

Effects of Selected Yogic Practices and Naturopathic Home based treatments on Painful Menstruation in Adolescent School Girls



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ABSTRACT

Pain during menstrual cycle or periods is one of the most common health related problems being faced by girls today. It may be associated with other complaints or may be independent of other health related complaints. The problem of painful menstruation, which is medically known as Dysmenorrhea is estimated to occur in 20% to 90% of women of reproductive age particularly young school going girls. It is reported mostly by young girls in their late teens. The prevalence of dysmenorrhea in adolescent females has been reported to be 67.2% by one study and 90% by another. Girls with this problem mainly seek conventional treatment which includes prescription of antispasmodics containing atropine derivatives and analgesics containing paracetamol or phenacetin. Recent studies have shown the side effects of pain medications particularly on kidneys & liver. This has made the researchers to look out for safer form of therapies. Many researches have been conducted which have shown the efficacy of alternative therapies like herbal remedies, acupuncture etc. in the management of pain of dysmenorrhea and to improve their quality of life. The present work is based on the usefulness of yoga and naturopathy in the management of painful periods or dysmenorrhea.

Keywords : Pain, Dysmenorrhea, Yoga, Naturopathy

INTRODUCTION

India has been termed as a country of youngsters with highest population of youth in the world with 356 million 10-24 years old. Young people are the innovators, creators, builders and leaders of the future. These youth are the future of India. Therefore, health of the youth is the major concern these days. Girls constitute a large part of this population. These girls come across a lot of health related problems like nutritional deficiencies and painful periods or dysmenorrhea. Dysmenorrhea is estimated to occur in 20% to 90% of women of reproductive age particularly young school going girls. Reports of dysmenorrhea are greatest among

individuals in their late teens. The prevalence of dysmenorrhea in adolescent girls has been reported to be 67.2% by one study and 90% by another. Therefore, it's becoming a major health issue of concern.

Dysmenorrhea is defined as painful menstruation.

Today, painful menstruation or dysmenorrhea is one of the most frequent of all gynecological complaints. Dysmenorrhea can be manifested in the form of different kinds of pain, including sharp, throbbing, dull, nauseating, burning, or shooting pain. It is commonly seen in young women particularly those who lead sedentary lives. It is of economic & sociological importance because patients are often incapacitated from work and/or social life for many days during each menstrual cycle. This also has adverse psychological impact. Therefore, its treatment is of great importance.

Dysmenorrhea can be **Primary** where the menstrual pain is in absence of any underlying cause or **Secondary** where there can be an underlying pathology as the cause of pain.

Based on the mechanism of pain, Dysmenorrhea is also classified as Congestive, Spasmodic or Membranous.

The mechanism of pain during periods is through action of certain chemicals or hormones in the body called Prostaglandins that make uterus contract during menstruation. These contractions can due to reduced blood supply to uterine walls. Sympathetic parasympathetic imbalance influenced by cyclical changes in genital tract or imbalance in the autonomic nerve supply of uterus causing muscle spasm in uterus leading to pain.

Dysmenorrhea is characterized by Pain in pelvic area or lower abdomen, Pain in lower back, Pain in abdominal area, Pain in thighs, Loss of appetite or Anorexia, Nausea or Vomiting, Fainting or Collapse or Shock. Pain is commonly present on one day before onset of menstruation and on the first day of menstruation and is preceded with lethargy and tiredness; depression and inability to concentrate in work.

OBJECTIVES:

The present study aims to establish that Yoga therapy is more effective in managing the pain during periods than conventional treatment because yoga looks at the problem holistically and therefore provide a holistic management.

DELIMITATIONS OF THE STUDY:

- The present study was limited to girls between 15 to 25 years of age.
- The study included only one school in a small area of Kolar Road.
- The subjects of the study belonged to poor socio-economic class because of which it was difficult to make them follow diet chart. This became even more difficult due to prevalent system of treating girls and boys unequally.
- Certain factors like climatic conditions, environment, personal habits, and cooking styles at home.

REVIEW OF LITERATURE:

Ben-Menachem, M.(1980) observed that 10 high school girls who were given relaxation therapy had significantly less cramping, nausea, concentration problems and irritability during menstrual cycle.

