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Effectiveness of Pudina in Reduction of Dysmenorrheal and Perceived Stress Level among Nursing Students

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Abstract

Menstruation is a normal, healthy occurrence for many years in life. Yet many women, across a range of different cultures, experiences menstrual problem that range from mild discomfort to acute pain. Although most women have some physical or emotional changes or discomfort linked to menstrual cycle, a small number of about 5% finds that the problems are more serious and may have to seek some kind of treatment. Mint tea can be used for curing Dysmenorrheal. Mint tea can be had twice or thrice a day for best results. The cooling properties of this herb helps to relieve pain and tension associated with Dysmenorrhea. Mint candy will give for day long relief. Using peppermint, spearmint or wintergreen can be used for relieving Dysmenorrhea. For preparing mint tea, take a tablespoon of dried mint leaves and boil it along with a cup of water. Cover it and steep it for fifteen minutes in order to prevent the oil fromevaporating. Drink hot for great results. Mint is also calming and relaxing which is again good for Dysmenorrhea regarding age 4 nursing students (13.33%) were in the age group of18–19 years, 18 nursing students (60%) were in the age group of 20-21 years, 8 nursing students (26.66%) were in the age group of 22–23 years and 0 nursing students belonged to the 24–25 age group with Regard to religion 21 (70%) were Hindu, 6 (20%) were Christian, 2 (6.66%) were Muslim, 1 (3.33%) were Sikh and 0 are from the others regarding the educational status. 18 (60%) belong to B.sc Nursing course and 12 (40%) belong to General nursing and midwifery course regarding the dietary status 13 (43.33%) are vegetarian, 9 (30%) are non vegetarian and 8 (26.66%) are eggetarianmajority, i.e. 53.33% of nursing students had moderate pain, 43.33% of nursing students had mild level of pain and 3.33% of nursing students had severe pain. Regarding the age of menarche 15 (50%) from the age group of 13 years, 7 (23.33%) from age group of 14 and 12 and 1 (3.33%) from age group of 11 years. Analyzing the time duration of menstrual cycle were 14 (46.66%) time duration from 4-5 days, 11 (36.66%) time duration from 6–7 days, 5 (16.66%) time duration from 2–3 days and 0 time duration from 8-9 days. The duration of menstruation cycle 19 (63.33%) has regular menstrual cycle and 11 (36.66%) has irregular menstrual cycle.

Keywords: Menstruation; Dysmenorrheal; Pudina; Menstruation cycle.

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Intoroduction

Menstruation is a normal, healthy occurrence for many years in life. Yet many women, across a range of different cultures, experiences menstrual problem that range from mild discomfort to acute pain. Although most women have some physical or emotional changes or discomfort linked to menstrual cycle, a small number of about 5% finds that the problems are more serious and may have to seek some kind of treatment[4].

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 in the abdomen, back or legs that lasts few hours or more.[6]

Desalegn Tegabu Zegeye (2009).[10] It is one of the most significant milestones in a woman's life. The mean age at menarche varies from population to population and is known to be a sensitive indicator of various characteristics of population including nutritional status, geographical location, environmental conditions and magnitude of socioeconomic inequalities in a society.

In India, the average age of menarche among girls was 12.6 years in 1992 and it came down to 12.5 years in 2005.[9]

Easton Patric (2011)[11] Dysmenorrhea is common among females which affect daily activities leading to limitations of their social, academic and recreational activities. Herbal supplement is found to be very beneficial for the treatment of menstrual problems. Prolonged result with zero adverse action on user is one among the main advantages of using herbal cures. Some of the herbs like mint leaves, sesame seeds, and bark extract of ashoka tree etc are best recommended cures for the treatment of menstrual problems. Mint tea can be used for curing Dysmenorrhea. Mint tea can be had twice or thrice a day for best results. The cooling properties of this herb helps to relieve pain and tension associated with Dysmenorrhea. Mint candy will give for day long relief. Using peppermint, spearmint or wintergreen can be used for relieving Dysmenorrhea. For preparing mint tea, take a tablespoon of dried mint leaves and boil it along with a cup of water. Cover it and steep it for fifteen minutes in order to prevent the oil from evaporating. Drink hot for great results. Mint is also calming and relaxing which is again good for Dysmenorrhea.

George and Bhaduri (2002),[8] concluded that dysmenorrhea (87.87%) is a common problem in India. In Sweden the prevalence was >2–4%. Similar findings had been reported by Jayashree and Jayalakshmi, in rural married women of Andhra Pradesh. Dysmenorrhea has been estimated to be the greatest cause of time lost from work and school in the United States.

