



Effect of Yoga on Pre Menstrual Syndrome amongst College Girl Students

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Abstract

The aim of our study was to evaluate the effects of yoga on premenstrual syndrome amongst college girls. The study was conducted in Arya Girls College Ambala Cant. State of Haryana, India in the academic session 2016-17. Premenstrual syndrome was assessed by purchasing copyrights of *Moos Menstrual Distress questionnaire (MMDQ) (4th edition)*. Students with high score on MMDQ were divided randomly into two groups with 30 each i.e. Yoga group and Control group. Total 10 weeks' Yoga schedule was given to Yoga group with selected Asanas and Pranayamas for PMS for 6 days in a week for 45 minutes each session while control group was not exposed to any type of physical exercise. Subjects of both groups completed MMDQ before and after the intervention. Data was analyzed by using paired t-test and independent t-test to find out significant differences.

Key Words: PMS, Premenstrual Syndrome, Yoga, College girls, MMDQ.

1. Introduction:

In the modern era, physical activities and sports are no longer conducted simply for the purpose of entertainment or to build a muscular body. Today sports and different physical exercise are performed with particular purpose according to ones' own benefits. Field of sports has become very popular amongst all ages i.e. Children, adolescents and adults. Every sportsperson is availing all sorts of health benefits from sports and physical exercises. Yoga is considered to be more effective in training any kind of health issues.

Yoga is a Sanskrit word which means connection of mind, body, emotions, logic and attention to the action. It is a combination of physical, breathing and mental practices, which results in health, relaxation and positive awareness.[1]Yoga effects' are long lasting and can be performed anywhere without apparatus. Yoga practice includes Asanas & Pranayamas are capable of rejuvenating human mind and body. Asanas & Pranayamas are capable of rejuvenating human mind and body. Yoga exercise reduces harmful inflammatory secretions, which make women with PMS and feel comfortable, Studies show that yoga decrease the heart rate, blood pressure and anxiety of women suffering with PMS.[2]

After the birth of baby girl, she is expected to be a wife and then a mother. God has gifted her natural phenomenon known as Menarche. Every girl undergoes this cycle. Menarche means the beginning of menstrual cycle which is very important event for adolescents. Mostly mean age of menarche amongst Indian girls is 12.5+1.52 years with a range of 10 to 15 years. Menstruation which is also called uterine cycle is a natural process which occurs every month in woman's life right from her puberty till menopause. Menstruation means monthly vaginal discharge of blood and cells from the uterine linings. This process usually last from 2 to 7 days in one cycle. During Menstruation, a woman undergoes many hormonal changes and becomes anxious during this phase of time. There occur many physiological changes in females from age of Menarche up to Menopause .Girl has to face many problems during premenstruation like dysmenorrhea, Premenstrual Syndrome, menorrhagia and irregular cycles. [3]

The diagnostic definition of PMS according to American College of Obstetricians and Gynecologists (ACOG): Symptoms must be present in five days before a woman's period for regular three menstrual cycles and must end within four days after the start of period. Pre Menstrual Syndrome is cyclic constellation of physical, psychological and behavioral changes symptoms and is believed to affect 75% of women of child bearing age.[4] Pre menstrual syndrome is a common disorder in menstruating girls and females. Females with PMS reported a poorer health related as well as work related quality of life.[5] Irregular hormone profiles, hormone progesterone and estrogen have been known to play a dominant role in the menstrual problems[6] Several difficulties associated with PMS could be hinder in physical functioning and psychological health and social life of a woman. [7] PMS interferes the life of women by insufficient working hour, absenteeism and productivity.[8]

Yoga is an effective method for improving health and also in preventing and management of diseases.[9]Yoga plays an important role in alteration of autonomic functions and psychological states in premenstrual phase.[10] Several

studies have been conducted to how to cope with such process. In this study, I made a concerted effort to measure up the impact of yoga on premenstrual syndrome among college girl students.

1.1 Purpose of the Study:

The purpose of the present study was to examine the effects of yoga on Pre menstrual Syndrome (PMS) amongst college girl students.

