three groups ($P<0.05$). Highly significant reduction was observed in the fish oil with B_{12}. This study suggested the use of dietary supplements with fish or seal oil with B_{12} can reduces the menstrual discomfort.

Tseng YF., et, al., (2005) performed a randomized controlled trial to determine the effectiveness of drinking rose tea as an intervention for reducing pain and psycho physiologic distress in adolescents with primary dysmenorrhea, 130 female adolescents were randomly assigned to an experimental (n = 70) and a control (n = 60) group. Compared with the control group, the experimental group perceived less menstrual pain, distress, and anxiety and greater psycho physiologic well being. Findings suggest that drinking rose tea is safe and simple treatment for dysmenorrhea.

Ziaei S., et. al., (2004) Conducted a randomized, double-blind, placebo-controlled trial on the effect of vitamin E in the treatment of primary dysmenorrhoea in a school in Tehran. 278 girls aged between 15-17 years with dysmenorrhea were selected. Participants were given 200 units of vitamin E or placebo twice a day. A visual analogue scale (VAS) was used to record pain, and a validated Pictorial Blood Loss Assessment Chart (PBLAC) to measure menstrual loss. VAS score (3 vs 5, $P> 0.001$) and four months (0.5 vs 6, $P > 0.001$), pain duration was shorter at two months (mean 4.2 [7.1] hours vs 15

[17], P > 0.001) and at four months (1.6 [4.0] hours vs 17 [18] hours, P> 0.0001), and blood loss assessed by PBLAC score was lower at two months (54 [31] vs 70 [40] P > 0.0001) and at four months (46 [28] vs 70 [37] P > 0.0001). Vitamin E relieves the pain of primary dysmenorrhoea and reduces blood loss.

3. STUDIES RELATED TO MINT LEAVES

Dinesan C., (2010) explained in medicinal uses for mint leaves as, mint leaves has the potentiality to reduce the post operative nausea. It can be also used to relieve nausea caused by motion sickness or menstrual cramps by relaxing the smooth muscles of abdominal cavity. Mint can relieve muscle aches and pain by replicating the same desensitizing action on the nerves which detect pain. Heartburn can be relieved through its antispasmodic activity and increasing the flow of digestive fluids and used as remedy for bad breath. It has antispasmodic activity and sedative properties which can ease tension during pain and muscle aches.

Sonmez G.T., (2010) conducted a study to assess the effect of mint extract on muscle pain and blood lactate levels among 16 physical education students. The group selected for the intervention was given the mint extract of 5ml and the effect on the muscle pain and blood lactate levels was recorded. The findings show a considerable reduction in the muscle pain and blood lactate levels (P < 0.01) levels.

Brncik C., (2007) evaluated the use of peppermint to relieve irritable bowel syndrome, in Italy. Peppermint oil capsules were administered to the patients suffered from irritable bowel syndrome. Seventy five percent of patients who took peppermint oil capsules for four weeks showed a major reduction in symptoms as compared with only 38% of patients who took a placebo pill. Peppermint oil's effect of blocking calcium channels thus relaxing the smooth muscles of the intestinal walls may be the reason for the efficacy against Irritable bowel syndrome symptoms.

Shah., et. al., (2004) explained the medicinal uses and pharmacological effects of mint leaves. It was found that it is widely used in the food cosmetics and medicines. It is used in the relief of common cold, irritable bowel syndrome, dyspepsia, nausea, head ache and as a topical analgesics. This mint leaves are generally identified as safe herb to consume without side effects.

4. LITERATURE RELATED TO PEPPERMINT

In 2000 **Chromatogar** conducted the comparative study of the ability of different technique to extract menthol from menthol pepper mint. The results suggested the continuation of presence and the temperature needed to achieve the effective isolation and fractionation of the less and most volatile compounds using superficial fluids. (p=0.005)

Nair (2001) conducted study on the assessment of mentha pepperita leaves extract. The results suggested that the extract and leaves are described as biological additives, but only the extract is reported to have peppermint water which is safe and used in cosmetic formulation.

Spirling (2001) conducted a study on botanical perspectives of peppermint, thus the study shows that peppermint usually taken after a meal for its ability to reduce indigestion and colonic spasm by reducing the gastric reflex.

Wison (2001) had conducted study on the effect of herbal and dietary therapies for primary and secondary dysmenorrheal. The results revealed that there is insufficient evidence to recommend the use of any of the other herbal and dietary therapies considered in this review for the treatment of primary or secondary dysmenorrhea. (The significant value p = 0.001.)

Coll Antropol (2003) studied the anthropological and clinical characteristics adolescent women with dysmanorrhea. In this study group of dysmonrrhea adolescents there was infrequent missing activities and bed rest, but missing school was observed in

96% of the subjects. This study concludes in the future to improve the quality of life of the young adolescents.

Sigmon (1998) discussed the effectiveness of activity scheduling and relaxation training in the treatment of spasmodic dysmenorrheal. The results showed that both activity scheduling and relaxation training were effective treatment for dysmenorrheal, with both treatment producing improvements on general measures of Dysmenorrhea.

Cambell (1999) said that non-pharmacological strategies were used by adolescents for the management of menstrual discomfort 98% of these adolescent reported using at least one non-pharmocology method (e.g. heat, distraction) to manage discomfort.

5. STUDIES RELATED TO MINT LEAVES ON DYSMENORRHEA

Remya M., (2007) conducted a pre experimental study to assess the effectiveness of the mint extract upon dysmenorrhea among the students at Apollo school of Nursing, Chennai. Pre experimental designs were adopted and purposive sampling method was used and 35 students were selected as samples. Self administered questionnaire on dysmenorrhea was administered. The level of dysmenorrhea was assessed before and after mint extracts administration for consecutive days. The difference between the experimental pretest and post test is found to be statistically proven to be significant ($p < 0.001$). There was no significant association between the selected demographic variables and pretest post test level of dysmenorrhea score. The result could be attributed to the effectiveness of the mint extract.

Kavitha (2010) conducted true experimental study to assess the effectiveness of the mint paste upon dysmenorrhea among the adolescent girls in RTMLMS Higher Secondary School at Venkanji in Kanyakumari District, the research design was adopted for purposive sampling method was used 30 experimental group and 30 control group, pre test was conducted using dysmenorrhea scale. Intervention through mint leave paste was

administered to experimental group 4 days before menstruation and 3 days after menstruation in the School at 8:00 a.m. and 4:00 p.m., the post test was conducted next menstrual cycle. The difference between the experimental group and control group test is found to be satisfied. $r = 0.85$ was high (Karl – Pearson correlation), $t = 9.9$ [$P < 0.01$].

Ms. Pushpalatha.P. (2011) was conducted the pre experimental study to assess the effectiveness of mint leaves paste on dysmenorrhoea among adolescent girls at Kolar college in Karnataka state, The sample size 40 (13-17 years) adolescent girls, sample technique was purposive sampling technique, Intervention through mint leaves paste was administered twice a day 9.00am to 4.00pm, 4 days prior to the menstruation and 3 days after the menstruation. The post test was assessed 4^{th} day of menstruation =0.001 significant.

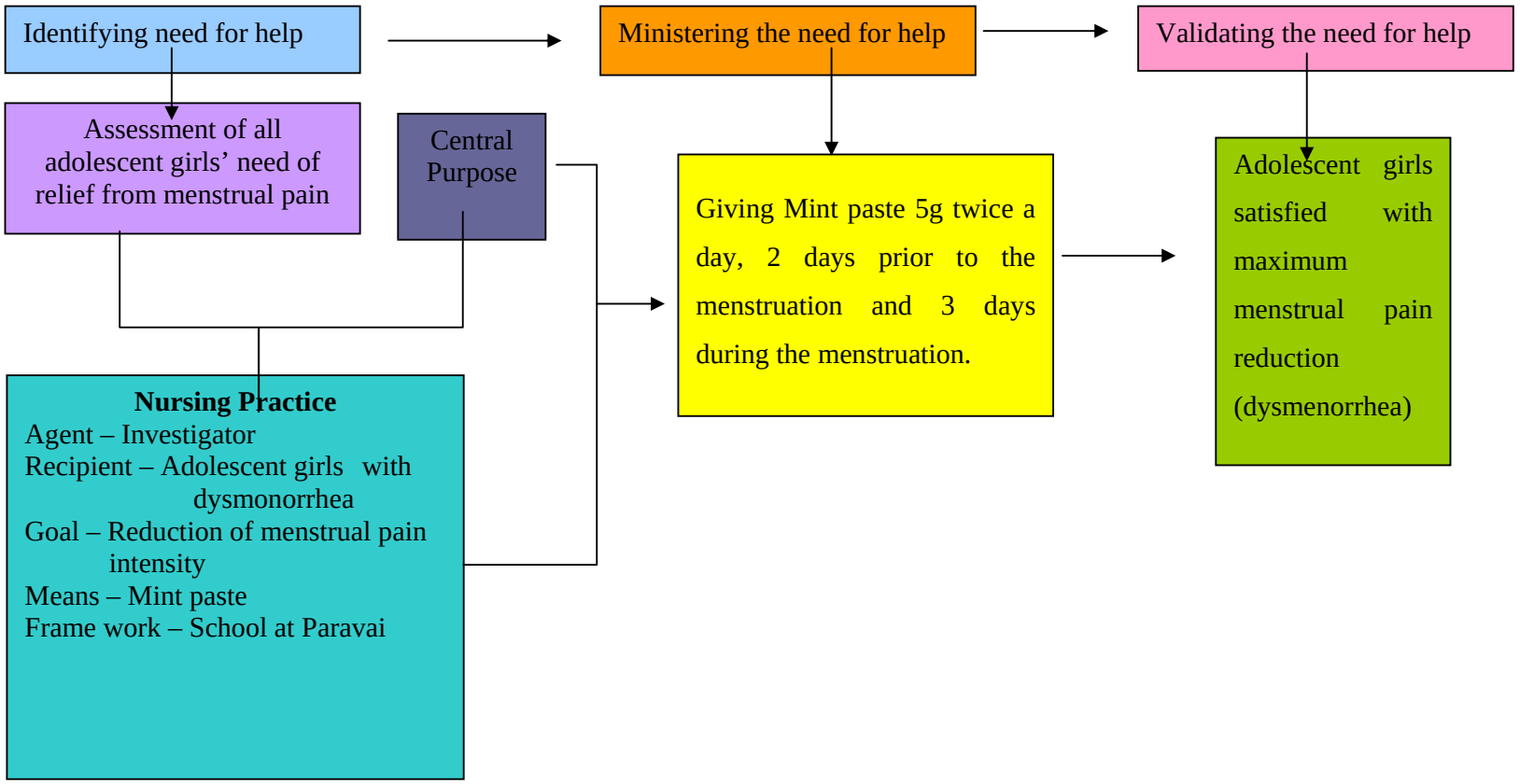


Figure – 1 Conceptual framework based on modified Ernestine widenbech's helping art of clinical nursing theory

CHAPTER - III

METHODOLOGY

Research methodology is the way to scientifically and systematically solve the research problem. Methodology is a significant part of the research under which the researcher is able to project a blue print of the research under taken.

