



Effect of Basil Water in Reducing Symptoms of Dysmenorrhea: An Experimental Study

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ABSTRACT

An experimental study was conducted using pretest posttest research design among sixty nursing students to examine the effect of basil water on dysmenorrhoeal symptoms. Study was conducted at Holy family nursing college hostel; subjects were recruited using simple random sampling technique. Data was collected after obtaining ethical clearance and informed consent. The subjects were randomly assigned into experimental and control group. Pretest was conducted among control and experimental group 4-6 days prior to the onset of menstruation by using socio personal data and reported dysmenorrhoea symptom rating scale. Participants in the experimental group received the intervention on the same day that is the administration of 200 ml of basil water two times per day and continued till 4th day of menstruation. Post test was conducted on 4th day of menstruation in control and experimental group. Independent t test value 6.638 was found to be significant at 0.01 level. The mean post test score (26.93) was lower than the mean pretest score (50.60%) and it is inferred that basil water was effective in reducing the severity of symptoms of dysmenorrhoea.

KEYWORDS : Basil water, dysmenorrhea, symptoms, nursing students.

Introduction:

Adolescence has been defined by World Health Organization as the period of life spanning between 10-19 years and the young as between 15-24 years. Girls aged 10-19 years comprise about 22% of the female population.

Menstruation is a normal physiological phenomenon for women indicating her capability for procreation. However this normal phenomenon is not an easy one. It is often associated with some degree of sufferings and embarrassment. It is a common observation that every woman experiences one or the other type of menstrual problems in her lifetime. The prevalence of menstrual disorders has been recorded as high as 87% in India. Millions of women of reproductive age have recurrent emotional, cognitive and physical symptoms related to their menstrual cycle like dysmenorrhea, amenorrhea, ligomenorrhea and premenstrual symptoms. Dysmenorrhea and premenstrual symptoms were serious enough to affect daily activities or academic attendance in many cases.

Among the menstrual disorders, dysmenorrhea is the most common one being reported in half of the number of women of child bearing age and of these 10% experience incapacitating pain for 1-3 days, every month which influences the mental and physical health of women particularly those who are not seeking health care and treatment. Dysmenorrhea is the most prevalent problem in 45 to 95% of women with different intensities. Dysmenorrhea afflicts a large percentage of women in their reproductive years. But it is especially traumatic for young girls when a 'natural' event becomes a matter of pain.

60-90% of adolescent girls in India, dysmenorrhea is a major cause for absenteeism from school or restriction of activities of daily living or social interaction. Various studies in India revealed that prevalence of dysmenorrhea varies from 33% to 79.67%. However, the true incidence and prevalence of dysmenorrhea are not clearly established in India. A study conducted in Karnataka among 560 medical students shows that prevalence of dysmenorrhea was very high with 67.5%. A study done in Thiruvananthapuram, Kerala revealed that dysmenorrhea is the most frequently reported problem during menstruation.

The king of herbs, basil (*ocimum basilicum*) is one of the oldest and popular herbal plants rich in much notable health benefiting phyto-nutrients. The highly prized plant is referred to as "holy herb" in many traditions all around the world. It contains several antioxidants in its volatile oils and act just like some NSAIDs. Basil leaves contain health benefiting essential oils such as eugenol, citronellol, linalool, citral, limonene and terpineol. These compounds are known to have anti inflammatory and anti bacterial properties.

Dysmenorrhea definitely needs some form of home based herbal therapy based on medical evidence. Basil leaves are easily available and safe to administer. Hence the investigator is strongly motivated to identify the effectiveness of basil water in reducing the symptoms of dysmenorrhea.

Materials and Methods:

This study followed a quantitative approach using pretest posttest control group design, conducted at Holy Family College of Nursing hostel, Thodupuzha upon sixty nursing student's recruited using simple random sampling technique. The instruments used for data collection were: Prescreening proforma which is a semi structured questionnaire consists of 8 questions to assess the prevalence of dysmenorrhea, Socio personal proforma to collect baseline data of subjects such as age at menarche, family history, BMI, diet, habit of drinking coffee /tea/cola, duration of menstrual bleeding, extent of bleeding, menstrual cycle, duration of symptoms of dysmenorrhea, onset of symptoms of dysmenorrhea, absenteeism and duration of pain occurs during menstruation, and a Reported dysmenorrhea symptom rating scale - It consist of 35 symptoms associated with dysmenorrhea and it is categorized under five domains based on symptoms of dysmenorrhea, they are pain and its characteristics, gastro intestinal symptoms, eliminational symptoms, psychological symptoms and other symptoms.

After getting ethical clearance from the ethical committee of Holy Family College of Nursing, Thodupuzha and written permission from the concerned authorities of the Holy Family College of Nursing and nursing college hostel, data collection was started.

