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Efficacy of Yoga on Primary Dysmenorrhea Among Adolescent Girls

Deepika S.¹, Jayanthi R.^{2*} and Parthiban V.³

¹Faculty of Yoga Sciences and Therapy, Meenakshi Academy of Higher Education and Research, Vembuliamman Koil Street, West K. K. Nagar, Chennai 78, Tamil Nadu, India

²Department of Obstetrics and Gynecology, Meenakshi Medical College Hospital And Research Institute, Enathur, Kanchipuram 631552, Tamil Nadu, India

³Center for Yoga, College of Engineering and Technology, SRM Institute of Science and Technology, Kattankulathur 603203, Tamil Nadu, India

*Corresponding Author

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Abstract: Teenage females with primary dysmenorrhea were studied to see whether yoga practices had any effect on their body mass index (BMI) or discomfort levels. Thirty (N=30) teenage females with dysmenorrhea, all located in Tiruvallur, India were randomly divided into two groups of fifteen (15) participants each. It was speculated that yoga would lead to significant variations in BMI and pain levels among teenage females with primary dysmenorrhea. Two groups were evaluated on their BMI and level of discomfort prior to commencing the workout program. Yogic techniques were administered to the subjects in Group I (Experimental Group) on a daily basis for a total of eight weeks. Group II (Control Group) participants were not subjected to any specialized instruction but instead encouraged to continue about their normal lives. After the experiment time, both groups were retested using the same dependent variables. Analysis of covariance (ANCOVA) was performed to compare the two sets of subjects to see whether there were any discernible differences. The significance threshold was set at 0.05, and a 95% confidence range was calculated. Yoga's effects on teenage females with primary dysmenorrhea were seen in the Experimental Group's which lower BMI and less severe discomfort compared to those of the Control Group. The hypothesis was accepted with a 95% probability. Therefore, it can be concluded that teenage females who engage in yoga activities get the benefits of reduced discomfort and a healthy body mass index.

Keywords: Absenteeism, Dysmenorrhea, Yoga, Body mass index, Discomfort level

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Introduction

In the gynecological disorder known as dysmenorrhea, or painful menstruation without pelvic disease, the uterus contracts as a result of

the production of prostaglandins and other inflammatory mediators. It is believed that these factors contribute significantly to primary

dysmenorrhea. Dysmenorrhea is common, yet it is routinely mistreated by doctors, pain researchers, and even women who may dismiss their symptoms as inevitable. Effects of dysmenorrhea on women's pain threshold, disposition, quality of life, and ability to rest comfortably during their periods. Over half of menstrual teenagers suffer from dysmenorrhea, which leads to significant private and public health issues, significant absenteeism, and poor self-esteem.

Dysmenorrhea is one of the most common gynecological illnesses, affecting a large number of young women. Dysmenorrhea affects anywhere from 16 per cent to 90 per cent of women, with greater rates recorded among teenage females. In addition, the estimated prevalence rates of dysmenorrhea are 85.2% in India and 83.6% in Ghana, whereas in the United States of America it is 85%.

Yoga is an all-encompassing practice for maintaining a healthy body and mind. It is a tried-and-true natural method that, although not a panacea, may alleviate period discomfort, help to relax mind, and give the strength to fight back against the temptation to give in to it. As a result, Yoga improves quality of life by decreasing menstrual pain and sympathetic reactivity in teenage girls with primary dysmenorrhea. It has the potential to help the millions of young women throughout the world who have monthly discomfort as a result of primary dysmenorrhea.

There is a lot of data on how dysmenorrhea affects the world as a whole. Adult women also require guidance on how to deal with menstruation discomfort and how to use positive reinforcement to help them persevere through their periods pain-free. Therefore, a paradigm change is necessary to implement the theoretically safe and generally efficient technique. In this way, the health of adults and their ability to cope with painful menstruation may benefit by participating in comprehensive therapies like yoga.

The objectives of this study are – (i) to determine if there is a significant difference in chosen physiological variables such as Body Mass Index (BMI) among primary dysmenorrhea adolescent girls as a result of yoga practices; and (ii) to determine if there are significant differences in selected psychological variables such as pain among primary dysmenorrhea adolescent girls who practice yoga. The study hypothesized that yogic practices would significantly improve the physiological and psychological characteristics of primary dysmenorrhea in adolescent girls.

The following criteria were used to make the diagnosis of primary dysmenorrhea:

- Adolescent girls suffering from Primary Dysmenorrhea (Age 18 and 22 years).
- Lower abdominal or pelvic pain that lasts 8-72 hours and is associated with the onset of menstruation;
- Pain in the medial or anterior femur; and
- Menstrual pain is present, along with symptoms such as headache, diarrhea, nausea, and vomiting.

