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Effectiveness of Ginger Tea on Dysmenorrheaamong Nursing Students

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Abstract :

Background Menstrual problems are common in adolescents and among them dysmenorrhea is the leading problem. During menstruation the body releases a hormone called prostaglandins, which causes the uterus to contract in order to help the uterus shed its lining. Researchers believe that this hormone is one of the main causes of menstrual cramps. The term dysmenorrhea is derived from a Greek word **dys** means difficulty and **Menorrhea**–monthly flow. Dysmenorrhea is difficult or painful menstruation. Most of the females are very used to having a certain amount of pain or cramps during this time which is normal. However, when these cramps become extremely painful and restrict women's daily movements they are called dysmenorrhea. Younger women tend to experience more severe cramps than older women. Additionally, severe cramping tends to decrease in intensity with age, and often disappear after Pregnancy. There are two types of dysmenorrhea- primary or secondary.

Objectives The objectives of this study are (1) Assess the level of dysmenorrhea among nursing students. (2) Determine the effectiveness of ginger tea on dysmenor- rhea among nursing students. (3) To associate the posttest effective with their selected demographic variable

Methodology

The research design selected for the study was non- equivalent pre test and post test control group design. A quasi experimental design was used to obtain sample of 60 college students (30 in experimental group and 30 incontrol group); who satisfied the inclusion criteria. Pre-test level of dysmenorrhea was estimated by using numerical Pain Rating Scale, for both experimental and control group followed by ginger tea 100 ml was administrated 2 times(50 ML morning-7.30 AM & 50 ML evening-7.30PM) on the first 5 days of menstruation for the experimental group. On the fifth day evening post test was done for experimental and control group by using the same scale. Ethical aspect of this study maintained throughout the study. The data were analyzed using descriptive and inferential statistics.

Results

The mean and standard deviation of level of pain and symptoms among students before administration ofginger tea (M=6.60, SD=1.59) (M=48.42, SD=8.78) were high in comparison with the level of pain and symptoms during dysmenorrhea among students after administration of ginger tea (M=2.47, SD=1.11) (M=27.45, SD=3.97).

The mean and standard deviation of physiological and psychological symptoms (M=22.72, SD=4.29) (M=25.7, SD=7.07) were high before administration of ginger tea. Whereas after administration of ginger tea it was low (M=13.15, SD=2.88) (M=14.45, SD=3.64). The difference was found statistically significant at $p<0.05$ level and can be attributed to the effectiveness of ginger tea on dysmenorrhea among students.

Conclusions

Hence there is a reduction in level of dysmenorrhea after administration of Ginger tea among college students. The study concluded that Ginger tea found to be an effective non-pharmacological measures to reduce dysmenorrhea among college students.

IndexTerms -

- ginger tea
- effectiveness
- dysmenorrhea
- nursing students

I. INTRODUCTIONINTRODUCTION

Life is a process, from birth to death there are various stages of development. In a women's life journey many important changes are occurring mainly it starts from adolescent stage. It is the period of development during which the individual makes the transition from childhood to adulthood. Development of secondary sexual characteristics and attaining menarche are the significant events in this period. Menarche is an amazing moment in the life of a female; it is the first menstrual cycle and is a stage where it crowns the female gender. Now on average, girls attain menarche at the age of 10-12 ½ years, when compared to the past it was 13-14 years of age and our ancestors even later on average of 16
½ years of age ie, 100 years ago. In India, the menstrual cycle is a highly respected period that is an expression of the female connectedness to the cycle of the moon. Menses is a time when the female body is providing extra energy to ensure an effective and complete sloughing of waste products. It is a natural time of cleaning and rejuvenation.

Menstrual problems are common in adolescents and among them dysmenorrhea is the leading problem. During menstruation the body releases a hormone called prostaglandins, which causes the uterus to contract in order to help the uterus shed its lining. Researchers believe that this hormone is one of the main causes of menstrual cramps. The term dysmenorrhea is derived from a Greek word **dys** means difficulty and **Menorrhea**–monthly flow. Dysmenorrhea is difficult or painful menstruation. Most of the females are very used to having a certain amount of pain or cramps during this time which is normal. However, when these cramps become extremely painful and restrict women's daily movements they are called dysmenorrhea. Younger women tend to experience more severe cramps than older women. Additionally, severe cramping tends to decrease in intensity with age, and often disappear after Pregnancy. There are two types of dysmenorrhea-primary or secondary.

