

# Effectiveness Of Yoga Therapy For Relief Of Dysmenorrhoea Among Adolescents Of A Selected High School In Mangalore.

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## Abstract

Adolescence is a period of transition from childhood to adulthood. These are the formative years when maximum amount of physical, psychological and behavioural changes takes place<sup>1</sup>. The adolescent years constitute a period when girls are vulnerable to the development of menstrual dysfunctions. The common menstrual cycle problems are dysmenorrhoea, amenorrhoea, pre-menstrual syndrome and irregular menstruation. Dysmenorrhoea is by far the most common and addressed complaint<sup>2</sup>. The management of dysmenorrhoea is multifaceted and depends on the severity of the problem. It is necessary that the adolescents be educated regarding alternatives for alleviating menstrual discomfort<sup>3</sup>. Yoga is one of the simple, cost effective and natural method. Yoga, by its nature is easier for children to learn than adults because their bodies are closer to the natural stage. Hence the researcher felt the need to evaluate the effectiveness of yoga therapy for the relief of dysmenorrhoea among adolescents of selected high schools in Mangalore.

## Objectives:

- To determine the severity of dysmenorrhoea among adolescents in the experimental and control group as measured by dysmenorrhoea assessment scale.
- To evaluate the effectiveness of Yoga therapy in the experimental group
- To compare the severity of dysmenorrhoea between experimental and control group.

## Methodology:

An evaluative research approach with quasi-experimental design was used for the study. The study was carried out in a selected high school at Mangalore after obtaining written permission from the school authorities. The sample comprised of 40 adolescents in the age group of 12 to 16 years selected by purposive sampling technique. Pre-test data was conducted by administering dysmenorrhoea assessment scale to both the experimental and control group. The second day onwards yoga therapy was taught to the experimental group 45 minutes a day, five days a week, for four weeks prior to the next menstruation. Post-test was conducted after their next menstruation in both groups using same dysmenorrhea assessment scale. Data was analysed using descriptive and inferential statistics.

## Results:

The results showed that majority of sample in the experimental group (55%) and in control group (65%) had 4 – 5 days of menstruation. In the experimental group most (95%) of the sample in the pre-test had moderate pain and 5% had severe pain whereas, in the post-test 80% of sample had mild pain and only 20% moderate pain. The pre and post-test data of control group depicted that the entire sample had moderate pain consistently. The mean post-test dysmenorrhoea score (19.1) was lower than the mean pre-test dysmenorrhoea score (28.95) in the experimental group. The mean post-test dysmenorrhoea score (26.5) was almost similar to the mean pre-test dysmenorrhoea score (27.25) in the control group. The findings showed a significant difference in the mean dysmenorrhoea score ( $t_{19} = 8.249, p < 0.05$ ) and symptoms experienced during painful menstruation ( $t_{19} = 6.496, p < 0.05$ ) in the experimental group before and after giving yoga therapy. The significant difference in the dysmenorrhoea score was also observed between experimental and the control group ( $t_{38} = 7.581, p < 0.05$ ).

**Conclusion:** From the findings of the study, it can be concluded that majority of the sample experienced moderate dysmenorrhoea. Yoga therapy was effective in reducing the severity of dysmenorrhoea in the experimental group.

**Keywords:** Effectiveness; Yoga therapy; dysmenorrhoea; adolescents; high school

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## I. Introduction

Menstruation is a normal physiological cycle, common to all females of the reproductive age group. The initiation of menstruation takes place during early adolescence period. Menstruation is associated with several

physical and psychological problems, which are likely to be complicated by a confused state caused by incomplete or wrong information among adolescents<sup>4</sup>.

Dysmenorrhoea is painful menstruation caused by prostaglandins which cause the muscles of the uterus to contract. It is the most common menstrual disorder and is often seen as the single greatest cause of loss of school or working days among young women. Doctors usually treat menstrual difficulties with pain relievers and hormonal supplements<sup>5</sup>.

Yoga therapy includes the asanas, meditation, pranayama and relaxation. Yoga offers natural and effective methods without any toxic side effects<sup>6</sup>. Yoga practice does not require much space or equipment; it needs an airy place and determination of the aspirant to perform these without fail. The yogic postures increase the strength and vitality of all muscles of the trunk as well as of the internal organs. Practicing these asanas everyday will lead to maintenance of a healthy elastic body and delaying of the ageing process<sup>7</sup>.

## II. Research Methodology

Effectiveness of yoga therapy for relief of dysmenorrhoea among adolescents of a selected high school in Mangalore.

### Sampling criteria

#### Inclusion criteria

Adolescents:

- in the age group of 12 to 16 years suffering from dysmenorrhoea
- who were willing to participate
- who were having moderate to unbearable pain as measured by descriptive pain rating scale
- who had their menstruation one week prior to the pre-test data collection.