This chapter includes research design, variables, setting, population, sample, sampling technique, sampling criteria, sample size, description of the tool, validity of the tool, reliability, pilot study, description of the intervention, data collection procedure, plan for data analysis and ethical consideration.

RESEARCH APPROACH

Quantitative approach

RESEARCH DESIGN

The term research design refers to the plan of a scientific investigation as the investigator wanted to assess the effectiveness of mint paste upon dysmenorrhea among girls.

Pre experimental, one group and pretest and posttest design

RESEARCH DESIGN IN NOTATION

O_1 x O_2- One group pretest and post test design

O_1 - Pre test to assess the level of dysmenorrhea

X - Administration of mint paste

O_2 - Post test to assess the level of dysmenorrhea

VARIABLES

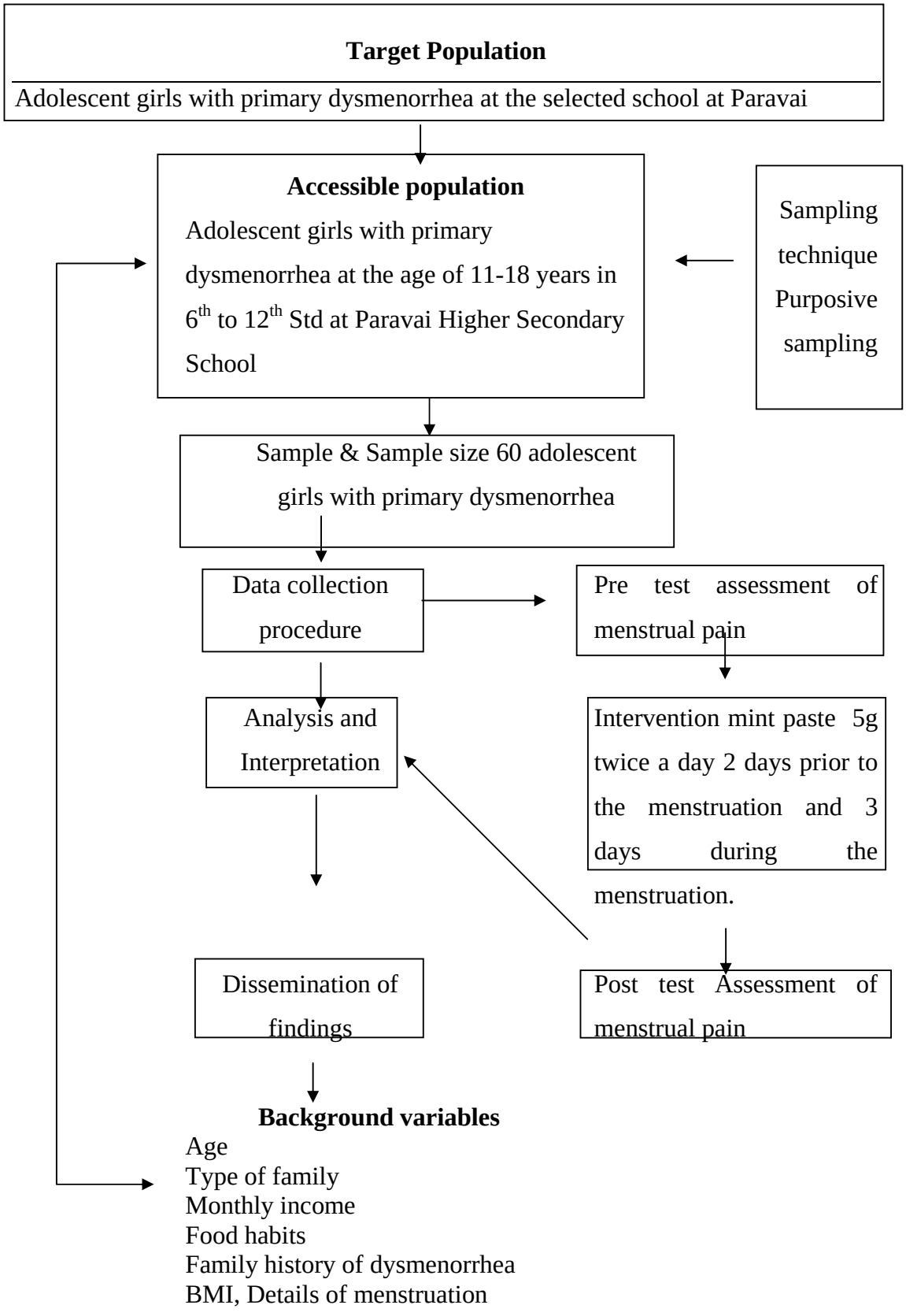
The three categories of variables discussed in the present study were

Independent Variable : Mint leaves paste

Dependent Variable : Dysmenorrhea among adolescent girls

Associate variables	:	Age, duration of menstruation, amount of menstrual bleeding, income, family members suffering from dysmenorhea, dietary habits.

FIGURE – 2 SCHEMATIC REPRESENTATION OF THE STUDY



SETTING

Research setting is the specific place where the data collection is to be made. The selection of setting was done on the basis of the feasibility of conducting the study, availability of subjects and permission from the authorities. The study was conducted in the Higher Secondary School at Paravai, Madurai District.

POPULATION

Population is the entire set of individuals or subjects having common characteristics, sometimes referred to as universe. Population may be of two types, target population and accessible population. In this study two populations were described.

Target Population: It refers to the population that the researcher wishes to make a generalization. In this research the target population was the adolescent girls with dysmenorrhea.

Accessible Population: It refers to the aggregate of cases which conform to the designed criteria and which is accessible to the researcher as the pool of subjects or objects. In this study the accessible population was the adolescent girls with dysmenorrhea who were studying in Higher Secondary School at Paravai, Madurai District and were available during the period of data collection.

SAMPLE

A sample is the subset of the population selected to participate in the research study. The samples of this research were the adolescent girls with dysmenorrhea who were studying Higher Secondary School, at Paravai, Madurai District.

SAMPLE SIZE

60 Adolescent girls

SAMPLING TECHNIQUE

Sampling is the important step in the research process. It is the process of selecting representatives units of subset of a population. **Purposive sampling** technique was used in this study.

SAMPLING CRITERIA

In sampling criteria the researcher specifies the characters are the population under the study by detailing the inclusion and exclusion criteria. The inclusion criteria are characterizes that each sample elements must posses to be included in the sample. Exclusion criteria are characteristics that could confound and contaminate the result of the study therefore such participants are excluded from the study.

a) Inclusion Criteria

- Adolescent girls with the age group of 11-18 years
- Who had regular menstrual cycle 28-30 days
- With the history of dysmenorrhea
- Adolescent girls who were willing to participate in the study
- Able to read and understand English and Tamil.

b) Exclusion Criteria

- Who were under medical treatment for dysmenorrhea
- Who were sick to participate (Chronic illness)
- Malnourished, under weight.
- Irregular menstrual cycle

SAMPLE SIZE

There were 200 girls in the specified age group. However, only 60 were eligible according to the sample selection criteria. The sample size for the present study was decided to be 60 adolescent girls were selected.

The sample size was determined based on the type of study, variables being studied, the statistical significance required and the availability of sample and the feasibility of conducting study.

DESCRIPTION OF THE TOOL

Tool is a written device that a researcher uses to collect the data. The investigator used a self administered questionnaire, to assess the level of dysmenorrhea among adolescent girls. The investigator modified the tool after the extensive review of literature and consultation with experts.

The tool consists of 3 parts.

Part I : It consists of items of demographic data such as age, educational status, occupation, monthly income, religion, family history of dysmenorrhea.

Part II : It consists of structured questionnaire of 5 items. Viz amount of blood flow, Duration of bleeding, PMS, Incidence, BMI,

Part III : Assessment of dysmenorrhea. It include simple numeric pain scale.

VALIDITY OF THE TOOL

In the present study, 6 experts including 1 clinical obstetrician, 3 nursing experts, 1 medical officer and 1 Siddha Medical officer in Samayanallur PHC, validated the entire section of the tool. The experts were requested to check the relevance of the items in the tool namely screening form, background variables, and pain scale. The items in the tool were modified based on the expert's opinion. The language validity was established for the tool.

RELIABILITY OF THE TOOL

The stability of a tool refers to the tool reliability to produce the same result with repeated testing. The subjects were selected by screening form. The post test was

conducted next menstrual cycle to the same adolescent girls. The obtained scores were correlated. Reliability was computed using Karl-Pearson's correlation coefficient and the reliability simple numeric pain scale. The tool was found reliable for the study. Reliability value 0.80.

PILOT STUDY

The pilot study was conducted in selected schools at Paravai, Madurai district, with the permission of the authorities. The subjects were chosen based on the screening form regarding dysmenorrhea. 5 adolescent girls were selected. Pretest was conducted using simple numeric pain scale among the adolescent girls. Mint leaves paste was administered to the one group for 5 days before menstruation and 3 days after menstruation and post test was conducted.