Dysmenorrhea literally means painful menstruation. It usually begins around the time that menstruation begins. Symptoms typically last less than three days. The pain is usually in the pelvis or lower abdomen. The term dysmenorrhea derived from the Greek word "DYS" meaning difficulty / painful /abnormal, "MENO "meaning month and "RRHEA" meaning flow.[3]

It is colicky pain during menses probably due to disturbed myometrial contraction[5].

Consuming a mixture of dried mint leaves and honey is an excellent cure for menses problems. It is found to be very effective for relieving painful cramps during menstrual time. Curing dysmenorrhea is another advantage of using this herbal mixture. Apart from relieving menstrual problems, use of mint leaves and honey also helps in preventing headaches, curing acne and reducing free radical mechanism. Drinking vegetable juice is a safe remedial measure for alleviating the risk of menstrual problems.

Review of Literature

Literature related to use of mint leaves (peppermint)

Mentha is also known as mint. Mint is known as pudina in Hindi. It is associated to the family of lamiaceae. It is aboriginal to Europe and Asia. It is also for its aromatic properties from the ancient times it is popular for its medical qualities.

Mint leaves consist if nutrient like calcium, phosphorus, Vitamin C Vitamin D, E and B complex. These constituents builds up the healthy immunity and keeps body free from infection and inflammation.[16]

Mint eases the pain associated with menses and calm the uterus. Mint releases a small amount of serotonin that helps to beat the stress and depression.

Lucrecia Moreno et al. (2002)[12] A study was conducted on pharmacological properties of the menthol extract from menthe piperita. The study analyses the pharmacological activity in vivo and in vitro models of methanol extract obtained from the leaves. This extract launched toxiciter, but

exhibited an analgesic effect in, model of chemical and mechanical stimulation suggesting the inclusion of a peripheral analgesic response.

Literature related to use of mint leaves in dysmenorrhea

Sharmila (2010)[15] A study was conducted to assess the effectiveness of mint leaves paste on dysmenorrhea among adolescent girls at selected schools kanyakumari district, An experimental design was adopted and purposive sampling method was used based on the selection criteria 34 adolescent girls in experimental group and 16 adolescent girls in control group. The data were collected using self administered questionnaire the obtained mean difference between the pre-test and post-test regarding dysmenorrhea score was 15.3, the obtained *t*-value $t = 9.89$ ($p < 0.05$) was significant. Data on post mean dysmenorrhea score among adolescent girls in experimental on control group was 8.81. The obtained' value $t = 4.01$ ($p < 0.01$) was significant.

Latha P et al. (2015)[9] A study was conducted to assess the effectiveness of menthe spicata paste on dysmenorrhea among the adolescent girls in Narayana college of nursing, Nellore a pre experimental design was adopted and purposive sampling method was adopted on 60 adolescent girls. Pre-test was conducted for 60 girls by using study tool. Intervention was given per each sample for 4 days before menstruation later post-test was conducted by using the same study tool. The results indicated that the pre-test mean of pain was 0.1198 and standard deviation 7.1749 whereas the post-test mean was 0.064 and standard deviation 0.3769. The study revealed that the menthe spicata paste has great benefit to these adolescent girls as it reduced the severity of pain.

Objectives

To assess the pre-test level of pudina in reduction of dysmenorrhea, and perceived stress level among nursing students during dysmenorrhea.

- To assess the effectiveness of pudina in reduction of dysmenorrhea and perceived stress level among nursing students during dysmenorrhea.
- To assess the post-test level of pudina in reduction of dysmenorrhea and perceived stress among nursing students during dysmenorrhea.

Materials and Methods

A pre experimental research design was design was considered appropriate for the present study to find the effectiveness of pudina in the reduction of dysmenorrhea and perceived stress level.

Table 1:

01 × 02			
Group (01)	**Pre-test**	**Nursing intervention**	**Post-test (02)**
Nursing student	Strurctured questionnare	Pudina extract (60 gm twice a day 3 day before menstruation and during menstruation)	Structured questionnare

Variables: Independent variable in the study was pudina extract The dependent variable of the study is dysmenorrhea and perceived stress level. The study was conducted at P.G. College of nursing (C.H.R.I) GWL. The primary reason for selecting this college were researcher's convince, familiarity and expected co-operation from authorities in getting permission and conducting the study. The population comprises all the nursing students of age group 18–25 years at selected P.G. college of nursing. Approximately total of 580 nursing students resided in the selected P.G. College of nursing and form the population of study.

Inclusive Criteria: Nursing students who are between the age group of 18 to 25 years onset of pain within 6–12 hour after onset of menses.

Exclusive Criteria: Nursing students those are age group above 26 yrs Nursing students in the age group of 18–25 years who having dysmenorrhea and studying in P.G. College of nursing were sample.