There are several ways to ease painful menstrual cramps. The most common method adopted universally to get instant relief is by taking painkillers. Medications used mostly for pain are aspirin, brufen, naproxen and meftalspas, primarily non steroidal anti-inflammatory drugs. It acts as a prostaglandin inhibitors to reduce pain. But side effects are common. They are nausea, severe diarrhea, dyspepsia, flatulence and distress. It is also costly and not advisable to continue for a long duration.

Alternative therapy is particularly important for women having side effects with medical therapy and may be beneficial as complementary treatment. Therapies such as accupunture, acupressure, biofeedback, hypnosis, massage, reiki, exercise and therapeutic touch and some home remedies with herbals have been used to treat pelvic pain. There are several home remedies to reduce menstrual cramps and symptoms like backache, lack of appetite, overeating, exhaustion and lowered resistance to ailments. Usually women start using these home remedies a few days before the cycle starts and continue until it ends. These are completely natural and do not cause any unwanted side effects.

Ginger (zingiber officinale) has assumed significant role in Chinese, Japanies and Indian medicine since the 1500s.There were supportive evidence from several randomized controlled trails that ginger- reduces the severity and duration of nausea or emesis, effect on cardiovascular diseases. Ginger has high contents of antioxidants and has strong anti-bacterial and antifungal properties. In Ayurveda ginger is reported to be useful in treating inflammation and pain. Ginger exerts its ameliorative effect and it could be related to the inhibition of prostaglandin and leukotriene biosynthesis. Many studies proved that ginger can be used for relieving menstrual cramps, it act as an anti- inflammatory and it can be taken as tea, extract or capsules.

In India few studies only available for effectiveness of pharmacological and non pharmacological interventions on dysmenorrhea. It is viewed that less importance is given to this type of problem. In cultural aspects also, they believe that this pain has to be borne by women. Thus dysmenorrhea is neglected part of woman's health. So the researcher was motivated to evaluate the effectiveness of ginger tea upon dysmenorrhea. This evidence based practice can be disseminated and utilized in various care setting to achieve its maximum effectiveness.

NEED OF THE STUDY.

Menstruation is the monthly outflow of blood that starts at teenage and continues till a woman attains the age of late 40s. The lining of the uterus or womb is shed out and this causes bleeding which comes out from the uterus passing through the cervix, and then passes out through the vagina. Usually the menstrual periods last from three to five days. The time phase between the first day of menstrual period and that of next period is termed menstrual cycle.

Every day women of all ages through the changes of life experience many kind of pain, like pre menstrual syndrome, dysmenorrhea and delivery. Dysmenorrhea is a common gynecologic disorder affecting as many as 50% of menstruating Women. And of these, about 10% have severe dysmenorrhea, which greatly limits activities for one to three

days each month. It usually appears one to two years after menarche, when ovulation cycle is established. This disorder affects younger women but may persist in to 40 years of age. It believed that prostaglandin synthesized by the endometrium causes pain during menstruation.

RESEARCH METHODOLOGY

The methodology section outline the plan and method that how the study is conducted. This includes Universe of the study, sample of the study,Data and Sources of Data, study's variables and analytical framework. The detailsare as follows;

3.1 Population and Sample

Population is an aggregate or totality of all the subjects that possess a set of specifications. The entire set of individuals having some common characteristics. (Polit & Beck 2010) In order to find out the feasibility and practibility of the study, a pilot study was conducted in Maharshi Moolchand Yadav Nursing and Paramedical College with 6 samples (3in control group and 3 in experimental group).

Target Population

Refers to entire population in which the researcher is interested and to which he/ she would like to generalize theresults of a study. In this study the target populations were students with dysmenorrhea.