DATA COLLECTION PROCEDURE

Phase - I

The present study was conducted in Higher Secondary School, Paravai, Madurai District. The data were collected for four weeks in the month of July 1st to 31st. Prior permission from the authorities was sought and obtained. The study samples were selected by Purposive sampling technique based on sample selection criteria.

Phase - II

The adolescent girls from the selected school were given screening regarding the dysmenorrhea. Based on the selection criteria 60 adolescent girls were selected. The purpose and procedure was explained. Confidentiality of informant was promised. Individual's informed consent was taken from the study sample. Pretest was conducted using simple numeric pain scale among selected adolescent girls.

Phase - III

The intervention through mint leaves paste was administered to 60 girls for 2 days before menstruation and 3 days during menstruation in the school at 8:00 am and 5:00 pm. The pain was assessed on 1^{st} , 2^{nd} and 3^{rd} day The post test data were collected using simple numeric pain scale.

PLAN FOR DATA ANALYSIS

Data analysis is the systematically organizing, synthesizing the data and the testing of the research hypothesis. The data obtained were compiled and analyzed by using descriptive and inferential statistical analysis.

The data were analyzed as follows,

1. Background factors were analyzed by using frequency and percentage distribution
2. The dysmenorrhea among the adolescent girls before and after administration of mint leaves paste was analyzed by using Paired T- test.
3. The association between the mean difference dysmenorrhea score and background factors were analyzed by using linear regression.

ETHICAL CONSIDERATION AND PROTECTION OF HUMAN SUBJECTS

The research and ethical committee of the institution approved the study objectives, intervention and data collection procedures. Informed consent was obtained from the adolescent girls orally. The adolescent girls had the freedom to leave the study at all her will without assigning any reason. Due permission from Headmaster of the Paravai Higher Secondary School were obtained. Explanation regarding the intervention was given to the adolescent girls involved in the study. Thus the ethical issues were ensured in the study.

CHAPTER – IV

DATA ANALYSIS AND INTERPRETATION

The collected data regarding effectiveness of mint paste on menstrual pain perception among adolescent girls during menstruation were organized, analysed and interpreted as follows.

Section – A

Distribution of subject according to demographic variables.

Section – B

Discription of the subjects according details of menstruation.

Section – C

Discription of subject according to pretest and post test pain perception.

Section – D

Comparison of mean pretest and posttest menstrual pain perception.

Section – E

Association between pretest and posttest level of pain perception and demographic variables.

Section – F

Association between pretest and posttest level of pain perception and details of menstruation.

SECTION – A

Table – 1 : Distribution of subject according to Demographic variable

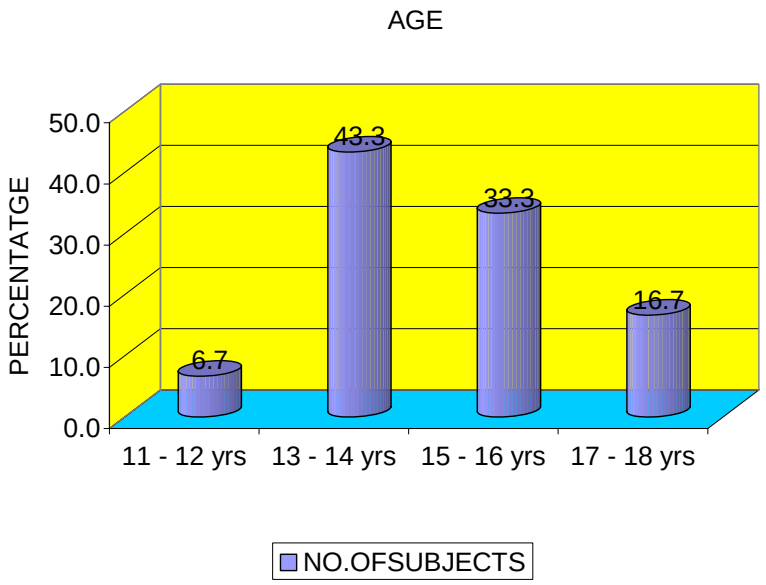
Demographic variables		No. of adolescent girls	%
Age	11 - 12 yrs	4	6.66
	13 - 14 yrs	26	43.33
	15 - 16 yrs	20	33.33
	17 - 18 yrs	10	16.66
Educational status	6th std	4	6.66
	7th & 8th std	26	43.33
	9th & 10th std	20	33.33
	11th & 12th std	10	16.66
Religion	Hindu	38	63.33
	Muslim	16	26.66
	Christian	6	10.00
Dietary habits	Vegetarian	10	16.66
	Non-vegetarian	38	63.33
	Fast food habits	8	13.33
	Ova- vegetarian	4	6.66
Socio economics status	Upper middle	12	20
	Middle	34	56.66
	Lower	14	23.33
Family H/O Painful menses	Mother	10	16.66
	Sister	30	50.0
	None of the above	20	33.33
Average cycles of menstruation	26	0	0
	28	42	70
	30	18	30

This table describes the distribution of subject to the age, educational status, religion, parents literacy status, socio economic status, parents occupation.

It is seen that among 60 subject, regarding the 11-12 yrs were 6.66%, 13-14 yrs were 43.33%, 15-16yrs were 33.33% and 17-18 yrs were 16.66% were old.

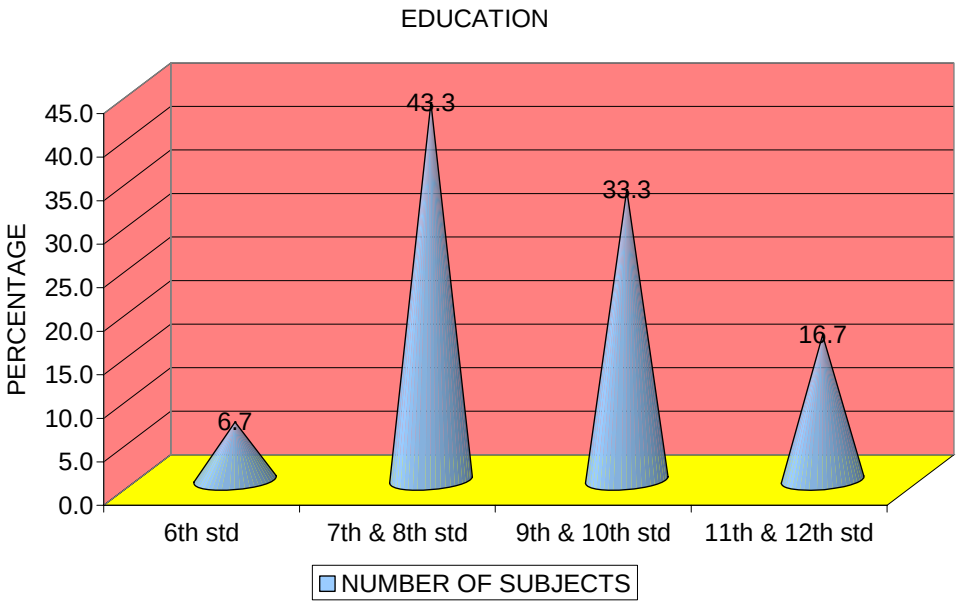
In respect of the religions are Hindu were 63.3%, Muslim were 26.6% and Christian were 10.0%.

FIGURE - 3



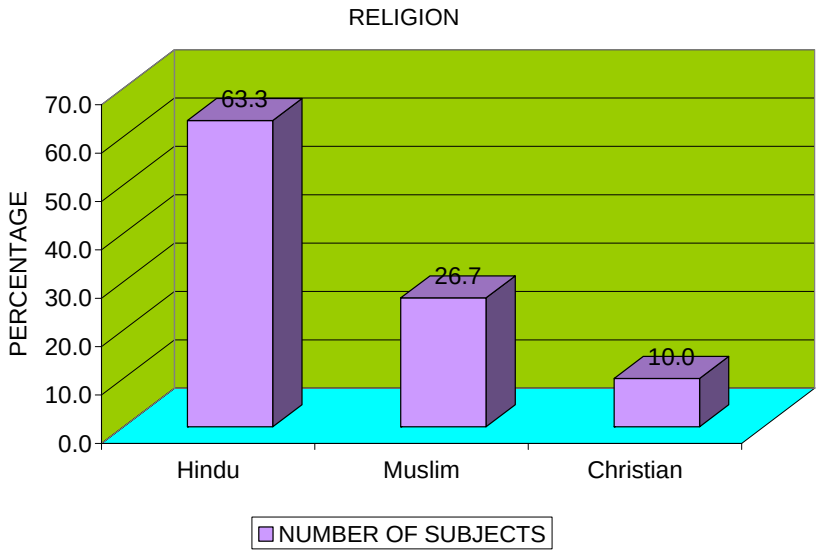
The above figure shows distribution of age

FIGURE - 4



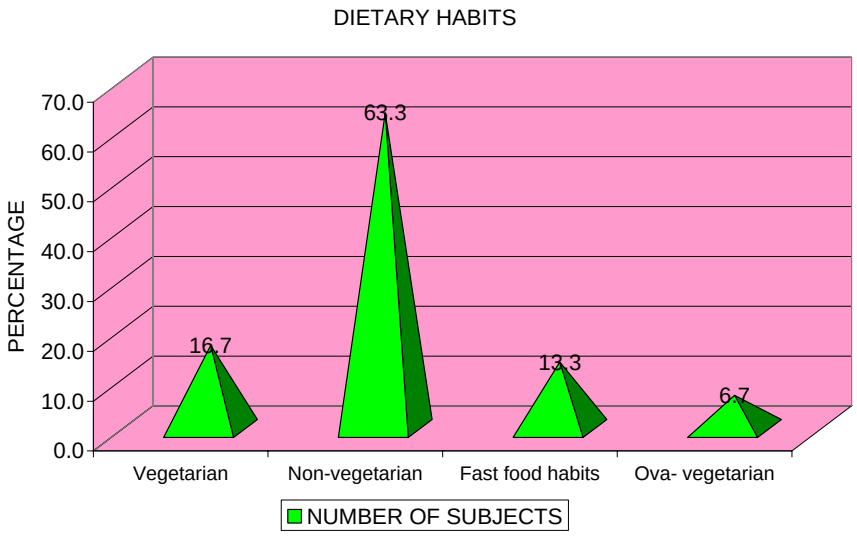
The above figure shows distribution of educational status

