



**A STUDY TO ASSESS THE EFFECT OF YOGA ON PRIMARY
DYSMENORRHEA AMONG FIRST YEAR NURSING STUDENTS OF
SELECTED NURSING COLLEGE OF VADODARA, GUJARAT**

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ABSTRACT

Background: Dysmenorrhea is common issue in menstruating women where the most typical symptoms are cramps and lower abdominal pain, Dysmenorrhea is also accompanied by number of other premenstrual disorder. Primary dysmenorrhea is a common disorder affecting the quality of life of many women due to intense pain and related social and psychological implication. **Aim:** To assess the effects of yoga on primary dysmenorrhea. **Material and methods:** A true - experimental research study is done for six months duration in 2023. A Non probability purposive sampling technique was used. Total of 72 participants from all First-Year nursing courses except M.Sc., NPCC and P.B.B.Sc. Before conducting the study letter of approval was obtained from institutional ethical committee. Socio demographic data was obtained through structured questionnaire. Yoga exercise was started before three days of menstruation and continue up to first day of menses. The standardized Visual Analog pain scale was used to conduct post-test. **Results:** It was discovered that the yoga is effective on primary dysmenorrhea. pretest level pain 27(37.5%) Moderate pain 22(30.6%) had mild and severe pain and 1(1.30%) student had severe pain 18(30%). In post-test level of pain among students 47(65.29%) Mild pain,22(30.6%) had moderate pain,3(4.11%) of students had severe pain and 0(0.0%) of students had

unbearable pain. So, $P < 0.05$ level at significant. **Conclusion:** This research proven that the positive effects of yoga on primary dysmenorrhea.

Keywords: Effectiveness, Yoga, Primary Dysmenorrhea, First Year Nursing Students and Nursing College

INTRODUCTION:

Menstruation is the monthly shedding of lining of your uterus. Menstruation is also known by terms of menses, menstrual period or cycle. Menstrual blood – which is partly blood and partly tissue from inside of uterus – flow from the uterus through the cervix and out through the vagina [1]. Menstrual cycle is a term to describe the sequence of events that occur in body as it prepares them for possibility of pregnancy each month. The average length of menstrual cycle is 28 days; however, a cycle can range in length from 21 days to about 35 days and still it is normal. Most women have their period [bleed] for between 3 to 7 days [2]. Women start menstruating at an average age of 12 years. However, menstruation can begin as early as 8 years old or as late as 16 years old [3]. The symptoms of getting period are mood changes, food craving, dysmenorrhea, bloating, acne, breast tenderness, cramping feel in pelvic area as uterus contracting and release its lining [4]. “Dysmenorrhea” is a medical term for painful menstrual periods. It happens because the uterus contracts to shed its lining. There are two types of dysmenorrhea 1. primary dysmenorrhea and 2. secondary dysmenorrhea. Primary dysmenorrhea is the name for menstrual

cramps that come back every time you have get period, but aren't due to another medical condition. Secondary dysmenorrhea is painful periods because of condition of infection in reproductive organs [5]. In primary dysmenorrhea the pain usually begins one or two days before you get your periods or when the bleeding actually starts, you may feel pain ranging from mild to severe in your lower abdomen, back or thighs. the pain usually subsides within two- or three-days primary dysmenorrhea is most common type of dysmenorrhea [6]. Yoga is essentially a spiritual discipline based on an extremely subtle science, which on bringing harmony between mind and body .it is art and science of healthy living word “Yoga” is derived from Sanskrit root “Yuj” meaning ‘to join’ or ‘to unite’ [7]. Yoga is a system of exercise for the body that involves breath controls and helps relax both your mind and body [8]. According to Hindu philosophy yoga, which aims to unite the self with the spirit of universe. The yoga practice aims to create union between body, mind, spirit, as well as between the individual self and universal consciousness [9].

MATERIALS AND METHODS:

A true - experimental research was undertaken in the Dhiraj general hospital of Sumandeep Vidhyapeeth region of Vadodara for duration of six months. A Non probability purposive sampling technique was used. The research includes only first year nursing students in selected nursing colleges at Vadodara, who were first year nursing students in selected nursing colleges at Vadodara who were, Willing to participate in the study, Available during the time of data collection, Able to read and write English, Gujarati and Hindi and Able to follow yoga instructions. Total number of participants was 72. After describing the goal of the study, socio demographic data was obtained through structured questionnaire. Before conducting the study letter of approval was obtained from institutional ethical committee. After collecting socio demographic data, planned to give intervention. Yoga exercise was started before three days of menstruation and continue up to first day of menses. The standardized Visual Analog pain scale was used to conduct post-test.

