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Effect of yogic practices on selected risk factors among adolescent girls suffering with dysmenorrhea

K. Geetha
Ph.D Scholar, Faculty of Yoga Sciences and Therapy, Meenakshi Academy of Higher Education and Research (Deemed to be University), No.12, Vembuliamman Koil Street, West K.K.Nagar, Chennai-78, Tamil Nadu, India
Email: geethakachapeswaran@gmail.com

R. Elangovan
Professor & Head, Faculty of Yoga Sciences and Therapy, Meenakshi Academy of Higher Education and Research (Deemed to be University), No.12, Vembuliamman Koil Street, West K.K.Nagar, Chennai-78, Tamil Nadu, India
Email: relangovantnpesu@gmail.com

***Abstract*---**To achieve the purpose of the random group experimental study, 120 girls suffering with dysmenorrhea were identified, 90 girls among them would be screened and finally, 30 were selected randomly by using a random group sampling method between 18 and 22 years of age. The subjects might be divided into an experimental group and controa l group of 15 subjects each. The Experimental Group was treated with Yogic practices for 12 weeks, Six days a week during the morning. The control group was on active rest. The pre-test and post-test were conducted before and after the training for the experimental and control group and the scores on Menstrual Frequency were measured. Analysis of covariance (ANCOVA) was used to find out the significant differences among the groups. The result of the study showed that Menstrual Frequency reduced significantly as a result of Yogic practices in the Experimental Group. Hence the hypothesis was accepted at a 0.05 level of confidence. The conclusion was that the Yogic practices helped to reduce Menstrual Frequency among adolescent girls suffering from dysmenorrhea.

***Keywords*---**adolescent girls, yogic practices, dysmenorrhea, menstrual frequency.

Introduction

Menstruation is normal vaginal bleeding that occurs as part of a woman's monthly cycle. The menstrual blood is partly blood and partly tissue from inside the uterus. Menstrual cramps happen when a chemical called prostaglandin makes the uterus contract. Prostaglandin secretion becomes more when their Menstruation cycle is more irregular. During menstruation, the uterus contracts more strongly. If the uterus contracts too strongly, it can press against nearby blood vessels, cutting off the supply of oxygen to muscle tissue. Dysmenorrhea is the medical term for pain with menstruation or menstrual cramps. There are two types of dysmenorrhea: primary and secondary. Primary dysmenorrhea is the name for common menstrual cramps that come back over and are recurrent. Menstrual pain from secondary dysmenorrhea is a result of problems with the reproductive organs. Conditions that can cause cramping include, Endometriosis, Adenomyosis, Pelvic inflammatory disease, cervical stenosis, and Fibroids. Dysmenorrhea is painful menstruation caused due to hormonal imbalances, endometriosis, and dietary habits. It is the root cause of many physiological problems too. Dysmenorrhea is of two types Primary and Secondary. Secondary dysmenorrhea will lead to infertility. Hence the significance of the study is to create awareness among young Girls for disease-free life by observing Yogic practices regularly.

The aim of the study is to find out the effect of yogic practices on, selected physiological variables among adolescent girls suffering from dysmenorrhea. Teenagers who have dysmenorrhea are more likely to be overweight and obese to have early warning signs of diabetes and heart disease than those with regular menstrual cycles. It is hypothesized that there was a significant difference due to the yogic practices on selected physiological variables among adolescent girls suffering from dysmenorrhea than the control group. To find whether there is any significant difference in selected physiological variables due to the practice of yoga

Materials and Methods

To achieve the purpose of the random group experimental study, 120 girls suffering with dysmenorrhea were identified, 90 girls among them would be screened and finally, 30 were selected randomly by using a random group sampling method between 18 and 22 years of age. The subjects might be divided into an experimental group and a control group of 15 subjects each. The Experimental Group was treated with Yogic practices for 12 weeks, Six days a week during the morning. The control group was on active rest.

Training schedule

Training Schedules were designed to induce persistent practice and flexibility in adolescents during treatment.