FIGURE - 5



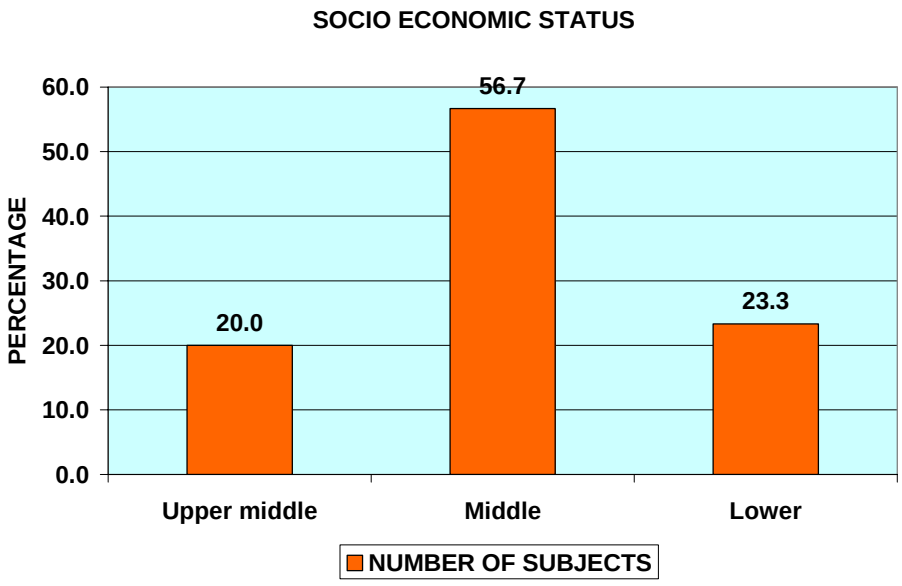
The above figure shows majority of students 63.3% Hindu, 26.7% Muslim, and 10% Christian.

FIGURE - 6



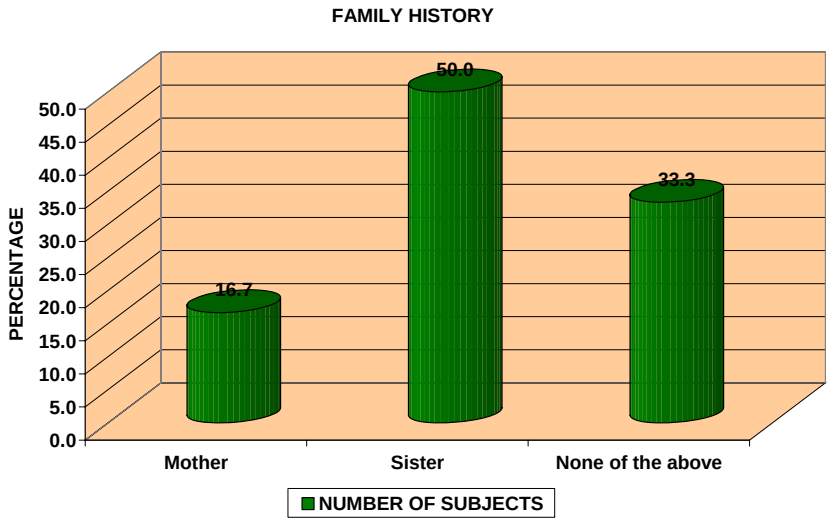
The above figure shows dietary habits of the students non vegetarian 63.33% and vegetarian 16.66%

FIGURE - 7



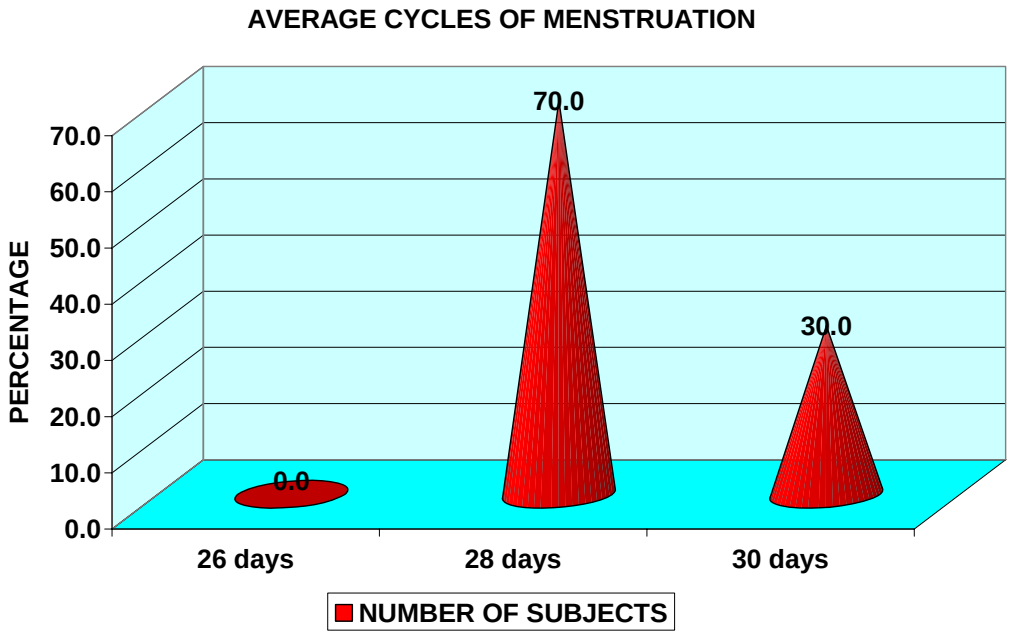
This bar diagram shows socio economic status

FIGURE - 8



The above figure shows % distribution of family history of painful menses.

FIGURE - 9



The above figure shows the majority of students 70.0% in 28 days and remaining 30% in 30 days.

Section B :

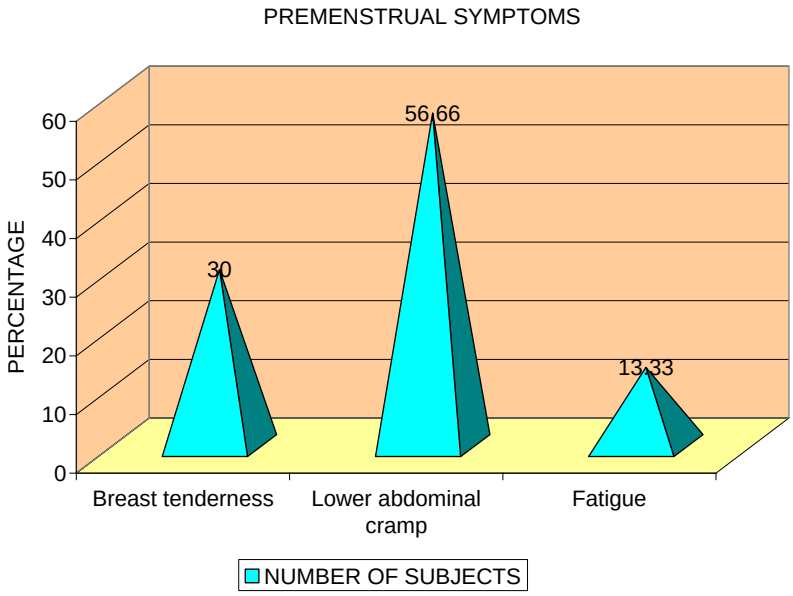
Distribution of the subjects according to details of menstruation

Table – 2

Details of menstruation		Pretest	
		n	%
Blood flow per cycle	< 20 ml (<2 pads per day)	0	0.0%
	<30 ml (4 pads per day)	18	30
	30 - 60 ml (5-6 Pads per day)	42	70
Duration of bleeding	2 days	0	0.0%
	3 - 5 days	56	93.33
	6 - 8 days	4	6.66
Pre menstrual symptoms	Breast tenderness	18	30
	Lower abdominal cramp	34	56.66
	Fatigue	8	13.33
	All of the above	0	0
Incidence of circumstance	School absenteeism	26	43.33
	Escapism	34	56.66
	None of the above	0	0.0%
BMI	Under weight (< 18.5)	2	3.33
	Average (18.5 - 24.9)	42	70
	Over weight (> 25.00)	16	26.66
	Obesity(40)	0	0

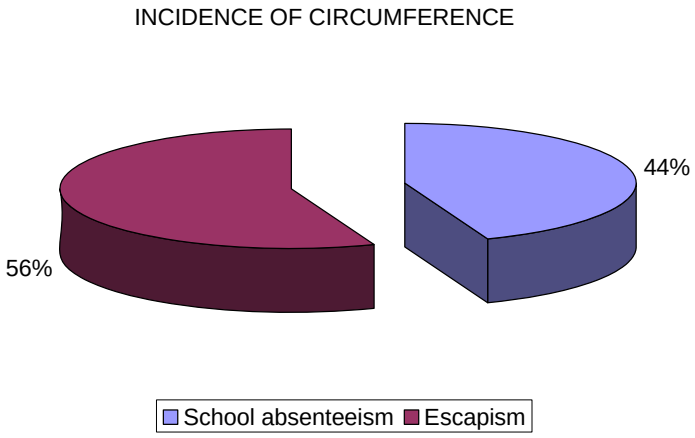
The above table shows PMS – Breast tenderness 30%, lower abdominal cramp 56.66%, fatigue 13.3%. Mainly, Incidence of school absentism 43.3% and escaptism 56.6%. The BMI average is 70%

FIGURE - 10



The figure shows 56.66% were lower abodinal cramp and 30% were breast tenderness.

FIGURE - 11



The pie diagram shows the school absentism were 56% and escaptism were 44%

Table – 3

Description of subjects according to Pretest Menstrual pain perception

S.No.	Level of pain perception	Pre test score N=60	%
1	No pain	0	0
2	Mild	0	0
3	Moderate	1	1.66
4	Severe	19	31.66
5	Unbearable	40	66.66

.