The study excluded from the study the adolescent girls with the following:

- Adolescent girls who preferred not to take part.
- Adolescent girls taking Medication.
- History of pelvic pathologies like fibroids, adenomyosis, polycystic ovary syndrome, and Endometriosis.

Materials and Methods

Thirty primary dysmenorrhea adolescent girls (N=30) were chosen at random from 60 volunteers in Avadi, Chennai, India between the ages of 18 and 22 and divided into two groups: I and II, each with 15 subjects. Before beginning the training program, both groups were given a preliminary test on Body Mass Index (BMI) and Pain (Numeric Rating Scale-NRS). For a total of eight weeks, Group I (Experimental Group)

Table 1: Pre- and post-test means of body mass index (BMI)

Test	Experimental Group	Control Group	Source of variance	Df	Sum of square	Mean square	F
Pre-test mean	26.91	26.64	Between	1	0.56	0.56	0.74
			Within	28	21.11	0.75	
Post-test mean	23.23	26.25	Between	1	68.40	68.40	17.82*
			Within	28	107.51	3.84	
Adjusted mean	23.10	26.37	Between	1	78.28	78.28	23.64*
			Within	27	89.39	3.31	

* Significant at 0.05 level of confidence. (With df 1 and 28 and 1 and 27, the table values required for significance at 0.05 are 4.2 and 4.21, respectively.)

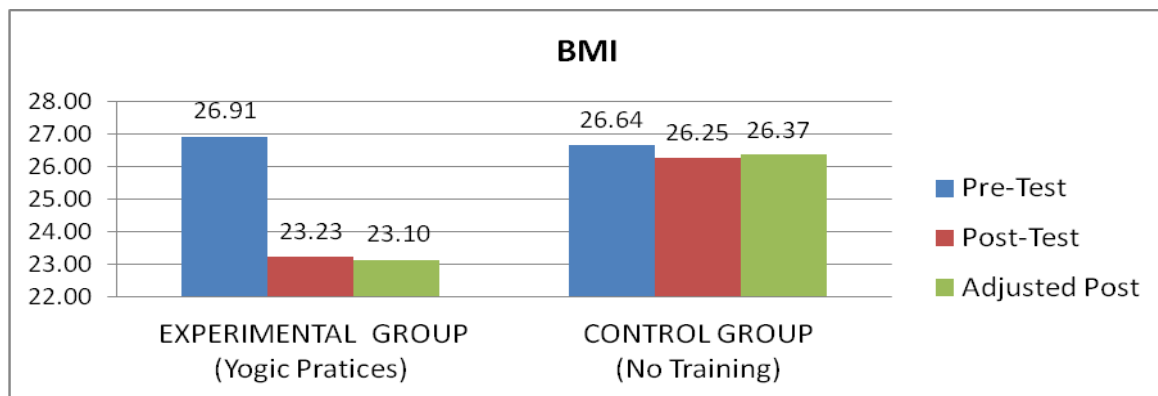


Fig. 1: Pre- and post-test means of body mass index (BMI) of control and experimental group.

subjects were offered Yogic practices such as Loosening Exercises, Surya Namaskar, Asanas, Pranayama, and Relaxation for six days a week. During the experiment, Group II (Control Group) volunteers were allowed to go about their daily lives as usual, with no special training but active rest. After eight weeks, the two groups were retested on the same dependent variables, including BMI and pain(Numeric Rating Scale-NRS), and their results were evaluated. The level of confidence for the significance test was set at 0.05. The significant differences between the experimental and control groups were determined using analysis of covariance (ANCOVA). The level of confidence for the significance test was set at 0.05.

Results and Discussion

The data on the variable obtained from the two

groups before and after the training period was statistically analyzed using the Analysis of Covariance (ANCOVA) to assess the significant difference, and the hypothesis was tested at a confidence level of 0.05.

The Experimental group obtained 'F' value of 17.82 in relation to Body Mass Index (BMI) which was significantly greater than the needed 'F' value (4.20), indicating (Table 1; Fig. 1) that there is a significant difference in the experimental group's BMI. The Control group obtained 'F' value of 0.74 in relation to Body Mass Index (BMI) which was much lower than the needed 'F' value (4.21), demonstrating that there is no significant difference in the control group.