Table 1
Training schedule for experimental group

Sl.No.	Name of The Training (Monday to Saturday)	Duration		
		1 to 4 Weeks	5 to 8 Weeks	9 o 12 Weeks
		40 Minutes	50 Minutes	60 Minutes
1.	Loosening Exercises	5	5	3
2	Suryanamaskar	6	10	10
3	Asanas	15	18	25
4	Pranayama	4	5	7
5	Meditation	10	12	15

Table 2
Yogic practices for experimental group

Yogic practices for experimental group for 12 weeks (60 Minutes a Day) Training Time 6 am to 7 am.								
SL.NO.	Yogic Practices	Frequency	Posture	Breadth	Repetition/ Round	Duration of each practice (in seconds)	Rest time (in seconds)	Total duration (in seconds)
1	Loosening Exercises	6 days a Week		Normal	3	50	10	180
2	Surya Namaskara			Deep	5	90	30	600
ASANAS FOR 25 MINUTES, PRANAYAMA FOR 10 MINUTES & MEDITATION FOR 15 MINUTES								
3	Padahasthasana	6 da	Forward	Exhale	3	15	5	60
			Position	Normal 12 Breadth				
			Backward	Inhale				
4	Parivartha Trikonasana		Forward	Exhale	3	30	10	120
			Position Right side	Normal 12 Breadth				
			Twist	Exhale				
			Position left side	Normal 12 Breadth				
			Backward	Exhale				
5	Adhomuktha Swasana		Forward	Exhale				
			Position	Normal 12 Breadth				

			Backward	Inhale	3	20	20	120
6	Bujangasana		Raise up	Inhale	2	20	10	60
			Position	Normal 12 Breadth				
			Lie down	Exhale				
7	Salabasana		Raise up	Exhale	2	20	10	60
			Position	Normal 12 Breadth				
			Lie down	Inhale				
8	Pachimottanasana		Forward	Exhale	2	20	10	60
			Position	Normal 12 Breadth				
			Backward	Inhale				
9	Badhakonasana		Forward	Exhale	2	20	10	60
			Position	Normal 16 Breadth				
			Raise up	Inhale				
10	Ardha matsyendrasana		Bend & Twist	Exhale	2	20	10	60
			Position Right side	Normal 12 Breadth				
			Relax	Inhale				
			Bend& Twist	Exhale				
			Position	Normal 8 Breadth				
			Relax	Inhale				
11	Koormasana		Stretch& Forward	Exhale	2	20	10	60
			Position	Normal 12 Breadth				
			Raise& Relax	Inhale				
12	Sarvangasana		Stretch& Tighten Knees	Deep Breadth				
			Bend& Tighten	Exhale				
			Raise hip	Exhale				
			Position	Normal 12 Breadth				

			Slide Down	Exhale	3	30	20	150
13	Matyasana		Lie& Backward	Exhale	3	20	10	90
			Position	Deep 16 breath				
			Raise& Forward	Inhale				
14	Bhastrika	6 days a week	Vajrasana	25 Breadth	3	30	30	180
15	Ujjay Breadth		Sukasana	16 Breadth	5	20	10	150
16	Kapalapathi		Padmasana	20 Breadth	3	20	10	90
17	NadiShodhana		Sukasana	20 Breadth	3	30	30	180
18	Meditation		Sukasana	Normal	1	900		900
19	Shavasana		Lie down	Slow Breadth	1	600		600

The test and retest were also conducted for the subject reliability, the same subjects were used, under similar conditions by the same tester. The control group was not given any training. The pre-test and post-test were conducted before and after the training for two groups and the scores on Physiological and physiological factors are measured. Analysis of covariance (ANCOVA) is to be used to find out the significant differences among the groups' Methodology followed was clearly presented in the flow chart below.