RESULTS:

All the collected data was coded and put into Microsoft excel. To summarized the results, descriptive statistics were employed. A total of 72 participants were included to this study. According to their age majority 43(59.7 %) were in 18 years of age, 23(31.9%) were 19 years of age,6(8.3%)

were 20years of age. age of menarche of students maximum 40(55.6%) were 14-16 Years and 30(41.7%) were 11-13 Years,2(2.8%) were more than 16 Years and 0(0.0%) were less than 7 and 8 to 10 years. presence of primary dysmenorrhea of students 48(66.7%) were yes presence of dysmenorrhoea,22(30.6%) some time presence of primary dysmenorrhea and 2(2.8%) were no presence of primary dysmenorrhea. length of menstruation cycle in days of students maximum 51(70.8%) were length of menstrual cycle 28 days, 11(15.3%) 30 to 60 days,10(13.9%) were less than 28 days and 0(00%) were more than 60 days. flow of menstruation of students maximum 54(75%) where flow is average,13(18.1%) was heavy flow, 4(5.6%) were light flow and 1(1.4%) were spotting. medication and alternative therapy for reduction of primary dysmenorrhea most of the students were 68(94.4%) were none of the above and 4(66.7%) were students taking Analgesic tablets (**Table 1**).

Assessment of pretest level of pain regarding dysmenorrhea pretest level pain 27(37.5%) Moderate pain 22(30.6%) had mild and severe pain and 1(1.30%) student had severe pain 18(30%). In post-test level of pain among students 47(65.29%) Mild pain,22(30.6%) had moderate pain,3(4.11%) of students had severe pain and 0(0.0%) of students had unbearable pain. So, $P < 0.05$ level at significant (**Table**

2).

The pretest mean score of primary Dysmenorrhea among students mean and SD 2.625±. 1.388 and the post-test mean score of primary Dysmenorrhea among students was 2.303 with S.D 1.524 in experimental group. The calculated paired 't' value of $t = 8.883$ was found to be statistically significant at $P < 0.001$ level this clearly indicated that after yoga therapy post-test level of primary Dysmenorrhea was considerably reduce pain among students. This clearly indicated that effectiveness of yoga on reducing pain was found to be effective in primary

Dysmenorrhea in the experimental group (Table 3).

Demographic variable Age of students had statistically significant association with the post-test levels of primary Dysmenorrhea for reduction of pain. Age of menarche, Presence of primary dysmenorrhea, Degree of primary dysmenorrhea, Length of menstrual cycle in days, Flow of menstruation, Medication or alternative therapy of reduction of primary dysmenorrhea had shown no statistically significant association with the Post test levels of primary Dysmenorrhea for reducing pain among nursing students. $P < 0.05$ (Table 4).

Table: I Frequency and percentage distribution of study samples according to the selected Demographic variables (N=72)

Demographic Variables	frequency	Percentage
Age in years	18	59.7
	19	31.9
	20	8.3
Age of menarche (first menstruation) in years	< 7	0.0
	8 -10	0.0
	11-13	41.7
	14 - 16	55.6
	>16	2.8
Presence of primary dysmenorrhea	Yes	66.7
	No	2.8
	Some times	30.6
Degree of primary dysmenorrhea	Mild	31.9
	Moderate	40.3
	Severe	27.8
	Unbearable	0.0
The length of menstruation cycle in days	<28	13.9
	28	70.8
	30 to 60	15.3
	>60	0.0
Flow of menstruation	Spotting	1.4
	Light	5.6
	Average	75.0
	Heavy	18.1
Medication or alternatives for reduction of primary dysmenorrhea	Analgesics	5.6
	Non-steroidal Anti-inflammatory drugs	0.0
	Cold compression	0.0
	None of above	94.4

Table 2: Assessment of pretest and Post levels of pain among students regarding dysmenorrhea

Levels of pain	Pretest levels		Post-test levels	
	Number	Percentage	Number	Percentage
Mild pain	22	30.6	47	65.29
Moderate pain	27	37.5	22	30.6
Severe pain	22	30.6	3	4.11
Unbearable pain	1	1.30	0	0.0
Total	72	100	72	100

P<0.05

Table 3: Effectiveness of Yoga among first year nursing students reduce primary Dysmenorrhea

Times	Mean	SD	Mean Diff.	SD Diff.	t-value	df	p-value
Pretest	2.625	2.303	1.237	0.779	8.883	71	0.001, S
Posttest	1.388	1.524					

Table 4: Association between post - test level of primary Dysmenorrhea among nursing students and demographic profile (n=72)