The table shows pretest pain perception score unbearable 66.66%, severe is 31.66% and moderate pain score is 1.66%.

FIGURE - 12

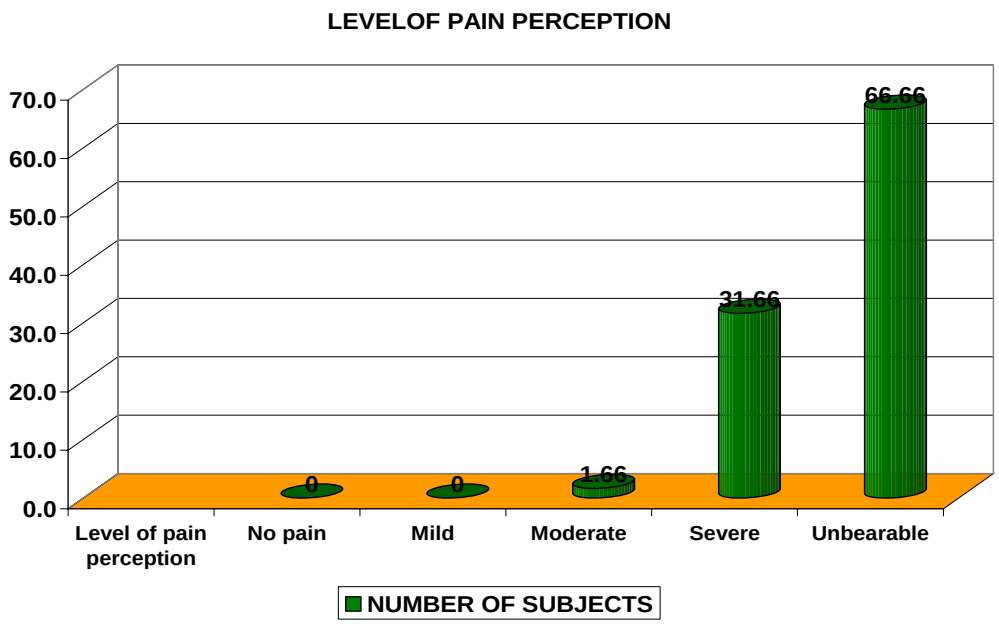


Table – 4

Description of subjects according to Posttest Menstrual pain perception

S.No.	Level of pain perception	Post test score					
		1st day	%	2nd day	%	3rd day	%
1	No pain	2	3.33	2	3.33	30	50
2	Mild	22	36.66	46	76.66	28	46.66
3	Moderate	34	56.66	12	20	2	3.33
4	Severe	2	3.33	0	0	0	0
5	Unbearable	0	0	0	0	0	0

The table shows posttest pain perception score were unbearable and severe were 0% moderate is 3.33%, mild is 46.66% and nopain is 50%.

Table - 5

Comparison of Mean Pre and post test menstrual pain perception 1st day

S.No.	Group	Mean pain perception	SD	Paired 't' test	P value
1	Pretest	9.33	0.951	21.227	<0.001
2.	Posttest	3.833	1.768		Significant

The above table shows comparison of mean of pre and posttest menstrual pain perception is come down from 9.33 to 3.833 on 1st day that is statistically significant.

FIGURE - 13

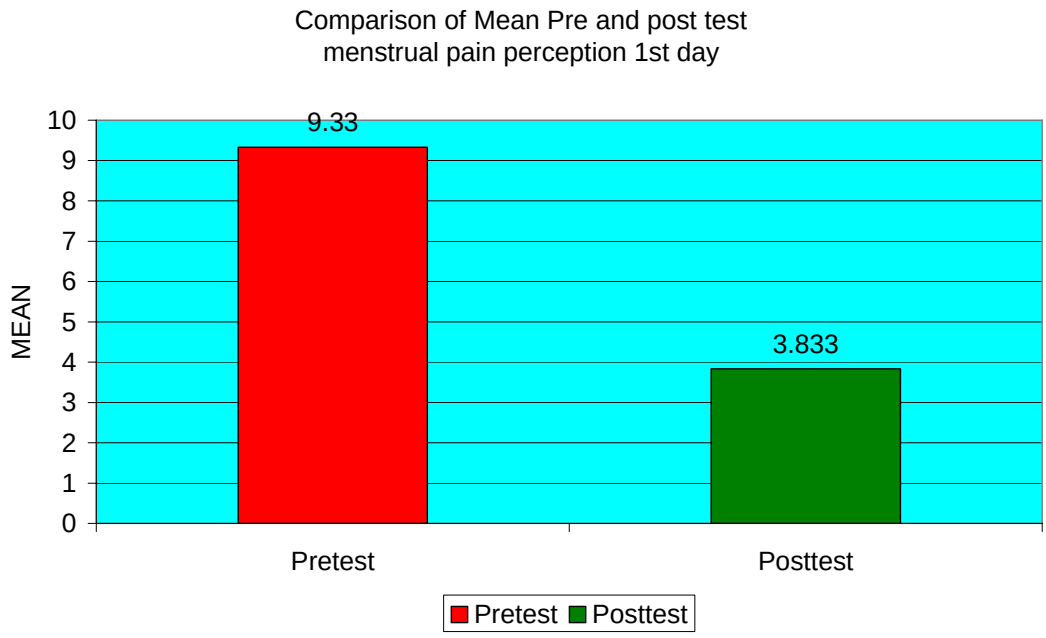


Table - 6

Comparison of Mean Pre and post test menstrual pain perception 2nd day

S.No.	Group	Mean pain perception	SD	Paired 't' test	P value
1	Pretest	9.33	0.951	32.787	<0.001
2.	Posttest	2.533	1.295		Significant

The above table shows comparison of mean of pre and posttest menstrual pain perception is come down from 9.33 to 2.533 on 2nd day that is statistically significant.

FIGURE - 14

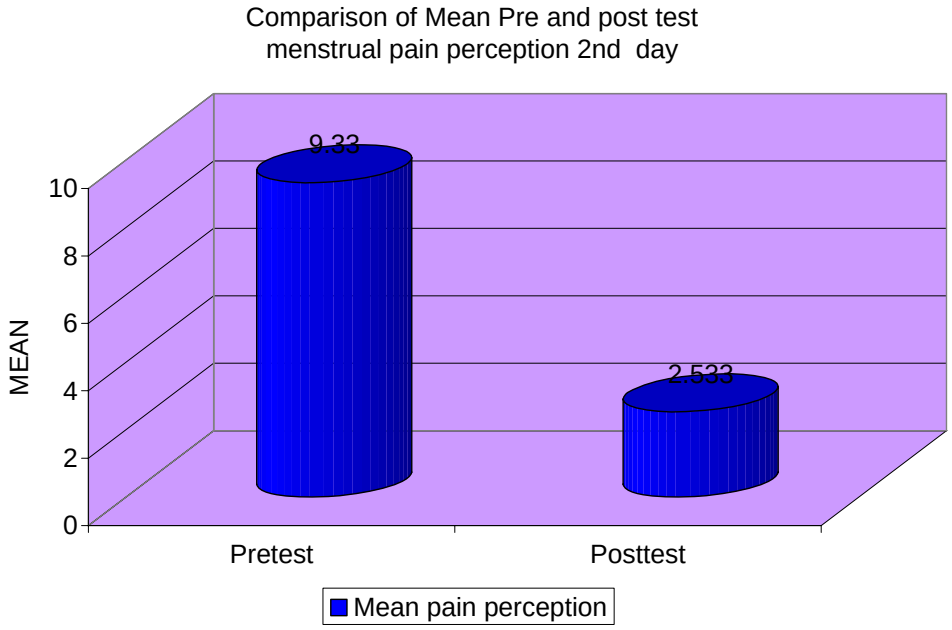


Table - 7

Comparison of Mean Pre and post test menstrual pain perception 3rd day

S.No.	Group	Mean pain perception	SD	Paired 't' test	P value
1	Pretest	9.33	0.951	41.003	<0.001
2.	Posttest	1.100	1.231		Significant

The above table shows comparison of mean of pre and posttest menstrual pain perception is come down from 9.33 to 1.100 on 3rd day that is statistically significant.