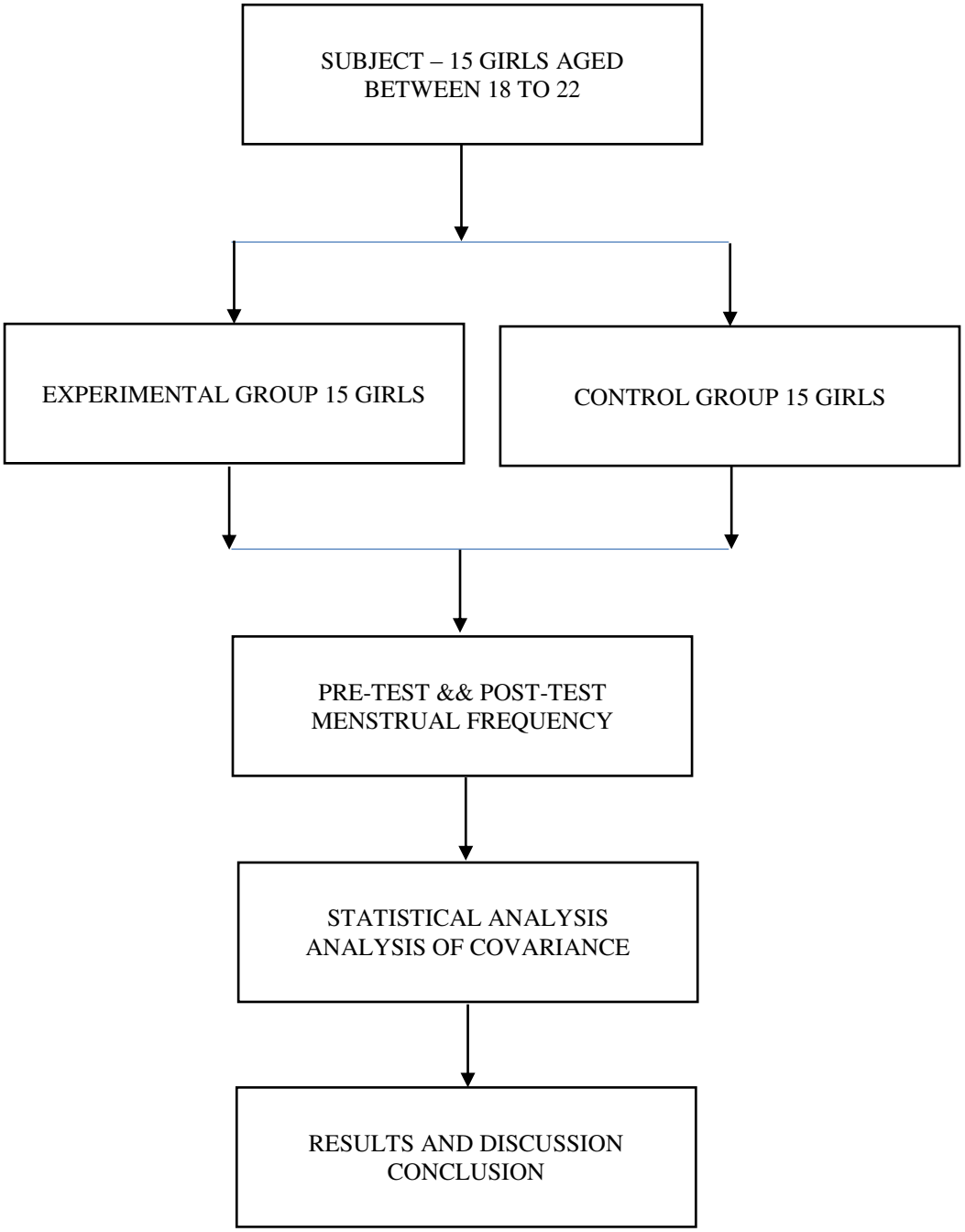


Figure 1. Flow chart showing methodology adopted for study

Results and Discussion

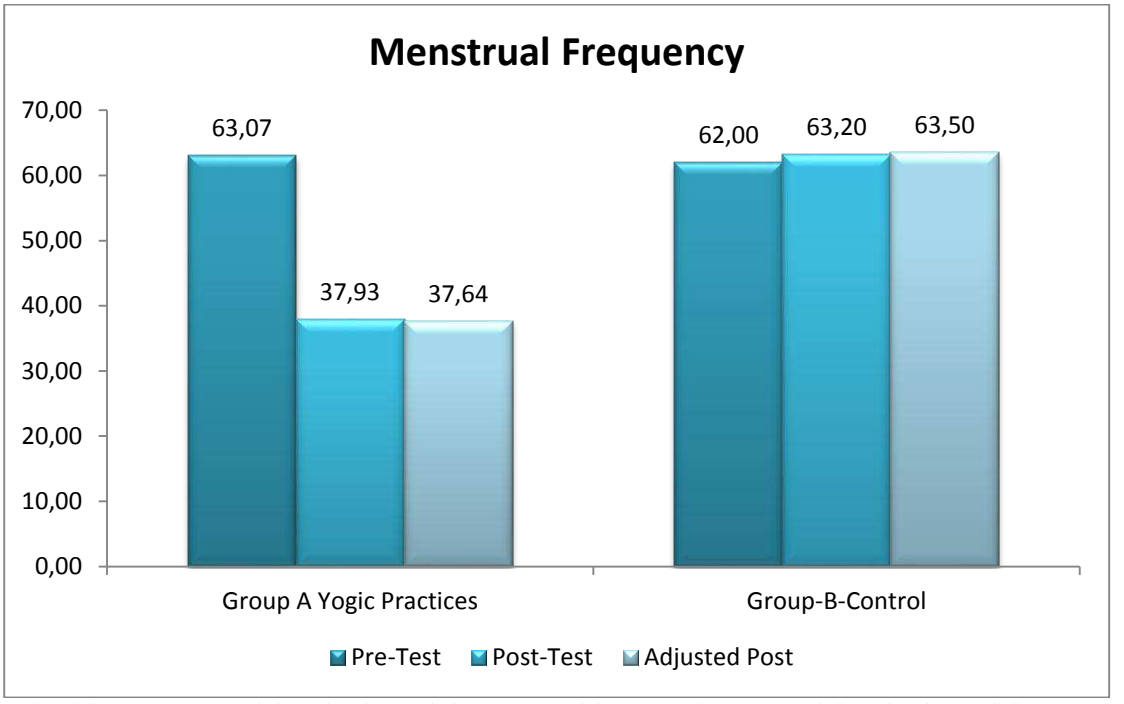
The data pertaining to the variables collected from two groups before and after the training period were statistically analyzed by using the Analysis of Co-Variance (ANCOVA) to determine the significant difference and tested at a 0.05 level of significance. The analysis of Covariance (ANCOVA) on Menstrual Frequency of Yogic Practices on and Control Group was analyzed and presented in Table III.

Table 3
Analysis of covariance of the means experimental group and the control group in menstrual frequency

Test	Experimental group	Control group	Source of variance	Sum of Squares	Degree of freedom	Mean Sum of Squares	F-Ratio
Pre-test	63.07	62	between	62.00	1.00	62.00	0.15
			within	11564.93	28.00	413.03	
Post-test	37.93	63.2	between	4788.03	1.00	4788.03	20.73
			within	6467.33	28.00	230.98	
Adjusted	37.64	63.50	between	5012.92	1.00	5012.92	47.40
			within	2855.45	27.00	105.76	
Mean gain	-25.13	1.20					

*Significant at 0.05 level of confidence. (Table F-ratio at 0.05 level of confidence for 1 and 28 (degree of freedom) =4.2, 1 and 27 (degree of freedom) =4.21)