The investigator explained about the research study to the subjects and obtained informed consent from the participants. Prescreening Proforma was used to select 120 students with symptoms of dysmenorrhea from a total of 232 students. 60 participants who fulfilled the sampling criteria were selected from the above identified subjects by simple random sampling technique. The subjects were randomly assigned into experimental and control group. Pretest was conducted among control and experimental group 4-6 days prior to the onset of menstruation by using socio personal data and reported dysmenorrhea symptom rating scale.

Participants in the experimental group received the intervention on the same day that is the administration of 200 ml of basil water two times per day and continued till 4th day of menstruation. Post test was conducted on 4th day of menstruation in control and experimental group. The subjects took an average of 25-30 minutes to complete the tool.

Results:

Description of socio personal characteristics:

Equal number (36.67% each) of the samples attained menarche at the age of 14 years in control and experimental group. 33.33% of the samples attained menarche at the age of 13 years. 60% of the samples in the control group had family history of dysmenorrhea and 40% did not have the family history of dysmenorrhea. Whereas in experimental group 56.67% did not have the family history of dysmenorrhea and 43.33% had the family history of dysmenorrhea. Most (80% and 70% respectively) of the samples in experimental and control group had normal BMI. Equal number (96.67% each) of samples in both groups like mixed diet. 40% of the samples in experimental group and 66.67% of the samples in control group had the regular habit of drinking coffee or tea. More than half of the (56.67% and 53.33% respectively) samples had the habit of drinking cola occasionally in control and experimental group. Most (93.33% and 86.66% respectively) of the samples in control and experimental group had duration of bleeding 3-6 days. Majority (86.67% and 96.67% respectively) of the samples in both group had moderate level of bleeding. 46.67% of samples in control group and 40% of samples in experimental group had 28 days of menstrual cycle. Most (56.67% and 40% respectively) of samples in control and experimental group show the symptoms of dysmenorrhea 1-4 hours after the onset of menstruation. 70% of samples in control group and 60% in experimental group had the duration of symptoms of dysmenorrhea 1-3 days. Absenteeism occurred in college due to dysmenorrhea 36.66% in control group and 23.33% in experimental group. 40% of the samples in control group and 43.33% of the samples in experimental group had 12-24 hours of pain during menstruation.

Prevalence of dysmenorrhea among college students:

Prevalence of dysmenorrhea was high (66%) among 1st year B.Sc nursing students. Out of 232 students, the prevalence rate of dysmenorrhea was 51.72%.

Effectiveness of basil water on dysmenorrhea among subjects

Table 1: Paired 't' test showing the significant difference between mean pretest and post test scores of symptoms of dysmenorrhea in experimental group (n=30)

	Mean	SD	Df	t value	p value
Pretest	50.60	26.385			
			29	06.638	0.000**
Post test	26.93	21.521			

**significant at 0.01 level

It is evident from the table 1 that p <0.01 level of significance. The mean post test score (26.93) is lower than the mean pre test score (50.60%) and it is inferred that basil water was effective in reducing the severity of symptoms of dysmenorrhea.

Table 2: Independent 't' test showing the significant difference between mean posttest scores of symptoms of dysmenorrhea in control and experimental group (n=60)

	Mean	SD	df	t value	p value
Control	43.79	17.335			
			58	03.323	0.002**
Post test	26.93	21.521			

**significant at 0.01 level

The data presented in table 2 shows that p<0.05. The mean post test score (43.70) of the control group is greater than the mean post test score (26.93) of the experimental group. Therefore it is inferred that basil water was effective in reducing the severity symptoms of dysmenorrhea. These findings again highlight the effectiveness of basil water on dysmenorrhea and this gives an assurance that difference in the experimental group, is not because of chance but purely on intervention.

Association between symptoms of dysmenorrhea and selected socio personal characteristics

The chi square values was computed between the severity of symptoms of dysmenorrhea and selected socio personal characteristics such as age at menarche, family history, BMI, habit of drinking coffee/tea, habit of drinking cola, menstrual cycle. It shows that there was no significant association between the severity of symptom of dysmenorrhea and selected socio personal characteristics of the college students.

Discussion:

The present study shows that 51.72% of the college students were having symptoms of dysmenorrhea and majority of the samples were having moderate level of symptoms of dysmenorrhea. A similar study was conducted among 970 students in Gwalior district, to document the presence or absence of dysmenorrhea during menstruation, its frequency, intensity of pain and symptoms experienced and result showed that dysmenorrhea was present in 71.96% of students. Another study was conducted among 107 students which showed that prevalence of dysmenorrhea was 73.83% among that 4.67% of samples had severe dysmenorrhea.

The mean post test score of dysmenorrhea (26.93) was lower than the mean pretest score (50.60) in the experimental group which was significant at 0.05 level. This indicates that basil water was effective in reducing symptoms of dysmenorrhea. The mean post test score (43.70) of the control group was greater than the mean post test score (26.93) of the experimental group. These findings again highlight the effectiveness of basil water on dysmenorrhea. The findings of the present study are supported by the study conducted among albino rats by Yates B. The result revealed that basil has anti stress, anti lipidemic, anti diabetic and glycemic lowering and hepato protective properties.

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