2. Research Methodology:

This study was conducted at Arya Girls College Ambala Cant. State of Haryana, India. A prior permission was obtained from the concerned authority. 500 girl students of college were screened for Pre Menstrual Syndrome by using a standardized copyright purchased questionnaire (Moos Menstrual Distress Questionnaire, MMDQ). Out of 500, total 60 unmarried girl students within the age group of 17-28 years, with moderate to strong Pre menstrual Syndrome as measured by MMDQ were selected for the study. Students who were having mild or severe PMS were excluded from the study. Students with mild symptoms were given some instructions to follow in their daily routine and students with strong PMS were asked to consult doctors. The 60 girl students were divided into two groups by simple random sampling and they were allotted to study group i.e. Yoga Group (N=30), and other was selected for control group (N=30). The yoga group was asked to attend 45 minutes yoga class every day for 10 weeks. Control group didn't receive any intervention and they were asked to go with their daily routine. Each group was evaluated on Moos Menstrual Distress questionnaire after 10 weeks.

Yoga Intervention: Yoga group underwent the following asanas and pranayama : Suryanamaskara(12 counts), Supta Pawan Muktasana, Uttanpadasana, Bhujanasana, Gomukhasana, Ardha Matsyendrasana, Tadasana, Vajrasana, Paschimotanasana, shavasana, anulom vilom, Kapalabhati pranayama.

Main Outcome Measures:

The outcome measure was assessed by using a standardized copyright purchased (4th revised edition) Moos Menstrual Distress Questionnaire. (H.Moos, 2010) MMDQ is a self reported questionnaire. It consists of eight domains under which 46 symptoms were grouped. The domains in the questionnaire are in eight scales i.e. Pain, Water Retention, Autonomic Reactions, Negative effect, Impaired concentration, Behavior Change, Arousal and Control. The scoring was done on five point Likert Scale i.e. 0-No experience of Symptoms, 1-Present, mild, 2 -Present, moderate, 3-Present, strong, 4- Present, Severe. Scores at the time of initial assessment and after intervention were compared.

The socio demographic data, included personal history and history related to menstruation i.e. age of menarche, duration of menstrual cycle, length of bleeding days , Use of medicine, family history on PMS were recorded.

3. Results and Discussion:

The data was collected in Microsoft Excel 2010. Statistical analysis was done using SPSS version 17 by a statistician who was blind with the subjects' identity. The differences in pre-post treatment scores were used for analysis. For analysis the collected data Mean and S.D. was computed. To compare the differences in scores't' test was used. The significance of difference was found at 0.05 level of confidence.

Table 1: Significance differences between pre and post test mean scores of Pre Menstrual Syndrome of Yoga Group (Paired t-test)

N=30 Variables	Pre Test		Post Test		T Value	P Value
	Mean	S.D.	Mean	S.D.		
Pain	12.07	2.92	4.60	1.45	18.65*	0.00
Water retention	7.53	4.47	3.40	2.62	9.78*	0.00
Autonomous reaction	7.30	4.47	3.23	2.58	9.26*	0.00
Negative effects	15.03	3.90	6.47	2.32	17.63*	0.00
Impaired concentration	12.63	4.45	5.43	2.25	14.49*	0.00
Behaviour changes	12.17	3.21	5.17	1.95	17.84*	0.00
Arousal	8.83	4.03	3.73	2.29	11.87*	0.00
Control	7	3.48	3.03	2.25	10.82*	0.00
Total Score	82.57	17.47	35.07	9.78	27.08*	0.00

* significant at 0.05 level of confidence

Table-1 shows the pre and post intervention score of pre menstrual syndrome of college girls in yoga group. The mean score of pain, water retention, autonomic reactions, negative effect, impaired concentration, behavior change, arousal, control and total score of pre menstrual syndrome in post test decrease in yoga group as compared to the pre test and the difference was found significant at 0.05 level of confidence on the all scales of premenstrual syndrome in post test of yoga group.