The obtained F ratio on pre-test scores 0.15 was lesser than the required F value of 4.2 to be significant at the 0.05 level. The post-test scores analysis proved that there was a significant difference between the groups, as obtained F value of 20.73 was greater than the required F value of 4.21. This proved that the differences between the post-test means of the subjects were significant. This proved that there was a significant difference among the means due to Twelve weeks of yogic practices on variables.



*Significant at 0.05 level of confidence. (Table F-ratio at 0.05 level of confidence for 1 and 28 (degree of freedom) =4.2, 1 and 27 (degree of freedom) =4.21)

Figure 2. Bar diagram showing the mean difference among experimental group and control group on menstrual frequency

Conclusion

Menstrual Frequency is highly influenced by the Hormones like Progesterone, luteinizing hormone, Thyroid stimulation hormone, and Cortisol. When progesterone level increases, prostaglandin also increases. Thus, Yogic Practices help to balance the hormones leading to a reduction in Menstrual Frequency in adolescent girls suffering from dysmenorrhea.

Conflict of interest

There is no Conflict of Interest with reference to the above study "Effect of Yogic Practices on Selected risk factors among adolescent girls suffering with Dysmenorrhea"

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2. Research based on questionnaire format and scores measured as per data extracted from questionnaire who participated on voluntary basis. Hence ethical clearance is not required.

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