Sample size: A sample of 30 from 18–25 age groups in P.G College of nursing.

Sampling technique: Sample for the studied consisted of 30 nursing students and selection was done on the basis of Non-Probability purposive sampling technique from selected P.G. College of nursing (C.H.R.I) GWL.

Tools and instruments

The tool consist of three sections.

Section A

Part 1: It included selected demographic variables such as age, religion, education status, dietary habits, age of menarche, time duration of menstruation, duration of menstruation.

Section B

Part 1: It included standardized tool for subjective, i.e. Mc Gill pain questionnaire. It of 4 group, group 1 was further categorized of 10 categorizes, group 2 consisted of 11–15 categorizes, group 3 consist of 16th categories and rest of the categorizes, i.e. 17-20 lies in group 4. Each category contained sub categorizes, each sub category having minimum score is 1 and maximum score depended on number of categories in a particular sub-category.

Part 2: It included standardized tool for objective assessment, i.e. Visual Analogue Scale (VAS) pain to assess the effectiveness of pudina in reduction of dysmenorrhea. The visual analogue scale was a psychometric response scale which can be used in questionnaires. In this scale, the rating was done by seeing the facial expressions of nursing students who experienced dysmenorrhea.

Section C

Part 1: It included structured question on stress assessment. It included 20 question each question consist of three scale, i.e. sometimes which Score 1, most of time which score is 2 and always score is 3. The total score is 60.

Validity and reliability Content validity was obtained by expert's opinion on relevance of item. The three of them are from the field of obstetrical and gynecological nursing specialty and one gynecology doctor cum ayuverdic doctor. The tool validity was confirmed by English experts.

The reliability of modified Mc gill pain questionnaire was 0.85, visual analogue scale (VAS) was 0.92, and the reliability of stress assessment was 0.83. Hence the tools are reliable.

Data Collection

Data collection was done after taking formal permission from principal of the P.G. College of nursing, GWL for the conduction of study in their college explaining the purposes and objectives of the study. The data collection was done from 15th may 2016 to 31st may 2016. Non probability purposive sampling technique was used to collect a sample of 30 nursing students. Informed written consent was taken from subjects for participations in study. For the data collection tool was administered to the participants. The nursing students were assured that their responses would be confidential and used for research purpose only by keeping the ethical consideration in mind. Plan for data analysis After data collection all the information were put on a master sheet for tabulation. The data obtained were analyzed using both descriptive and inferential statistics.

Descriptive statistics Percentage mean and standard deviation will be used to analyze demographic data, mc gill pain questionnaire, and visual analogue scale (VAS) and stress assessment. Inferential statistics *t*-test will be used to assess the effectiveness of pudina on reduction of dysmenorrhea and perceived stress level among nursing students.

Results and Discussion

Regarding age 4 nursing students (13.33%) were in the age group of 18–19 years, 18 nursing students (60%) were in the age group of 20–21 years, 8 nursing students (26.66%) were in the age group of 22–23 years and 0 nursing students belonged to the 24–25 age group.

With Regard to religion 21 (70%) were Hindu, 6 (20%) were Christian, 2 (6.66%) were Muslim, 1 (3.33%) were Sikh and 0 are from the others.

Regarding the educational status. 18 (60%) belong to B.Sc Nursing course and 12 (40%) belong to General nursing and midwifery course. Regarding the dietary status 13 (43.33%) are vegetarian, 9 (30%)

Table 2: Depicts frequency and percentage distribution of nursing students to measured dysmenorrhea as per subjective assessment (Mc Gill questionnaire) in pre-test

Level of pain	Criterion measure	Frequency	Percentage (%)
Mild	0–26	0	0.00
Moderate	27–52	20	66.66
Severe	53–78	10	33.33

are non vegetarian and 8 (26.66%) are eggetarian. Regarding the age of menarche 15 (50%) from the age group of 13 years, 7 (23.33%) from age group of 14 and 12 and 1 (3.33%) from age group of 11 years.

Analyzing the time duration of menstrual cycle were 14 (46.66%) time duration from 4–5 days, 11 (36.66%)time duration from 6–7 days, 5 (16.66%) time duration from 2–3 days and 0 time duration from 8–9 days. The duration of menstruation cycle 19 (63.33%) has regular menstrual cycle and 11 (36.66%) has irregular menstrual cycle.

Table 3 depicts that 33.33% of the nursing students had severe stress level followed by 66.66% of the nursing students had moderate stress level and 0% of nursing students had mild stress level.

Effectiveness of pudina in reduction of dysmenorrhea and perceived stress level among nursing students during dysmenorrhea

This parts show the effectiveness of pudina in reduction of dysmenorrhea and perceived stress level among nursing students. The data were compiled into master sheet and analyzed.