FIGURE - 15

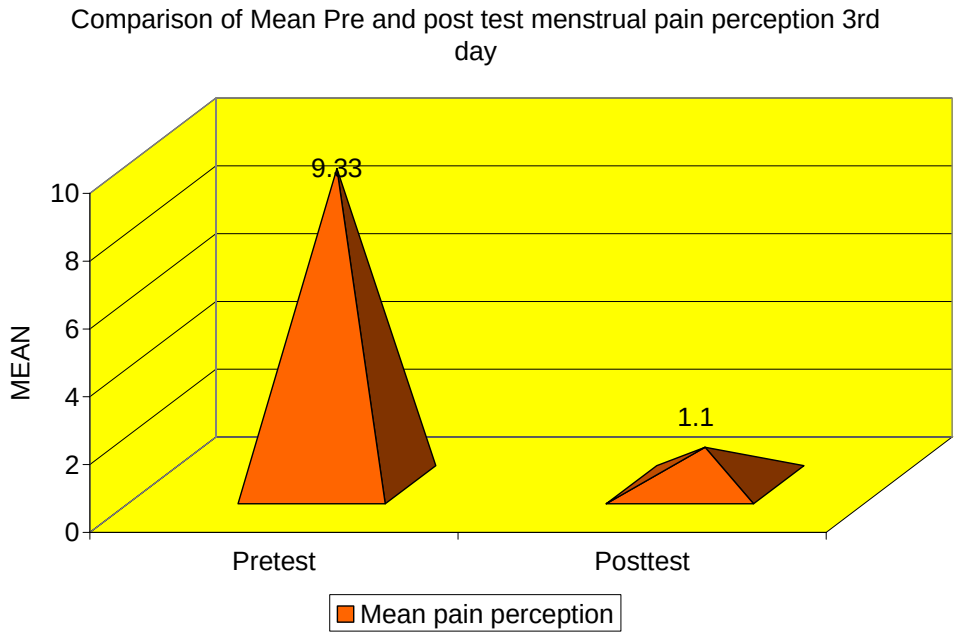


Table - 8

Association between the pretest pain perception and Demographic variables

Demographic variables		Pain perception score		Chi square
		-	+	
Age	11 - 12 yrs	4	0	X^2 = 1.330 p=0.722 Df =3 Not significant
	13 - 14 yrs	25	1	
	15 - 16 yrs	20	0	
	17 - 18 yrs	10	0	
Educational status	6th std	4	0	X^2 = 1.330 p=0.722 Df =3 Not significant
	7th & 8th std	25	1	
	9th & 10th std	20	0	
	11th & 12th std	10	0	
Religion	Hindu	37	1	X^2 = 0.589 p=0.745 Df =2 Not significant
	Muslim	16	0	
	Christian	6	0	
Dietary habits	Vegetarian	10	0	X^2 = 0.589 p=0.899 Df =3 Not significant
	Non-vegetarian	37	1	
	Fast food habits	8	0	
	Ova- vegetarian	4	0	
Socio economics status	Upper middle	12	0	X2 = 0.778 p=0.678 Df =2 Not significant
	Middle	33	1	
	Lower	14	0	
Family H/O Painful menses	Mother	10	0	X2 = 1.017 p=0.601 Df =2 Not significant
	Sister	29	1	
	None of the above	20	0	
Average cycle of menstruation	28	41	1	X2 = 0.194 p=0.660 Df =1 Not significant
	30	18	0	

The above table shows association between pretest pain perception and demographic variables, the chisquare and ‘p’ value is not significant.

Table - 9
Association between the posttest pain perception and Demographic variables

Demographic variables		Pain perception score		Chi square
		-	+	
Age	11 - 12 yrs	0	4	X^2 = 2.706 p=0.439 Df =3 Not significant
	13 - 14 yrs	2	24	
	15 - 16 yrs	0	20	
	17 - 18 yrs	0	10	
Educational status	6th std	0	4	X^2 = 2.706 p=0.439 Df =3 Not significant
	7th & 8th std	2	24	
	9th & 10th std	0	20	
	11th & 12th std	0	10	
Religion	Hindu	2	36	X^2 = 1.198 p=0.549 Df =2 Not significant
	Muslim	0	16	
	Christian	0	6	
Dietary habits	Vegetarian	0	10	X^2 = 13.448 p=0.004 Df =3 significant
	Non-vegetarian	0	38	
	Fast food habits	2	6	
	Ova- vegetarian	0	4	
Socio economics status	Upper middle	0	0	X2 = 3.087 p=0.079 Df =2 Not significant
	Middle	0	46	
	Lower	2	12	
Family H/O Painful menses	Mother	0	10	X2 = 2.069 p=0.355 Df =2 Not significant
	Sister	2	28	
	None of the above	0	20	
Average cycle of menstruation	28	2	40	X2 = 0.0246 p=0.875 Df =1 Not significant
	30	0	18	

The table shows association between post test pain perception and demographic variables the result in chisquare ‘p’ value is not significant.

Table - 10

Association between the post test pain perception with the details of menstruation

Symptoms		Pain Perception Score		Chi square / p value
		-	+	
Blood flow per cycle	< 20 ml (<2 pads per day)	0	0	X2 = 0.0246 p=0.875 Df =2 Not significant
	<30 ml (4 pads per day)	0	18	
	30 - 60 ml (5-6 Pads per day)	2	40	
Duration of bleeding	2 days	0	0	X2 = 1.118 p=0.290 Df =2 Not significant
	3 - 5 days	2	54	
	6 - 8 days	0	4	
Pre menstrual symptoms	Breast tenderness	0	18	X2 = 1.582 p=0.453 Df =2 Not significant
	Lower abdominal cramp	2	32	
	Fatigue	0	8	
Incidence of circumstance	School absenteeism	2		X2 = 0.845 p=0.358 Df =1 Not significant
	Escapism	0		
BMI	Under weight (< 18.5)	0	2	X2 = 0.889 p=0.642 Df =2 Not significant
	Average (18.5 - 24.9)	2	40	
	Over weight (25-29.9)	0	16	

The above table shows association between the post test pain perception with the details of menstruation, premenstrual symptoms and incidence of school absentism and escaptism is not significant.

CHAPTER-V
DISCUSSION

(Freemon & Lawlis 2003). In world, Primary dysmonorrhoea may affect upto 75% of girls and 5.6% may have in capacitating pain, the extent of pain in capacitating from her daily activity the pain is usually experienced in lower abdomen but may extend to back and thighs. In United States, it was found that 91% of surveyed higher secondary school adolescents girls had dysmenorrheal. Among responds, symptoms affected academic work in 55% of and sometimes resulted in missed classes (26%) it express the burden of disease in the country.

This study to designed to reduce the menstrual pain perception of adolescent girls during menstruation by giving mint paste. The major findings of the study are discussed according to the objectives stated which are as follows.

Literature review was done and presented in the following headings, 1) Studies related prevalence of dysmenorrhea, 2) Studies related to treatment for dysmenorrhea, 3) Studies related to mint leaves, 4) Studies related to mint leaves on dysmenorrhea.

The conceptual framework adopted for the present study was based on the modified **Widen Bach's** model. This model helped the investigator to assess the dysmenorrhea among the adolescent girls before and after the administration of mint leaves paste.

The research approach adopted for the study was evaluative in nature. The research design was one group pre and post test design. Independent variable in the study was mint leaves paste. Dependent variable was dysmenorrhea among adolescent girls. Associate variables for this study were Age, usual duration of menstrual cycle, amount of menstrual bleeding, family income per year, family members suffering from dysmenorrhea, who suffers from dysmenorrhea, diet preferences.

The tool developed and used for data collection was using simple numeric pain scale. The content validity of the tool was established by 4 experts. The tool was found reliable and feasible. The reliability of the tool was established by Test- retest method and Karl Pearson correlation co-efficient was found to be high.

The pilot study was done at Paravai Higher Secondary School, among 6 adolescent girls who fulfilled the sample selection criteria and who were other than the study samples. The tool was administered and checked for its feasibility and appropriateness.

The main study was conducted in Higher secondary School at Paravai. The data were collected for a period of 4 weeks in the month of September 1st to September 30th. Prior permission from the authorities was sought and obtained. The study samples were selected by purposive sampling technique based on sample selection criteria.

A total of 60 adolescent girls participated in this study. The objective and purpose of the study were explained and confidentility was maintained. Pre and post test score was assessed in adolescent girls. Data were collected by using simple numeric pain scale on dysmenorrhea. Pain perception score was obtained before and after the administration of mint leaves paste twice daily for 2 days before menstruation and 3 days during menstruation. The gathered data were analyzed by Mr. Venkatesan, Statistician by using inferential and descriptive statistics.

CHARATERISTICS OF STUDY SAMPLE

In this study majority of the adolescent girls were between the age group 11-12 years (6.66%) 13-14 years (43.33%) and dietary habits were non vegetarian 38 (63.33%) vegetarian 10 (16.66%) pre menstrual symptoms were pre test tenderness, lower abdominal cromp, fatigue, 13.33% and only lower abdominal cramp 56.66%.

The results of the study were discussed based on the findings of the study.

Objective - 1:

Finding on pain score on 1st day among the adolescent girls before and after mint leaves paste administration.

- There was a significant difference in the mean pain score on 1st day before and after mint leaves paste administration.

t = 21.227,

P value is < 0.001

The above finding was supported by Remya. M (2007) reported a significant reduction in dysmenorrhea after the administration of mint leaves extract among 35 students in Apollo School of Nursing, Chennai. (P<0.001)

Objective - 2:

Findings on post mean difference in pain score on 2nd day and 3rd day among adolescent girls.

- There was a significant reduction in the post pain score on 2nd and 3rd day mint leaves paste administration in adolescent girls;

Mean value on 2nd day = 2.533, 3rd day 1.100
'p' value < 0.001

The above finding was supported by Nahid K, et al (2009) reported the reduction in primary dysmenorrhea among 180 female students at Isfahan university dormitory aged 18-17 who suffered from dysmenorrhea. The administration of herbal drug, which involves purified saffron, celery seed, and anise extract, obtained a statistically significant reduction in pain scores (P<0.001).

Objective -3:

Findings on the association between Post test level of pain perception and their demographic variables.

There was no significant association between mean differences in pain score and selected background variables among adolescent girls in a group such as age of student

(P>0.04), Dietary habits P=0.04, educational status P=0.04, Parents literacy status P<0.03, Family H/o. painful menses (P<0.36) socio economic status p=0.004.

The above finding was supported by **Okusanya B.O** (2009) conducted a prospective questionnaire based study on prevalence of dysmenorrhea and associated factors among undergraduates in a Nigerian Univers University. Cluster sampling technique was used and tests of statistical significance were done using Yates corrected chi square. The prevalence of dysmenorrhea was 76.3%. The mean age at menarche was 13.8 years. Dysmenorrhea occurred at menarche in 36.9% respondents. Primary dysmenorrhea was found in 40.6% respondents. Having a sister with dysmenorrhea have no significant influence on dysmenorrhea, (P=0.76)

CHAPTER-VI

SUMMARY, FINDINGS, IMPLICATIONS, LIMITATIONS, RECOMMENDATIONS AND CONCLUSION

This chapter deals with the summary, findings, implications, limitations, recommendations and conclusions. The effectiveness of any research project is based on the findings, limitations, interpretation of the research results and recommendations that incorporate the study implications. It also gives meaning to the results obtained in the study.

SUMMARY

The primary aim of the study was to assess the effectiveness of mint leaves paste on dysmenorrhea among adolescent girls.

The objectives of the study were,

1. To assess the dysmenorrhea before and after administration of mint leaves paste among adolescent girls
2. To compare the mean pre test and Post test of pain score on 1^{st}, 2^{nd} , 3^{rd} of menstruation.
3. To compare the association between the mean post pain score and the selected background factors among adolescent girls
4. To compare the association between the mean Post test pain score and the details of menstruation.