Accessible Population

The accessible population is the list of population that the researcher finds in the research area, accessible population in this study was students with dysmenorrhea of Maharshi Moolchand Yadav Nursing and Paramedical College, Kerakat Jaunpur.

Sample

Sample consists of subset of the units that comprises the population (Polit & Beck 2010). The sample size consists of 60 students with dysmenorrhea. Out of 60 samples30 were in experimental group and 30 were in control group.

Sampling Technique

Sampling is the process of selecting a portion of population to represent the entire population. (Polit & Beck 2010). The participants of the present study were selected by simple random sampling technique in which the samples were selected by lottery method. In simple random sampling technique the researcher selected participants who fulfilled the sampling criteria.

Sampling Criteria

Inclusion criteria Students who are

- Having regular menstrual cycle (28 days- 35 days) and dysmenorrhea.
- Able to read and understand English.
- Nursing students of selected institution only.
- Willing to participate in the study.

Exclusion criteria

Students who

- Do not have dysmenorrhea.
- Are taking medical advice and treatment for dysmenorrhea.
- Are not willing to participate in the study.

3.2 Data and Sources of Data

The data was collected from 60 students with dysmenorrhea studying in Maharshi Moolchand Yadav Nursing and Paramedical College Kerakat Jaunpur was selected to determine the effectiveness of ginger tea on dysmenorrhea.

The data was analyzed according to the objectives and hypotheses of the study. The data analysis was completedafter transferring all the data to the master coding sheet. Data was analyzed, tabulated and interpreted using descriptive and inferential statistics.

3.3 Theoretical framework

Conceptual framework for research study presents the reasoning on which the purposes of the proposed study are based. The frame work presents the perspective from which the investigator views the problem. It is developed from an existing theory of interest and proposing relationship among them. The model gives direction for planning research design, data collection and interpretation of findings. (Polit and Beck 2010).

The present study is to evaluate the effectiveness of ginger tea on dysmenorrhea among the adolescent girls in selected nursing college. The framework for the study is based on "Kristen. M. Swanson's Modified Theory of Caring (1991)."

Caring

Swanson's Definition of Caring is "A nurturing way of relating to a valued other toward one who has a personalsense of commitment and responsibility."(1993)

This caring theory has five processes:-

- Maintaining Belief - Instilling hope
- Knowing - Empathy

- Being with - Presence
- Doing for - Evidence-based practice
- Enabling - Empowerment

3.4 Statistical tools

Pretest was conducted for both control and study group students with dysmenorrhea in one menstrual cycle without administration of ginger tea. The researcher manipulated the study group by administering ginger tea starting from two days before the onset of menstrual cycle and continued until the fifth day of menstrual cycle to the study group of students and post test was conducted to evaluate the effectiveness of ginger tea on dysmenorrhea was computedby the post test.

The research design is represented dramatically as follows:

O1 X O2

O1 - Pre test to assess dysmenorrhea X – ginger tea administrationO2 – Post test to assess dysmenorrhea

Comparison of Mean and Standard Deviation of Level of Pain among Students Before and After Administration of Ginger Tea. N=60

Level of pain	Mean	SD	't' value
Before administration of ginger tea	6.60	1.59	20.74***
After administration of ginger tea	2.47	1.11	

*****p<0.05**

It can be inferred from the above table that, before administration of ginger tea level of pain of students were high in both control and study group (M=6.60, SD=1.59) in comparison with the pain scores of after administration of ginger tea in study group (M=2.47, SD=1.11). The difference was found statistically significant at p<0.05 level of confidence and can be attributed to the effectiveness of ginger tea on dysmenorrhea. Hence there is a reduction in level of dysmenorrhea after administration of ginger tea among college students.