#### Exclusion criteria

Adolescents:

- who were on regular treatment for dysmenorrhoea
- who had undergone training in Yoga.

### Selection and development of the tool

On the basis of objectives of the study, a dysmenorrhoea assessment scale was prepared to assess the severity of dysmenorrhoea among the adolescents.

#### Description of the tool:

**Tool 1:** Baseline proforma and Descriptive pain rating scale to select the sample

**Tool 2:** Dysmenorrhoea assessment scale. It had three parts.

Part A: Assessment of dysmenorrhoea using structured questions

Part B: Standardised descriptive pain rating scale

Part C: Rating scale to assess symptoms experienced during dysmenorrhoea.

#### Reliability of the tool

To establish the reliability, the tool was tested on ten students studying in high school. Reliability was established by test-retest method using Karl Pearson's correlation co-efficient. The co-efficient of correlation was 0.9 which indicated that the tool was highly reliable.

#### Data collection procedure

The investigator underwent Yoga therapy training programme and obtained a certificate. Permissions were obtained from the concerned authority for conducting the study. A calm and quiet hall with good ventilation was arranged for Yoga training and practice. Sample were selected according to the selection criteria. Before administering the tool, the purpose of the study was explained to the sample and consent was obtained. On the first day, pre-test data was obtained using the dysmenorrhoea assessment scale from experimental and control group. From the second day yoga therapy was taught to the experimental group 45 minutes a day, five days a week, till the next menstrual cycle. Yoga therapy included asanas, pranayama, meditation and relaxation techniques. Post-test was conducted after the next menstruation in both the groups.

## III. Findings Of The Study

### Baseline proforma

**Table 1: Distribution of baseline characteristics of sample**

**N<sub>1</sub> = 20, N<sub>2</sub> = 20**

	Experimental Group	Control Group
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Variable	f	%	F	%
<b>Duration of menstruation</b>				
2 – 3 days	6	30	3	15
4 - 5 days	11	55	13	65
More than 5 days	3	15	4	20
<b>Use of medication to get relief from pain during menstruation</b>				
Never	15	75	15	75
Sometimes	5	25	5	25

Data in Table 1 shows that majority of the adolescents in the experimental group (55%) and in the control group (65%) had 4-5 days of menstruation. It is observed that 75% of adolescents in both the groups never used any medications to get relief from dysmenorrhoea.

**Severity of dysmenorrhoea among the adolescents in the experimental and control group**

**Table 2: Severity of dysmenorrhoea before and after Yoga therapy in the experimental group**

N<sub>1</sub> = 20

Severity	Pre-Test		Post-Test	
	f	%	F	%
Mild pain (1-20)	-	-	16	80
Moderate pain (21-40)	19	95	4	20
Severe pain (41-61)	1	5	-	-

Data presented in the Table 2 shows most (95%) of adolescents had moderate pain before Yoga therapy whereas only 20% had moderate pain after Yoga therapy. It is observed that 80% of sample had only mild pain after Yoga therapy.

**Table 3: Range, mean, median and standard deviation of pre-test and post-test dysmenorrhoea scores of experimental and control group**

N<sub>1</sub> = 20, N<sub>2</sub> = 20

Group	Test	Range of Score	Mean	Median	Standard deviation
Experimental Group	Pre-test	22-42	28.95	28	5.072
	Post-test	14-23	19.10	19	2.359
Control Group	Pre-test	22-37	27.25	27	4.020
	Post-test	22-34	26.50	27	3.677

The data in the table shows that the mean post-test dysmenorrhoea score (19.10 ± 2.359) was less than the mean pre-test dysmenorrhoea score (28.95±5.072) in the experimental group, whereas in the control group the mean post-test dysmenorrhoea score (26.50±3.677) was almost similar to the mean pre-test dysmenorrhoea score (27.25±4.020). It is also observed that the mean post-test dysmenorrhoea score of the experimental group was less than the mean post-test dysmenorrhoea score of the control group.

**Effectiveness of Yoga therapy**

**Table 4: Mean, standard deviation, mean difference and ‘t’ value of pre-test and post-test dysmenorrhoea scores in experimental group**

N<sub>1</sub> = 20

Test	Mean Score	Standard deviation	Mean difference	‘t’-value
Pre-test	28.95	5.072	9.85	8.249*
Post-test	19.10	2.359		

t<sub>19</sub> = 1.729, p < 0.05

\* = Significant

Data in Table 4 shows that the mean post-test dysmenorrhoea score (19.1) was lower than the mean pre-test dysmenorrhoea score (28.95). The calculated ‘t’ value (t<sub>19</sub> = 8.249) was greater than the table value (t<sub>19</sub> = 1.729) at 0.05 level of significance.