Karel Nespor, M.D. (1989) studied the efficacy of Yogic techniques in management of pain. It was concluded that use of yoga and yoga related techniques in pain management is very beneficial. Self-awareness, relaxation, approaches which use respiration, increased self-understanding and self-acceptance, changed context of pain, increased control, life style improvements, group and social support proved particularly beneficial. The use of yoga in pain management has its transpersonal and philosophical dimensions. Independence and self-confidence of suffering people may be protected in this way. According to some other observers, altered states of consciousness increased the tolerance against pain and enhanced regeneration even in harsh conditions.

Dietvorst, T. F. and Osborne, D.(1978) reported a case study of a single case of a woman with dysmenorrhea who despite hormonal and analgesic treatment showed poor prognosis but significantly improved with biofeedback.

Quillen, M. A. and Denney, D. R.(1982) observed after study on women with dysmenorrhea that women who received four sessions of relaxation training had significant reductions in pain and time lost compared to their own baselines and a control group. Effects were still evident 18 months later.

Sigmon, S. T. and Nelson, R. O.(1988) concluded after their study that Activity scheduling as well as Relaxation training were effective treatments for spasmodic dysmenorrhea.

In a pilot study conducted at Sambhavna Trust Clinic, Bhopal, the effects of Yoga were studied on 56 girls with Dysmenorrhea. 56 girls were divided into three groups. The girls in the Yoga group, who were 15 in number, revealed remarkable improvement by the end of the study when compared to the girls who were given an allopathic antispasmodic i.e. analgesic group and the girls who were given a placebo pill.

RESEARCH METHODOLOGY:

To fulfill the aim of the study, a hypothesis was formulated followed by designing the research.

Hypothesis: The hypothesis established at the commencement of this research was that a combination of Yogic techniques and Naturopathic treatments is effective in treating Dysmenorrhea in females.

Sample Selection: Subjects of this study were school females between 15 to 25 years of age. They were residents of Akbarpur village area, Lalita Nagar and Banjari area of Kolar Road, Bhopal. They belonged to low socio-economic social class. The subjects were selected after a screening test which included answering four questions enquiring about presence of pain during menstrual cycle and what measures are taken to get relief. A total of 100 females were selected through the screening approximately 300 females and placed in two groups of 50 each, Yoga or Experimental group and Control group by Simple Random Sampling method, only after obtaining their written consent.

Inclusion and Exclusion Criteria:

All females who complained of pain during menstruation during survey were included in the experiment. Subjects who were willing to practice yoga and who agreed to remain throughout the duration of experimental period were included.

Females who reported health complaints in which Yoga is contraindicated were excluded from the experiment. Participants unwilling to practice Yoga were also not included in this study.

Ethical Considerations:

Yoga is a harmless therapeutic intervention. It does not pose any serious risk if done under guidance of a qualified and experienced yoga expert. In the present experiment, yoga sessions were conducted under the guidance of the researcher with assistance from other yoga experts. However, an informed consent was obtained from all the participants before commencing the yoga therapy. The participants were also given basic information about beneficial effects of yoga therapy to be used for their treatment. The subjects of the control group were given assurance to impart free yoga training after completion of the experiment.

Variables of the study:

Independent Variables:

1. **Prayer/ Chantings**
2. **Sukshma Yogic Kriyas**
3. **Asanas** (Yogic Postures)
 - (a) to establish balance in hormonal imbalances like Sarvangasana, Halasana, Matsyasana, Bhujangasana
 - (b) to tone up the reproductive organs like Katichakrasana, Yoga Mudra, Pashchimottanasana, Ardhamatsyendrasana, Utthanapadasana, Pawanmuktasana
4. **Relaxation** in Shavasana and Makarasana
5. **Pranayamas** (Breath Regulation Techniques) included were Anuloma Viloma Pranayama and Bhramari Pranayama.
6. **Om Chanting**
7. A nutritional requirement based standard **Diet chart**.
8. Naturopathy treatments like Fomentation and Revulsive Compress on abdomen.

Dependent Variables:

1. Pain before and during menstrual cycle
2. Other complaints associated with menstrual cycle

Tools to be used:

- a. A standard questionnaire on Pain called the **Dallas Pain Questionnaire (D.P.Q.)** with 16 questions based on Visual Analog Scale (VAS) was used before and after the course of study.
- b. A self administered **Menstrual Calendar (M.C.)** was used to record the pain & other symptoms during each menstrual cycle during the course of the study or yogic intervention & during follow up period.