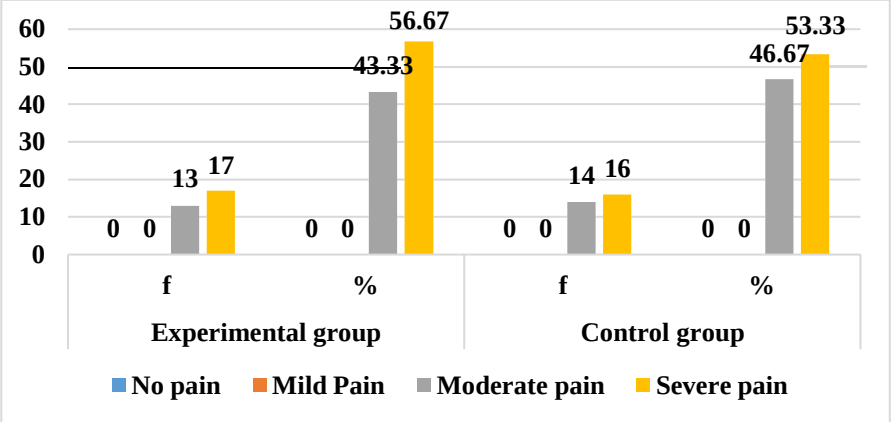
Pretest level of dysmenorrhea among college students.

This section deals with the pretest level of dysmenorrhea among college students in experimental and control group.

Table 8: Level of dysmenorrhea among college students (N=60)

Level of dysmenorrhea	Experimental group		Control group	
	f	%	f	%
No pain	0	0	0	0
Mild Pain	0	0	0	0
Moderate pain	13	43.33	14	46.67
Severe pain	17	56.67	16	53.33

The above table shows that majority of the sample (56.6%) had severe pain, 43.33% had moderate pain, and none of the sample had no pain and mild pain, in the experimental group. In the control group 53.3% had severe pain, 46.67% had moderate pain, and none of them had no pain and mild pain.



Pre Test Level of Dysmenorrhea

Fig. 1: Pre Test Level of Dysmenorrhea Among College students in Both Group

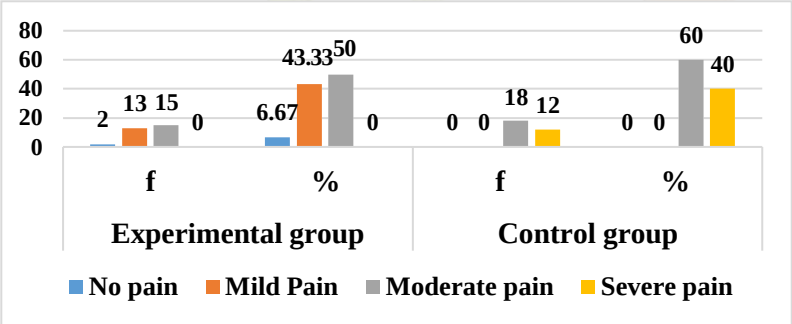
Posttest level of dysmenorrhea

This section deals with the posttest level of dysmenorrhea among college students in experimental and controlgroup in a both group.

Table 9: Posttest level of dysmenorrhea (N=60)

Level of dysmenorrhea	Experimental group		Control group	
	f	%	f	%
No pain	2	6.67	0	0
Mild Pain	13	43.33	0	0
Moderate pain	15	50.00	18	60
Severe pain	0	0	12	40

The above table shows that 6.67% of the sample had no pain, 43.33% had mild pain, 50% had moderate pain, and none of them had severe pain. In control group 60% of the sample had moderate pain, 40% of them had severe pain, and none of the had no pain and mild pain.