The sample size was 60 adolescent girls. The data collected were statistically analyzed and represented as tables and graphs in the previous chapter.

The one group pretest and posttest was designed by the researcher to evaluate the effectiveness of mint paste on pain perception among adolescent girls during

menstruation. 60 adolescent girls were selected by non probability purposive sampling techniques.

The tool was developed and adopted after reviewing literature. The simple numeric pain scale was used.

The collected data was calculated and analyzed using both descriptive and inferential statistics based on the objectives of the study. The study tested and accepted the hypothesis that there is significant reduction in menstrual pain perception after giving mint paste.

Major Findings of the study :

1. According to the pretest score severe pain 31.66% and unbearable 66.66% in were between dreadful pain.
2. Mean score of pretest unbearable and severe pain perception was 9.33
3. Mean Score of posttest 1st day pain perception were 3.833, $p < 0.001$
4. Mean score of posttest on 2nd day was 2.533 $p < 0.001$.
5. Mean score of posttest on 3rd day was 1.100, $p< 0.001$
6. According to the posttest on 3rd day 50% have no pain, 46.66% have mild pain, 3.33% have moderate pain and severe and unbearable pain score is 0%. So that mint paste administration have significant pain reduction during menstruation by the computed value ($p<0.001$ level).
7. There was association between posttest score of menstrual pain perception with demographic variables such as age ($p=0.439$), educational status ($p=0.439$), Religion (0.549), socioeconomic status (0.079), Family history ($p=0.355$) were not significant except Dietary habits ($p=0.004$) is significant.

IMPLICATIONS

The findings of the study have the following implications

1. Village Health Nurse have an important responsibility to reduce the dysmenorrhea among the adolescent girls
2. Mint leaves paste administration can be a part of nursing intervention at home because it is less cost effective and can be taken as chutney or paste.
3. The preparation of mint leaves paste can be taught to the adolescent girls who are studying in the schools by school health nurse.
4. Parents can be educated

Implications for Nursing Education

a Nursing educator should encourage the nursing students to follow and teach about the mint leaves paste administration as a measure for reduction in dysmenorrhea.

Implications for Nursing Research

- The study will be a valuable reference material for future researcher
- The findings of the study would help to expand the scientific body of professional knowledge upon which further research can be conducted.
- Mint leaves paste administration for dysmenorrhea can be studied more scientifically and used as a specific nursing intervention

Nursing practice :

- The nurse can practice planned education programme to impart knowledge and skills in management of menstrual pain.
- The demonstrate safe and healthy practices for managing menstruation among adolescent girls.

- She can conduct school education programme on the management of menstrual pain in other schools.
- Understand the importance of mint are an effective method to control menstrual pain.
- Expanded role of nurse such as nurse may be on evolving trend in the future, where the community health nurse can effectively and safely demonstrate preparation of mint paste in reduction of menstrual pain perception which defines specific role of nursing practice.

Nursing Education :

- The study helps the nurses to gain the knowledge in preparation of assessment tools for assessing menstrual problems of adolescent girls.
- The nurse educator encourages the student nurses to conduct health education programme among adolescent girls.
- The nurse educator can encourage student nurses to conduct mini project among adolescent girls on menstrual problems.
- Nurse educator can conduct workshop, seminars and conferences n menstrual hygiene and non-pharmacological treatment as an evolving intervention.
- The knowledge and learning experience of students on importance of ‘mint’ will help in adopting these non-pharmacological measures in reducing pain in different disease conditions.

Nursing Administration

- Nurse administrator can plan and organize the in service education programme for community health personnel to update their knowledge.
- Local mass media can be used to popularize mint as non pharmacological intervention for dysmenorrheal.
- The nurse administrator can promote efficient team work. Plan for man power, money, material and method to conduct school health programme.
- Specially qualified community health nurses and OBG nurse can be motivated to take mint paste in particular time of menstrual period.

LIMITATIONS

- It needs much explanation about the mint leaves because most of them in that place or not aware of mint leaves.
- Needed much co-operation from the adolescent girls
- Limited to the samples who satisfied the screening (Purposive sampling)
- Prolonged effect of mint leaves paste
- Administration of mint leaves paste was done in the selected set up for convenience

RECOMMENDATIONS

- Similar study can be replicated in larger scale for better generalization
- A similar study can be conducted with other traditional herbs other than mint leaves

- A comparative study can be conducted to assess the effectiveness of allopathic medicine and the herbal medicine like mint extract up on dysmenorrhea
- A longitudinal study can be conducted for mint reliability and effectiveness.
- The study can be replicated in different settings.
- A study can be conducted to assess the effect of mint leaves on various symptoms like good appetite, diarrhoea, stomachache and vomiting, neuralgia, irritable bowel syndrome.
- An experimental study can be conducted to assess the effectiveness of mint extract upon endometriosis.

CONCLUSION

The adolescent girls had reduction in the dysmenorrhoea score as evidenced by the results shown. Hence mint leaves paste is effective in the reduction of dysmenorrhoea and it was found to be less cost effective procedure. Therefore, mint leaves paste should be used as a supportive therapy among adolescent girls to alleviate dysmenorrhoea.

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PART – I

DEMOGRAPHIC VARIABLES

1. Age
   a. 11 – 12 ( )
   b. 13 – 14
   c. 15 – 16
   d. 17 – 18
2. Education status
   a. 6^{th} std ( )
   b. 7^{th} & 8^{th} std
   c. 9^{th} & 10^{th} std
   d. 11^{th} & 12^{th} std
3. Religion
   a. Hindu ( )
   b. Muslim
   c. Christian
   d. Others
4. Dietary habits
   a. Vegetarian ( )
   b. Non-vegetarian
   c. Fast food habits
   d. Ova-vegetarian
5. Socio Economic status
   a. upper class ( )
   b. upper middle class
   c. middle class
   d. lower class

6. Family history of painful menses

   a. Grandmother ( )

   b. Mother

   c. Sister

   d. None of the above

7. The average cycle of menstruation is

   a. 26 days ( )

   b. 28 days

   c. 30 days

Part II
Distribution of subject according to the details of menstruation

1. Amount of blood flow per cycle
    a. < 20 ml (<2 pads per day) ( )
    b. <30 ml (4 pads per day)
    c. 30 – 60 ml (5-6 Pads per day)
    d. > 100ml (Whenever necessary)
2. Duration of bleeding (days)
    a. 1 day ( )
    b. 2 days
    c. 3 – 5 days
    d. 6 – 8 days
3. Pre menstrual symptoms are ( )
    a. Breast tenderness
    b. lower abdominal cramp
    c. Fatigue
4. Incidence of circumstances with dysmenorrhoea
    a. School absenteeism ( )
    b. Escapism
5. BMI (body mass index)
    a. Under weight (< 18.5) ( )
    b. Average (18.5 – 24.9)
    c. Over weight (> 25.00)
    d. Obesity (≥ 40)

PART - III

1. Grade of dysmenorrhoea ( )

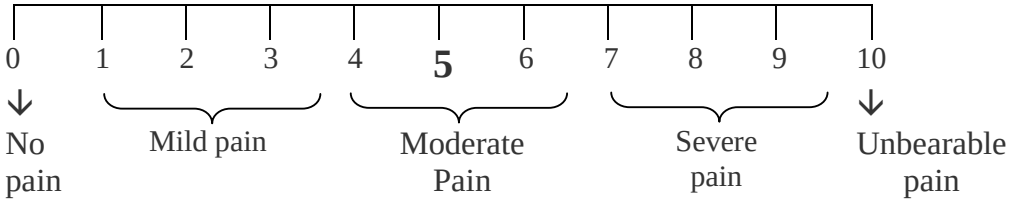
   a. no pain

   b. mild

   c. moderate

   d. severe

   e. unbearable



Data scoring:

0	-	No Pain
1-3	-	Mild Pain
4-6	-	Moderate pain
7-9	-	severe pain
10	-	Unbearable pain

neh;Kf fhzy; gotk;

1./ taJ
m) 11?12
M) 13?14
,) 15?16
<) 17?18

2/ fy;tpj;jFjp
m) 6k; tFg;g[
M) 7?8k; tFg;g[
,) 9?10k; tFg;g[
<) 11?112k; tFg;g[

3/ kjk;
m) ,e;J
M) K!;yPk;
,) fpwp!;Jth;
<) kw;wit

4/ czt[gHf;ftHf;f';fs;
m) irtk;
M) mirtk;
,) Jhpj czt[Kiw
<) irtczt[+ Kl;il kl;Lk;

5/ rKjha bghUshjhu epiy
m) nky;ju tFg;g[
M) nky; eLj;ju tFg;g[
,) eLj;ju tFg;g[
<) fPH;ju tFg;g[

6/ FLk;g guk;giuapy; typ kpFe;j khjtpyf;F
m) gul;o
M) mk;kh
,) mf;fh
<) nkw;fz;l vJt[kpy;iy

7/ ruhrhp khjtplha; RHw;rp
m) 26 ehl;fs;
M) 28 ehl;fs;
,) 30 ehl;fs;

gFjp ? 2

typa[ld; Toa khjtpyf;fpid gw;wpa tpguk;

1/ khjtpyf;F RHw;rpapd;nghJ btspnaWk; ,uj;jj;jpd; mst[

m) 20 kpypf;Fk; Fiwthf
M) 30 kpypf;Fk; Fiwthf
,(30?60 kpyp
<) 100 kpypf;Fk; mjpfkhf

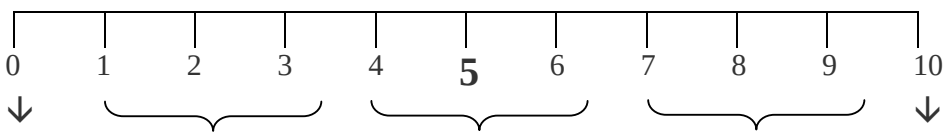
2/ khjtpyf;fpd; ehl;fs;
m) xU ehs;
M) ,uz;L ehs;
,) 3?5 ehl;fs;
<) 6?8 ehl;fs;