**Table 5: Mean, standard deviation, mean difference and ‘t’ value of symptoms experienced during painful menstruation in the pre-test and post-test in the experimental group**

N<sub>1</sub> = 20

Test	Mean score	Standard deviation	Mean difference	‘t’-value
Pre-test	18.05	3.648	5.70	6.496*
Post-test	12.35	1.904		

t<sub>19</sub> = 1.729, p < 0.05

\* = Significant

Data in Table 5 depicts the mean post-test score (12.35) of symptoms experienced during painful menstruation was lower than the mean pre-test score (18.05). The calculated 't' value ( $t_{19} = 6.496$ ) was greater than the tabled value ( $t_{19} = 1.729$ ) at 0.05 level of significance.

**Table 6: Mean, standard deviation, mean difference and 't' value of post-test dysmenorrhoea scores in experimental and control group**

**N<sub>1</sub> = 20, N<sub>2</sub> = 20**

Group	Mean Score	Standard deviation	Mean difference	't'-value
Experimental Group	19.10	2.359	7.40	7.581*
Control Group	26.50	3.677		

**$t_{38} = 2.021, p < 0.05$**

**\* = Significant**

Data in the table shows that the mean post-test dysmenorrhoea score (19.1) of the experimental group after Yoga therapy was lower than the mean post-test dysmenorrhoea score (26.5) of control group. The calculated 't' value ( $t_{38} = 7.581$ ) was greater than the table value ( $t_{38} = 2.021$ ) at 0.05 level of significance. This shows that Yoga therapy is effective in reducing dysmenorrhoea.

#### IV. Discussion

- It is observed that the mean post-test dysmenorrhoea score (19.1) was lower than the mean pre-test dysmenorrhoea score (28.95) in the experimental group.
- The findings of the study revealed a significant difference in the mean dysmenorrhoea score of adolescents in experimental group before and after Yoga therapy ( $t_{19} = 8.249, p < 0.05$ ).
- A significant difference was also found in the mean score of symptoms experienced during painful menstruation in the experimental group before and after yoga therapy ( $t_{19} = 6.496, p < 0.05$ ).
- There was a significant difference in the dysmenorrhoea score of experimental group and control group ( $t_{38} = 7.581, p < 0.05$ ).

#### Implications

The findings of the study have implications in various areas of nursing practice, nursing education, nursing research and nursing administration.

**Nursing Practice:** Nurses working in clinical settings if familiar with yogic techniques can teach the yogic techniques to the patients according to their needs.

**Nursing Education:** Dysmenorrhea is one of the most common causes for absenteeism in classes or work. Based on the interest of nursing students, they should be encouraged or motivated to practice Yoga in the Nursing Institutions.

**Nursing Research:** Dysmenorrhea is one of the major problems among women. There are limited studies regarding alternative approaches to dysmenorrhea. There is good scope for nurses to conduct research on various strategies that can be used in the effective management of dysmenorrhea.

**Nursing Administration:** The nurses administrator can take the initiative in imparting health information by individual and group teaching in the hospitals, schools, colleges and other community settings. The nurse administrator, if aware of Yoga therapy can suggest his/her subordinates to practice yogic techniques which will help nurses to become physically and mentally strong.

#### Recommendations

- A similar study can be conducted for a longer duration.
- A comparative study can be conducted to assess the severity of dysmenorrhoea between adolescents in rural and urban areas.
- The study may be replicated using a larger sample
- A study can be conducted using other alternative methods or techniques like acupuncture, heat application or transcutaneous electrical nerve stimulation for relief of dysmenorrhea.

#### V. Conclusion

Menstruation is a physiological cyclic function common to all healthy adult females. There are several minor health problems associated with menstruation. If assistance is given in time the young girl learns to cope

with it and does not allow it to interfere with healthy living. The findings of the study show that Yoga therapy is effective in relieving dysmenorrhea among the adolescents in the experimental group. Therefore the adolescents need to be made aware of the benefits of yoga therapy.

### **Bibliography**

- [1] Syamalamba, Mangarulkar NV. Understanding Adolescents. Health Action 2001 Feb;16-19.
- [2] Patel V, Tanksale V, Sahasrabhojane M, Gupte S, Nevrekar P. The Burden And Determinants Of Dysmenorrhea. British Journal Of Obstetrics And Gynecology 2006; 113:453-63.
- [3] Fogel IC, Woods FN. Women's Healthcare A Comprehensive Handbook. New Delhi: Sage Publications;1995.
- [4] Mehandiratta L, Aggarwal KA, Kumar R, Walia I. Menstrual Problems Among Adolescents. The Nursing Journal Of India 1999 Feb;90(2):41-3
- [5] Dawn CS. Textbook Of Gynecology, Contraception And Demography. 14<sup>th</sup> Ed. Kolkata: Dawn Books Publications; 2005.
- [6] Golub S. Periods From Menarche To Menopause. New Delhi: Sage Publications; 1994.
- [7] Manjunath NT. Yoga. Health Action 1991 Mar;19-22