Post Test Level of Dysmenorrhea

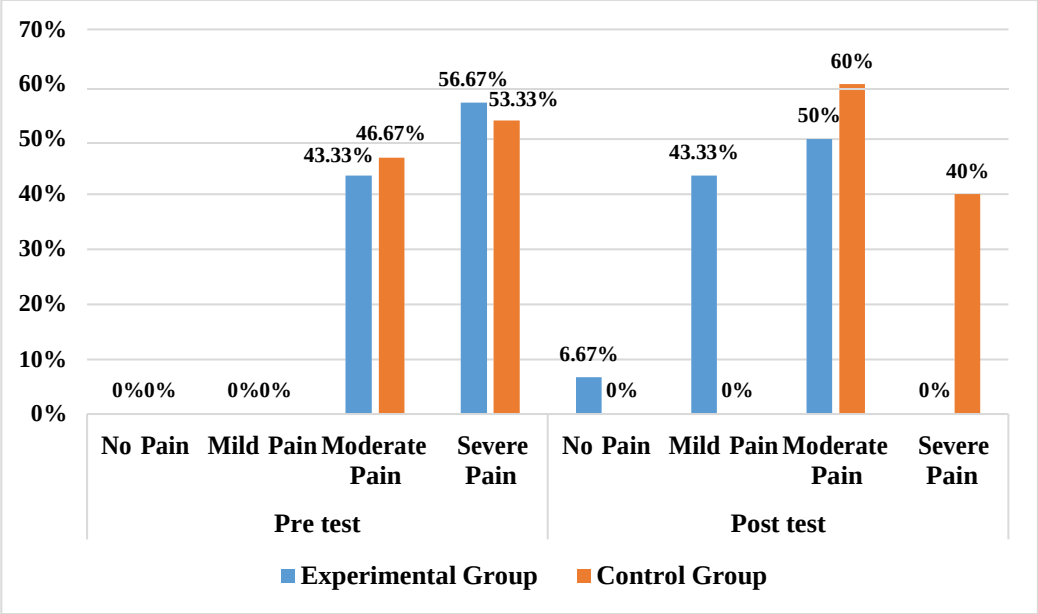
Fig. 2: Post Test Level of Dysmenorrhea Among College Students in Both Group

Comparison of pre and posttest level of dysmenorrhea.

Group	Pre test				Post test			
	No Pain	Mild Pain	Moderat ePain	SeverePain	NoPain	MildPain	Modera tePain	SeverePain
Experimenta l Group	0%	0%	43.33%	56.67%	6.67%	43.33 %	50%	0%
ControlGroup	0%	0%	46.67%	53.33%	0%	0%	60%	40%

The above table shows that in experimental group, the pretest score was 43.33% had moderate pain, 56.67% had severe pain and none of them having no painand mild pain the post test score shows that 6.67% had no pain, 43.33% had mild pain, 50% of them had moderate pain and none them had severe pain.

In control group, the pretest score was 46.67% had moderate pain, 53.33% hadsevere pain and none of them had no pain and mild pain. The post test score was 60% had moderate pain and 40% had severe pain and none of them had no pain and mild pain.



Level of Dysmenorrhea

Fig. 3: Comparison of Pre and Post Test Level of Dysmenorrhea in AmongCollege Students in Experimentaland Control Group.

Effectiveness of Ginger tea on dysmenorrhea among college students

Effect of Ginger tea on dysmenorrhea.

Category	Experimental group		Control group		Mean difference	't' value	df	Table value
	Mean	SD	Mean	SD	MD			
Level of Dysmenorrhea	3.36	1.54	6.26	1.17	2.9	8.10*	58	2.0

*** Significance P<0.05**

The above table shows that the post test mean pain score in the experimental group is 3.36 and SD 1.54 and in control group mean score is 6.26 and SD 1.17. The mean difference is 2.9. The calculated't' value is 8.10 is higher than the table value 2.0. Hence there is a reduction in level of dysmenorrhea after administration of gingertea among college students.

RESULTS AND DISCUSSION

The study findings will help the midwives nurse to identify dysmenorrhea related problems when they examine the adolescents either in health centre, school /college or community. It also suggests the importance of conducting school health programs to prevent, treat and create awareness on menstrual problems and hygienic practices.

The findings of this study indicate that the dysmenorrhea is a major health problem faced by the students, which need a non-pharmacological healing approach. Ginger tea is a simple, easy to implement, easily available, no notable side effects and most acceptable choice to reduce the level of dysmenorrhea among students. The results supported the incorporation of herbal medicine to relieve dysmenorrhea

Recommendations

This study can be conducted:

- On larger sample to generalize the results.
- Among different groups like adolescents, young women, married women, teenagers etc.
- In different settings with similar facilities.
- A time series design with the post test at interval of 2, 4, 6 months to assess the administration of ginger tea,and its effectiveness in reducing the level of dysmenorrhea.
- On the quality of life of women with dysmenorrhea.

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