The Experimental group obtained 'F' value of 77.28 for Pain (Numerical Rating Scale) which was much greater than the required 'F' value

Table 2: Pre- and post- test means for pain (numerical rating scale)

Test	Experimental Group	Control Group	Source of variance	Df	Sum of square	Mean square	F
Pre-test mean	7.93	8.07	Between	1	0.13	0.13	0.17
			Within	28	21.87	0.78	
Post-test mean	2.87	7.13	Between	1	136.53	136.53	77.28*
			Within	28	49.47	1.77	
Adjusted mean	2.84	7.16	Between	1	139.32	139.32	82.60*
			Within	27	45.54	1.69	

* Significant at 0.05 level of confidence. (With df 1 and 28 and 1 and 27, the table values required for significance at 0.05 are 4.2 and 4.21, respectively)

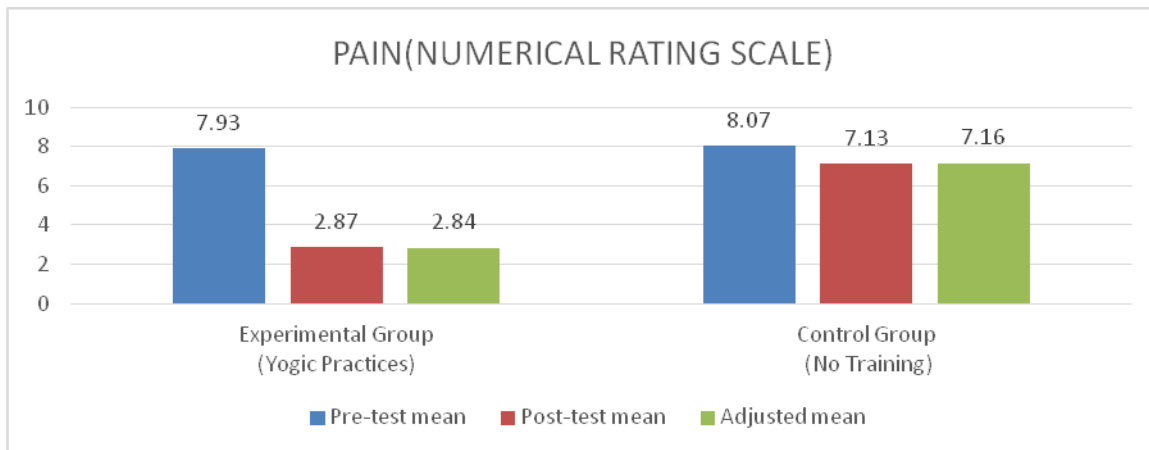


Fig. 2: Pre- and post- test means for pain (numerical rating scale) of experimental and control group.

(4.20), indicating (Table 2; Fig. 1) that there is a significant difference in the experimental group Pain (Numerical Rating Scale). The Control group achieved 'F' value of 0.17 for Pain (Numerical Rating Scale) which was much lower than the needed 'F' value (4.21), indicating that there is no significant difference in the control group.

Yonglitthipagon *et al.* (2017) examined the impact of a tailored yoga program on menstruation pain, physical fitness, and quality of life (QOL) in women without athletic training who suffer from primary dysmenorrhea (PD). Thirty-four participants were split evenly between the control and yoga groups. In this 12-week trial, participants' menstrual discomfort, fitness, and

quality of life were all evaluated at the beginning and conclusion. While the control group did not get any sort of exercise, the yoga group was urged to practice yoga for 12 weeks at home, 30 min twice a week. The yoga group participated in 30 min yoga sessions twice weekly at home for 12 weeks, whereas the control group did not engage in any physical activity. Menstrual discomfort, physical fitness, and quality of life all improved much more in the yoga group than in the control group.

According to Julaecha *et al.* (2020), a lack of progesterone in the blood is the root cause of dysmenorrhea, a menstrual illness. Among women of reproductive age, 45-95% of cases of

dysmenorrhea occur in sedentary teenagers. The effects of dysmenorrhea may be seen in the number of kids who drop out of school and refuse to engage in learning. Pain relief via yoga is a real thing. They have investigated whether or not yoga may alleviate dysmenorrhea symptoms. The research used a quasi-experimental one-group pre-posttest design. Thirty-three college-aged women made up the study's sample. The participants in this research were selected at random. Period pain is measured using the Numeric Rating Scale (NRS). The acquired data was examined for normality, and the repeated ANCOVA test was used for statistical analysis if the data met the criteria. Comparing the mean pain scale from before and after treatments in Months 1 and 2, the results showed a significant change. Results showed that yoga helped participants feel less discomfort during dysmenorrhea. The results indicate that yoga may help reduce dysmenorrhea discomfort.

Conclusion

It is concluded that the experimental group (Group I) among primary dysmenorrhea teenage girls had a lower Body Mass Index (BMI) as well as a lower Pain (Numeric Rating Scale-NRS) than the control group (Group II).

References

- Julaecha J, Safitri S, Ajeng GW. (2020) Pain reduction during dysmenorrhea with yoga movement. *J Kesehatan Prima* 14(1): 53-59.
- Yonglitthipagon P, Muansiangsai S, Wongkhumngern W, Donpunha W, Chanavirut R, Siritaratiwat W, Mato L, Eungpinichpong W and Janyacharoen T. (2017) Effect of yoga on the menstrual pain, physical fitness, and quality of life of young women with primary dysmenorrhea. *J Bodyw Mov Ther.* 21(4): 840-846.