H2: there will be significant effectiveness of pudina in reduction of dysmenorrhea and perceived stress level

Table 4 depict that Tabulated value = 3.66 of Mc Gill questionnaire, visual analogue scale and stress assessment. So *t* paired pre and post-test of *p*-value calculation is <0.0001 *t* calculated > *t* tabulated value.

H2 is accepted that mean pudina is effective on reduction of dysmenorrhea and perceived stress Ramya (2008)[14] a pre experimental study was conducted to assess the effectiveness of the mint extract upon dysmenorrhea among the students at Apollo school of Nursing, Chennai. Pre experimental design was adopted and purposive sampling method was used and 35 students were selected as samples. The pre-test level dysmenorrhea score of students wear high, $M = 6.46$, SD = 2.57 in comparison with the score of post-test were $M = 1.2$, SD = 1.26 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.

Assessment the post-test level of pudina in reduction of dysmenorrhea and perceived stress among nursing students during dysmenorrhea H1-there will be significant difference between the pre-test and post-test.

Table 5 depicts that majority, i.e. 53.33% of nursing students had moderate pain, 43.33% of nursing students had mild level of pain and 3.33% of nursing students had severe pain.

Table 6 depicts that about (56.66%) nursing students had moderate pain followed by 43.33% of nursing students had mild pain followed by 0% of

Table 3: Frequency and percentage distribution of nursing students to measures perceived stress level as per stress assessment in pre-test

Level of stress	Score	*N*	Percentage (%)
Mild	1–20	0	0.00
Moderate	21–40	20	66.66
Severe	41–60	10	33.33

Table 4: Effectiveness of pudina in reduction of dysmenorrhea and perceived stress level among nursing students

Scale	*t*-test	Tabulated value
Mc gill questionnaire	5.839	3.66
Visual analogue scale (VAS)	19.72	3.66
Stress assessment	7.80	3.66

*p >0.02.**p >0.01.***p >0.001

Table 5: Frequency and percentage distribution of nursing students to measured dysmenorrhea as per subjective assessment (Mc Gill questionnaire) in post-test

Level of pain	Criterion measure	Frequency	Percentage (%)
Mild	0–26	13	43.33
Moderate	27–52	16	53.33
Severe	53–78	1	3.33

Maximum score = 78 Minimum score = 0

Table 6: Frequency and percentage distribution of nursing students to measure dysmenorrhea as per objective assessment visual analogue scale (VAS) in post-test

Level of menstrual pain	Criterion measure	Frequency	Percentage (%)
No pain	0	0	0
Mild	1–3	13	43.33
Moderate	4–6	17	56.66
Severe	7–9	0	0
Worst	10	0	0

Maximum score = 10 Minimum score = 0

Table 7: Frequency and percentage distribution of nursing students to measures perceived stress level as per stress assessment in post-test

Level of stress	Score	Frequency	Percentage (%)
Mild	1–20	2	6.66
Moderate	21–40	28	93.33
Severe	41–60	0	0.00

nursing students had severe pain and worst pain and 0% of the nursing students had no pain.

Table 7 depicts that 93.33% of the nursing students had moderate stress level followed by 6.66% of the nursing students had mild stress level and 0% of nursing students had severe stress level.

Conculsion

The main Aim of the study was to assess the effectiveness of pudina in reduction of dysmenorrhea and perceived stress level on nursing students.

The following conclusion was drawn on the basis of findings of the study:

- The pre-test finding showed that the dysmenorrhea and stress was present
- The pudina was administered to the nursing students for the reduction of dysmenorrhea and perceived stress level
- Most of them had reduction in dysmenorrhea and perceived stress level. The pudina is proved to be very effective in menstrual cycle

Nursing Implications

The findings of the study have implication in nursing practice, nursing education, nursing research and nursing administration.

Nursing Practice

Nurse plays an important role in managing menstrual distress by incorporating the complementary and alternative therapies (CAM), Implement these therapies in the regular practice and Nurses can conduct health education for girls in schools and college regarding home remedy for menstrual distress.

Nursing Education

Nurse educator should upgrade their knowledge and educate the nursing student regarding the proper use of home remedies and nursing curriculum can incorporate complementary and alternative therapies.

Nursing Administration

Nurse administrator can conduct awareness programmed in the hospital and community, in-service education programmed in the work place regarding CAM and implement evidence based practice in the clinical areas.

Nursing Research

Nursing educators and administrator can motivate the nurses to carry out research on alternative therapy on menstrual distress and research can promote many studies on this topic among various settings by formulating long term goals.

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