Variables		Level of pain			Total	Chi square df	P value
		Mild	Moderate	Severe			
Age (In Year)	18	16	2	1	19	1.274 3	0.004* S
	19	17	13	1	31		
	20	14	7	1	22		
Age of menarche	< 7	12	4	0	16	0.715 4	0.699 NS
	8-10	10	6	1	17		
	13-14	15	5	1	21		
	14-16	6	6	1	13		
	>16	4	1	0	5		
Presence of primary dysmenorrhea	Yes	15	4	1	20	2.891 2	0.236 NS
	No	18	11	1	30		
	Some time	14	7	1	22		
Degree of primary dysmenorrhea	Mild	19	9	1	29	3.702 2	0.448 NS
	Moderate	18	8	1	27		
	severe	10	5	1	16		
	Unbearable	0	0	0	0		
Length of menstrual cycle in days	<28	12	10	1	23	2.124 4	0.713 NS
	28	18	7	1	26		
	30 to 60	10	3	1	14		
	>60	7	2	0	9		
Flow of menstruation	Spotting	8	6	0	14	5.628 8	0.422 NS
	Light	15	4	1	20		
	Average	11	8	1	20		
	Heavy	13	4	1	18		
Medication or alternative therapy of reduction of primary dysmenorrhea	Analgesics	4	4	1	9	2.820 3	0.831 NS
	Non-steroidal Anti-inflammatory drugs	0	0	0	0		
	Cold compression	0	0	0	0		
	None of the above	43	18	2	63		

* P<0.05.*indicates significant S-Significant NS-non significant

DISCUSSION

Dysmenorrhea is common issue in menstruating women where the most typical symptoms are cramps and lower abdominal pain, Dysmenorrhea is also accompanied by number of other premenstrual disorder. Primary dysmenorrhea is a common disorder affecting the quality of life of many

women due to intense pain and related social and psychological implication. Appropriate therapy and management are required due to decreased quality of life ineffective working hours, mood swings caused by dysmenorrhea. [10] In order to improve women's health, several complementary and alternative strategies have been employed to

reduce dysmenorrhea, which include the use of medicinal herbs with analgesics properties. Typically, non-steroid anti-inflammatory medications or oral contraceptives are used to treat the dysmenorrhea. Transcutaneous electrical nerve stimulation, acupuncture, acupressure, topical heat, herbal and dietary therapy are just few alternatives for dysmenorrhea. [11] Among several complementary therapies accepted, practice of Yoga has been added to the list, yoga is a type of mind -body exercise that combines physical body with the conscious mental emphasis. Yoga is regarded as one of the best holistic stress management approaches since it cause the series of physiological changes in body that lessen the stress and pain response. [12] Parkhand et al. conducted a study on 200 adolescent girls who experienced dysmenorrhea. They were given a yoga protocol of 45 min every day for 6 months which included swastikasana, virasana, padmasana, gomukhasana, janusirsasana, trikonasana, setubandhasana. At the time of assessment after 6 months of practice, it was observed that there was significant reduction in dysmenorrhea from 69.5 % to 6.5 % with $p = 0.0032$ among the study population. [13] In randomized controlled trial conducted by Satyanand et. al, 100 female subjects with primary dysmenorrhea were studied. The study included 50 participants in the intervention

group while 50 others in the control group. Females in the intervention group practiced sukshnavyayama, padmasana, vajrasana, ushtrasana, suryanamaskara, sarvangasana. Both groups were evaluated for pain intensity using Visual Analog Scale (VAS) after three months. The result showed a decrease in VAS score from 4.16 to 0.26 in the experiment group indicating pain reduction post yoga intervention. [14] These studies and observation of practice of first year nursing students make the investigator understand the fact that it is important to check the first-year nursing student's knowledge and give them health education on primary dysmenorrhea. keeping these aspects in mind, the investigator felt the need to assess the effectiveness of yoga on primary dysmenorrhea. Education will help to improve their knowledge as well as due to Yoga training they can have benefit to reduce primary dysmenorrhoea. So, the investigator planned to conduct a true - experimental study.

CONCLUSION:

In the current study, the participants were given positive respond towards the intervention of Yoga, because as per instructions they followed the Yoga steps and found that the Yoga is effective on primary dysmenorrhoea. There are particular issues that require improvement and attention such as, knowing the side effects of medications using during

dysmenorrhoea after long duration and diet. Adolescent girls must inform and have knowledge about Yoga to improve for pain of menstruation and to avoid the habit of analgesic medications administration. According to the result of our study, primary dysmenorrhoea is common in adolescent girls so it is necessary to raise awareness about Yoga to prevent and reduce pain during menstruation and improve their daily life with the help of Yoga.

Conflict of Interest: The authors declare that there is no any conflict of interest.

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