STATISTICAL TECHNIQUES USED:

Data was collected for a period of four months using MS Excel and was analyzed using Data Analysis Tool of MS Excel 2010 and statistical tools like t-tests and p-value.

INTERPRETATION:

Interpretation of the data obtained by 16 questions of **Dallas Pain Questionnaire** showed that the intervention methods used in the study i.e. yogic techniques, appropriate naturopathic treatments, a balanced diet and regular lifestyle counseling helped in obtaining a positive result by **shifting the data from right hand side of the Dallas Visual Analog Scale to left hand side** among the participants of the experimental group.

Analysis of the **Menstrual Calendar** showed that in 60% females of the experimental group, the **length of cycle** reduced towards normalcy, in 30%, it increased and in 20% females, there was no change in the length of cycle. On the other hand, 44% females of the control group reported reduction in the length of cycle, in 48% females, the cycle length increased and there was no change in the length of cycle in only 8% females.

36% females of experimental group reported reduction in **bleeding days** whereas 40% of control group reported the same. The number of females who did not experience any change was same i.e. 58% in both groups.

Comparison between the two groups showed that 38% females of experimental group who initially complained of scanty flow showed an increase in **amount of bleeding**. The same result was reported by 2% of females of control group. Reduction in amount of bleeding was 30% in both the experimental and control group females. No significant change in amount of bleeding was reported by 32% females of the experimental and 68% females of the control group.

All the 50 females in the experimental group reported improved **general health**, induction of a sense of well being, improvement in concentration, less fatigue after routine activities etc. On the other hand, the females of the control group did not report any change in their general health.

Table 1: Interpretation of Dallas Pain Questionnaire

S. NO.	DALLAS PAIN QUESTIONNAIRE	EXPERIMENTAL GROUP		CONTROL GROUP	
		Pre - Test (%)	Post - Test (%)	Pre - Test (%)	Post - Test (%)
I	Domain 1 (General Health & Physical Activities)				
Q1	How much do you depend on medications to relieve pain during periods?	43.6%	8.2%	18.4%	24.8%
Q2	Can you look after yourself due to pain during periods?	59%	13%	32%	34.8%
Q3	Do You face any problem in lifting heavy weights due to	60.6%	13.8%	36.2%	37%

	pain during periods?				
Q4	Do you face any problem in walking due to pain during periods?	64.4%	15.4%	41.2%	43%
Q5	Do you face any problem in sitting due to pain during periods?	70%	18.4%	42.4%	42.2%
Q6	Do you face any problem in standing due to pain during periods?	64%	16%	38.4%	40.6%
Q7	Do you face any problem in getting sleep due to pain during periods?	60% 60%	14.8%	36.4%	37.6%
II	Domain 2 (Vocational health)	Pre - Test (%)	Post - Test (%)	Pre - Test (%)	Post - Test (%)
Q8	Do you face any problem in attending social gatherings due to pain during periods?	65%	15.6%	30.2%	36%
Q9	Do you face any problem in travelling due to pain during periods?	67%	17.4%	35.8%	38%
Q10	Do you face any problem in going to school due to pain during periods?	59.8%	13.8%	32.4%	36.8%
III	Domain 3 (Psychological & Emotional health)	Pre - Test (%)	Post - Test (%)	Pre - Test (%)	Post - Test (%)
Q11	Does pain during periods affect your mood?	61.6%	13.4%	41.8%	43%
Q12	How much control do you have on your emotions?	62%	13.6%	35.6%	36.4%
Q13	Do you suffer from depression due to pain during periods?	54.6%	10.2%	35.2%	35.8%
IV	Domain 4 (Social Life & Interpersonal Relationships)	Pre - Test (%)	Post - Test (%)	Pre - Test (%)	Post - Test (%)
Q14	Do you feel that your relations with others have deteriorated due to pain during periods?	35.6%	5.8%	19%	27.2%
Q15	Do you get help from others when you have pain during periods?	57.6%	12.4%	36%	33.6%
Q16	Do you feel that people get irritated with you when you suffer from pain during periods?	35.6%	3.6%	27.2%	30.4%