Table-2: Significance differences between pre and post test mean scores for Pre Menstrual Syndrome of Control Group (Paired t-test)

N=30 Variables	Pre Test		Post Test		T Value	P Value
	Mean	S.D.	Mean	S.D.		
Pain	12.90	2.218	13.37	1.608	-1.41	0.17
Water retention	7.60	4.073	7.03	4.081	1.90	0.07
Autonomic Reactions	5.97	4.140	5.93	3.769	0.16	0.87
Negative effects	13.57	3.401	12.87	3.159	2.20*	0.04
Impaired concentration	12.87	4.041	12.40	3.673	1.29	0.21
Behavior Changes	11.30	3.313	10.50	3.540	2.40*	0.02
Arousal	8.70	3.905	9.03	4.148	-1.15	0.26
Control	6.57	2.909	6.63	2.883	-0.19	0.85
Total Score	79.47	15.520	77.77	14.741	2.76*	0.01

* significant at 0.05 level of confidence

Table-2 shows the pre and post intervention scores of pre menstrual syndrome of college girls in control group. The mean scores of pain, arousal, and control increased in post test in control group but mean scores for water retention, autonomic reactions, negative effect, impaired concentration, behavior change and total score of pre menstrual syndrome in post test slightly decreased. The difference was found significant at 0.05 level of confidence only for Negative effect, behaviour changes scales and total score of pre menstrual syndrome but there was found no significance differences on pain, water retention, autonomic reactions, impaired concentration, arousal and control scales of pre menstrual syndrome in post test of control group.

Table-3: Significance differences between mean differences of Yoga and Control Group (Independent t-test)

variables	groups	mean	S.D.	Sem	T value	P value
Pain	Yoga	-7.47	2.19	0.40	15.27*	0.00
	Control	0.47	1.81	0.33		
Water retention	Yoga	-4.13	2.32	0.42	6.89*	0.00
	Control	-0.57	1.63	0.30		
Autonomus reaction	Yoga	-4.07	2.41	0.44	8.31*	0.00
	Control	-0.03	1.13	0.21		
Negative effects	Yoga	-8.57	2.66	0.49	13.54*	0.00
	Control	-0.70	1.74	0.32		
Impaired concentration	Yoga	-7.20	2.72	0.50	10.96*	0.00
	Control	-0.47	1.98	0.36		
Behaviour changes	Yoga	-7.00	2.15	0.39	12.04*	0.00
	Control	-0.80	1.83	0.33		
Arousal	Yoga	-5.10	2.35	0.43	10.49*	0.00
	Control	0.33	1.58	0.29		
Control	Yoga	-3.97	2.01	0.37	7.97*	0.00
	Control	0.07	1.91	0.35		
Total Score	Yoga	-47.50	9.61	1.75	24.63*	0.00
	Control					

* significant at 0.05 level of confidence

Table -3 depicts the comparison of mean differences between pre and post tests of pre menstrual syndrome of yoga and control groups. Significant improvement was found on all domains of pre menstrual syndrome after ten weeks

yogic intervention in yoga group when compared with control group. This difference was statistically significant at 0.05 level of confidence.

Discussion:

The present study revealed that significant improvement was found on all scales and total score of pre menstrual syndrome after ten weeks of yogic intervention in yoga group as compared to control group. Previous studies have also shown significant reduction in premenstrual syndrome. Anita Chaudhary et.al (2013) evaluated the benefits of Yogic techniques in reducing premenstrual symptoms and preventing suffering from premenstrual tension and syndrome. [11] Rani K.et.al (2011) concluded in their study that patients with menstrual irregularities having psychological problems improved significantly by applying a program based on yogic intervention.[12] Rakhshae Z (2011) evaluated in her study that Yoga reduced the severity and duration of primary dysmenorrhea. The findings suggested that yoga poses are safe and simple treatment of PMS.[13] Rani K.et.al (2016) found in their study that Yoga Nidra can be a successful therapy to overcome the psychiatric morbidity associated with menstrual regularities.[14] Other studies also investigated that yoga postures effectively reduce the PMS.[14,15,16]. A randomized control trial in India concluded that yoga nidra practices was helpful in patients with hormone imbalance.[15]

5. Conclusion:

Yogic Intervention can be an effective measure to reduce the symptoms associated with pre menstrual syndrome. Therefore, yogic intervention (asanas and pranayams) could be prescribed as a preventive measure to cope up with the premenstrual problems in girls.

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