3/ khjtpyf;fpw;F Kd; Vw;gLk; mwpFwpfs;
m) khh;gf ,Wf;fk;
M) motapw;W typ
,) nrhh;t[

4/ typa[ld; Toa khjtpyf;fpdhy; Vw;gLk; epfH;t[fs;
m) gs;spf;F bry;yhky; ,Ug;gJ
M) tFg;g[f;F bry;yhky; ,Ug;gJ

5/ cly; gUkdpd; epiy
m) vil Fiwthf (<18.5)
M) ruhrhpahf (<18.5-24.9)
,) vil kpFjpahf (>25.00)
<) gUkdhf (>40.00)

gFjp ? 3



0 ? typ ,y;iy

1 ? 3 ? Fiwe;j typ

4 ? 6 ? kpjkhd typ

7 ? 9 ? mjpfkhd typ

10 ? jh';fKoahj typ

ஒப்புதல் அறிக்கை

தேதி:

எனக்கு இந்த ஆய்வைப்பற்றிய முழு விவரம் விளக்கமாக எடுத்துரைக்கப்பட்டது. இந்த ஆய்வில் பங்கு பெறுவதில் உள்ள நன்மைகள் மற்றும் தீமைகள் பற்றி நான் புரிந்து கொண்டேன். நான் இந்த ஆய்வில் தானாகவே முன்வந்து பங்கு பெறுகிறேன். மேலும் எனக்கு இந்த ஆய்வில இருந்து எந்த நேரமும் விலகிக் கொள்ள முழு அனுமதி வழங்கப்பட்டுள்ளது. என்னுடைய சிகிச்சை ஆவணங்களைப் பார்வையிட்டு அதில் உள்ள விவரங்களை ஆய்வில் பயன்படுத்திக் கொள்ள அனுமதி அளிக்கின்றேன். என்னுடைய பெயர் மற்றும் அடையாளங்கள் ரகசியமாக வைத்துக் கொள்ளப்படும் என்றும் எனக்கு உறுதியளிக்கப்பட்டுள்ளது.

இப்படிக்கு,

Ref.No.23339/E4/3/20010

Govt.Rajaji Hospital,Madurai.20.
dated. 25.03.2011

Sub: Establishment - Government Rajaji Hospital, Madurai-20 -Ethical Committee - meeting intimation-sent-Regarding.

****

The Ethical committee of the Govt. Rajaji Hospital, Madurai will be held at 12.00 Noon on 31.03.2011 at the Medical Superintendent's Chamber, Govt. Rajaji Hospital, Madurai. The following members of the committee are requested to attend the meeting without fail.

1.Dr.S.M.Sivakumar,MS(Gen.Surgery)	Dean,I/c Govt.Rajaji Hospital,Madurai.	Convenor
2.Dr.N.Vijayasankaran,M.ch(Uro.)	Sr.Consultant Urologist Madurai Kidney Centre, Sivagangai Road,Madurai	Chairman
3.Dr.T.Meena,MD or Dean I/c(MMC)	Professor of Physiology, Madurai Medical College	Member
4.Dr.Moses K.Daniel MD(Gen.Medicine)	Professor of Medicine Madurai Medical College	Member
5.Dr.M.Gobinath,MS(Gen.Surgery)	Professor of Surgery Madurai Medical College	Member
6.Dr.S.Thilshadh,MD(O&G)	Professor of Ob&Gyn Madurai Medical College	Member
7.Dr.B.K.C.MohanPrasad,M.ch, (Surg.Oncology)	Professor of Surg.Oncology Madurai Medical College	Member -Secy.
8.Shri.M.Sridher,B.sc.B.L.	Advocate, 623-B.II.Floor,East II Cross, K.K.Nagar,Madurai-20.	Member
9.Shri.O.B.D.Bharat,B.sc.,	Busmessman Plot No.588, K.K.Nagar,Madurai.20.	Member
10.Shri. S.sivakumar,M.A(Social) Mphil.	Sociologist, Plot No.51 F.F, K.K Nagar, Madurai.	Member

The Assistant Professors and Postgraduates from the following departments have submitted a project for approval before the Ethical Committee. The Post Graduates along with their Head of the Department are requested to attend the meeting without fail.

From:

R.Vasantha,
1 Year M.Sc (N) Student,

Mrs.R. Vasantha	**Second Batch M.Sc Nursing M.M.C.Madurai**	**EFFECTIVENESS FOR REDUCTION OF DYSMENORRHEA AMONG THE ADOLESCENT GIRLS IN GOVT HIGHER SECONDARY SCHOOL AT PARAVAI**

Medical Superintendent

College of Nursing,
Madurai Medical College,
Madurai.

To:

The Head Master,
Govt.Hr.Sec.School,
Paravai, Madurai.

Through

The Principal College of Nursing,

Madurai Medical College. Madurai.

Respected Madam,

Sub: Request for permission in Research Study in Govt.Hr.Sec.Schooi at Paravai, Madurai.

This is for your kind information that for the fulfillment of my curriculum. I have to do detestation in the topic of "EFFECTIVENESS OF MINT LEAVES PASTE FOR REDUCTION OF DYSMENORRHEA AMONG THE ADOLESCENT GIRLS IN GOVT HIGHER SECONDARY SCHOOL AT PARAVAI, MADURAI

Hence I request you to kindly permit me for the research study in Govt.Hr.Sec.School.

From:

R.Vasantha,
1 Year M.Sc (N) Student,
College of Nursing,
Madurai Medical College,

Madurai.

To:

The Deputy Director of Health Services & Family welfare officer,
Viswanathapuram,
Madurai.

Through

The Principal, College of Nursing,

Madurai Medical College, Madurai.

Respected Madam,

Sub: Request for permission in Research Study in Govt.Hr.Sec.Schooi at Paravai, Madurai.

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Hence I request you to kindly permit me for the research study in Govt.Hr.Sec.School.

Thanking you,

yours faithfully,

R. Vasantha

Madurai
23.02.2011

R. Amuthaguru

Permitted and
requested to kindly co-operate

Deputy Director
of Health Services
Madurai-14

CERTIFICATE OF VALIDATION

This is to certify that the tool,

Prepared by R. VASANTHA, II year M.Sc (N) student of College of Nursing, Madurai Medical College, Madurai who has undertaken the study field titled of "**EFFECTIVENESS OF MINT LEAVES PASTE FOR REDUCTION OF DYSMENORRHEA AMONG THE ADOLESCENT GIRLS IN GOVT HIGHER SECONDARY SCHOOL AT PARAVAI, MADURAI".**

13.7.11

SIGNATURE OF THE EXPERT

NAME: DR. R. SURESH

DESIGNATION: BLOCK MEDICAL OFFICER GOVT. PRIMARY HEALTH CENTRE SAMAYANALLUR MADURAI (DT)

DATE:

CERTIFICATE OF VALIDATION

This is to certify that the tool,

Prepared by R. VASANTHA, II year M.Sc (N) student of College of Nursing, Madurai Medical College, Madurai who has undertaken the study field titled of "**EFFECTIVENESS OF MINT LEAVES PASTE FOR REDUCTION OF DYSMENORRHEA AMONG THE ADOLESCENT GIRLS IN GOVT HIGHER SECONDARY SCHOOL AT PARAVAI, MADURAI".**

SIGNATURE OF THE EXPERT

NAME: ABARNA DEVI. K.P

DESIGNATION: PRINCIPAL

DATE: 28/4/17

PRINCIPAL
Sri Santhoshi College of Nursing,
Paiyambadi,
Madurantakam Taluk-603309
Kancheepuram Dist.

CERTIFICATE OF VALIDATION

This is to certify that the tool,

Prepared by R. VASANTHA, II year M.Sc (N) student of College of Nursing, Madurai Medical College, Madurai who has undertaken the study field titled of "**EFFECTIVENESS OF MINT LEAVES PASTE FOR REDUCTION OF DYSMENORRHEA AMONG THE ADOLESCENT GIRLS IN GOVT HIGHER SECONDARY SCHOOL AT PARAVAI, MADURAI".**

SIGNATURE OF THE EXPERT

NAME: P. Shanthi

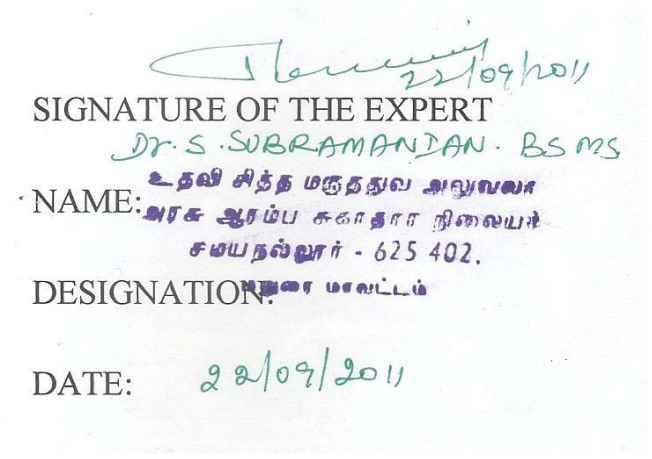
DESIGNATION: Reader, C.S.I Jeyaraj Annapackiam college of Nursing, Pasumalai Madurai

DATE: 20/4/10

CERTIFICATE OF VALIDATION

This is to certify that the tool,

Prepared by R. VASANTHA, II year M.Sc (N) student of College of Nursing, Madurai Medical College, Madurai who has undertaken the study field titled of "**EFFECTIVENESS OF MINT LEAVES PASTE FOR REDUCTION OF DYSMENORRHEA AMONG THE ADOLESCENT GIRLS IN GOVT HIGHER SECONDARY SCHOOL AT PARAVAI, MADURAI".**



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SARA NURSING COLLEGE
ERODE-DT-638 673
DHARAPURAM

11/4/11

SIGNATURE OF THE EXPERT

Head of the Department
Obstetric / Gynac. Nursing

NAME: R. Marysumathi

DESIGNATION: READER

DATE: 11.4.11.


ANEMIC