Table 2 : Interpretation of Menstrual Calendar

S. No.	Question	EXPERIMENTAL GROUP	CONTROL GROUP
Q1	WHAT CHANGES WERE OBSERVED IN LENGTH OF CYCLE?		
A.	Increase in Length of Cycle	30%	48%
B.	Reduction in Length of Cycle	60%	44%
C.	No Change in Length of Cycle	20%	8%
Q2	WHAT CHANGES WERE OBSERVED IN NUMBER OF DAYS OF BLEEDING DURING THE CYCLE?		
A.	Increase in Bleeding Days during Cycle	6%	2%
B.	Reduction in Bleeding Days during Cycle	36%	40%
C.	No Change in Bleeding Days during Cycle	58%	58%
Q3	WHAT CHANGES WERE OBSERVED IN AMOUNT OF BLEEDING DURING THE CYCLE?		
A.	Increase in Amount of Bleeding during Cycle	38%	2%
B.	Reduction in Amount of Bleeding during Cycle	30%	30%
C.	No Change in Amount of Bleeding during Cycle	32%	68%
Q4	WHAT CHANGES WERE OBSERVED IN GENERAL HEALTH?		
A.	Improvement in General Health	100%	0%
B.	No improvement in General Health	0%	100%

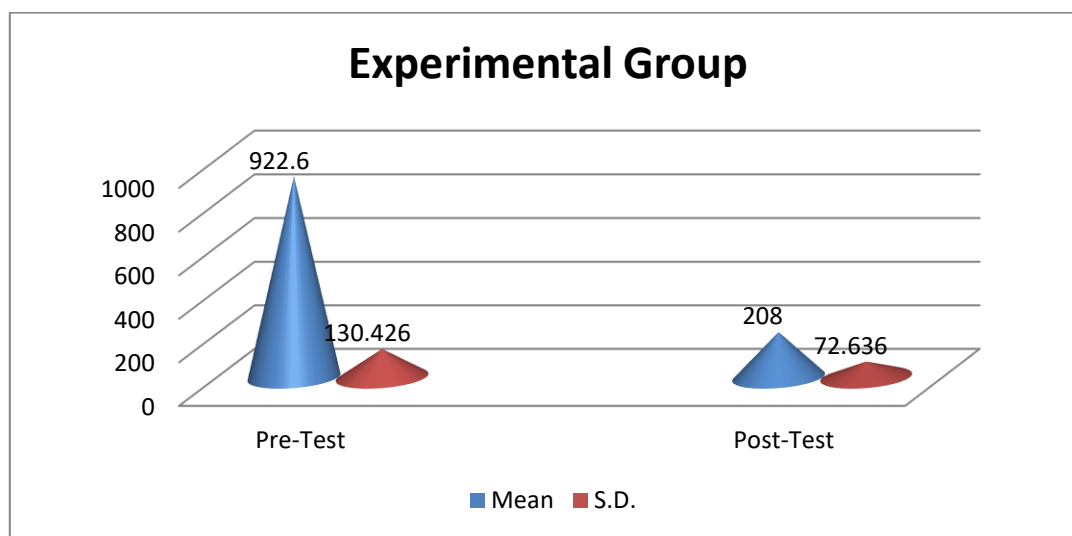
CONCLUDING FINDINGS:

EXPERIMENTAL GROUP (N=50)

Table 1: The t-value is 33.848 and p is <0.01 which is significant at 95% Confidence level.

Description	Mean	S.D.	R	S.E.D.	df	t-Value	Significance Level
Pre-Test	922.6	130.426	0.815	21.112	49	33.848	0.01
Post-Test	208	72.636					

Graph 1 : The t-value is 33.848 and p is <0.01 which is significant at 95% Confidence level.

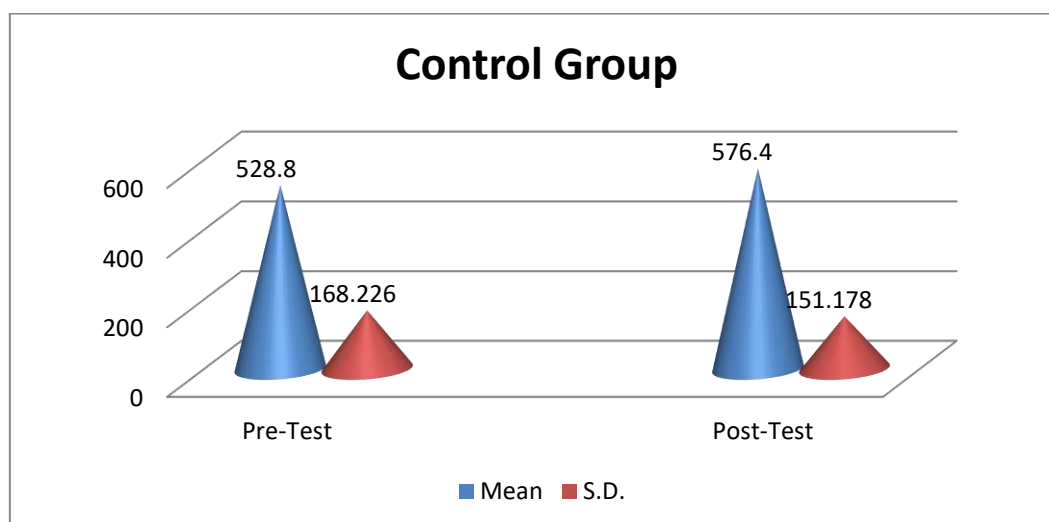


CONTROL GROUP (N=50)

Table 2: The t-value is -1.487 and p is <0.01 which is not significant at 95% Confidence level.

Description	Mean	S.D.	r	S.E.D.	df	t-Value	Significance Level
Pre-Test	528.8	168.226	0.96	31.993	49	-1.487	0.05
Post-Test	576.4	151.178					

Graph 2 : The t-value is -1.487 and p is <0.01 which is not significant at 95% Confidence level



FINDINGS & RESULT

- **Experimental Group:**

From above tables and graphs, it is clear that the pre test Mean and Standard Deviation (SD) of experimental group was 922.6 and 130.426 respectively. In post test, it was found to be 208 and 72.686 respectively. The t value obtained by this data is 33.848 and p is < 0.01 which are significant at 95% Confidence level. This means that the difference between both means is significant. From the above result, it can be interpreted that Yogic practices and simple naturopathic remedies have remarkable beneficial effect on pain and other symptoms experienced by girl.

- **Control Group:**

From above tables and graphs, it is clear that the pre test Mean and Standard Deviation (SD) of Control group was 528.8 and 168.226 respectively. In post test, it was found to be 576.4 and 151.178 respectively. The t value obtained by this data is -1.487 and p is < 0.01 which are not significant at 95% Confidence level. This means that the difference between both means is not significant.

Following hypothesis was set at the commencement of the study:

“Yoga and Naturopathic treatment was anticipated to treat the condition of dysmenorrhea (painful menstruation) in females as Yoga is a holistic science which can treat this condition in a holistic manner or at psycho-physiological level.”

This hypothesis is justified by the present study because by analyzing the t-table and p value, it becomes clear that with **50 df** for t to be significant at **0.05** and at **0.01** level, **t value** should be **2.01** and **2.68** respectively. The

experimental group t-value obtained in the present study is more than the required t-value. This proves that both the groups show significant difference in the criteria studied in the present research work.

CONCLUSION:

The objective of this study was to explore and establish safer and cost effective therapy as conventional treatment only provides temporary symptomatic relief and have serious side effects particularly on kidneys & liver.

The present study through systematic and scientific approach has established Naturopathy and Yoga as effective therapies in treating Dysmenorrhea as they are preventive and curative therapies which work on both internal and external dimensions.

It can be concluded that Yogic practices along with simple Naturopathic remedies reduced menstrual pain and disability experienced by the females of experimental group between 15 to 25 years of age.

SUGGESTIONS:

It is mandatory to suggest that to generalize the study; the hypothesis can be tested on a bigger sample involving people from all strata of society including rural areas where health education is out of reach of people. The study can be can long term prospective study with a longer period of follow up. Motivated by the positive results, it is also suggested that Yoga Education should be made a compulsory part of curriculum and not just a co-curricular activity. This will not only improve psychophysical health of children but also recondition their minds towards positivity. Yoga education can be used to cultivate moral values and a healthy outlook towards sexual issues. Youth is the strength of India. Therefore, it is important they be healthy and morally strong. Yoga can definitely bring about change in the youth and through them in nation.

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