



EFFECTIVENESS OF YOGA ON PRIMARY DYSMENORRHEA AMONG THE ADOLESCENT GIRLS

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ABSTRACT This study aimed to assess the effectiveness of yoga on primary dysmenorrhea among the adolescent girls. One group pretest and posttest research design was used to assess the effectiveness of yoga on primary dysmenorrhea among the adolescent girls. The present study was conducted in SCPM College of Nursing and Paramedical Sciences, Gonda, Uttar Pradesh. 50 adolescent girls were selected for this study. Non-probability convenient sampling technique was used. Socio demographic data and the numerical pain rating scale were used to assess the severity of pain level. Pretest was conducted on the 1st day of menstruation to assess the severity of dysmenorrhea with the help of numerical pain rating scale. Regular yoga practice was demonstrated for two months then again, the pain level was assessed with numerical pain rating scale. Data were organized in excel and intended for descriptive and inferential statistics. There was significantly improvement in the reduction of menstrual pain of the subjects. In the pretest 36% of the samples had severe dysmenorrhea, whereas in posttest only 4% of the samples had severe dysmenorrheal. Therefore, the yoga helps to reduce the dysmenorrhea.

KEYWORDS : Yoga; primary dysmenorrhea; adolescent girls.

INTRODUCTION

Primary dysmenorrhea is defined as painful menstruation in the absence of pelvic pathology. Characterized by recurrent, crampy, lower abdominal pain during menstruation, it is the most common reason for gynecologic visits, affecting 50% to 90% of women, half of whom describe their pain as moderate to severe.¹ The onset of primary dysmenorrhea is usually at or shortly after (6 to 12 months) menarche, when ovulatory cycles are established. The true incidence and prevalence of primary dysmenorrhea are not clearly established in India. Dysmenorrhea incidence of 33.5% among adolescent girls in India has been reported by some researchers.²

Dysmenorrhea is one of the major causes of morbidity among the adolescent girls. Majority of the adolescent girls presenting at primary care clinics suffer from some menstrual pain. Prevalence rates have been reported to be as high as 90% and as low as 43%.³ Management of primary dysmenorrhea is directed toward excluding other causes of symptoms and identifying medical therapies that control the patient's symptoms. Despite its high prevalence, dysmenorrhea is often underdiagnosed, inadequately treated, and normalized even by patients themselves, who may accept the symptoms as an inevitable response to menstruation.⁴

Many drugs have been suggested to treat PD. In spite of their effectiveness, it has been necessary to constantly try to find alternative therapies for patients who cannot benefit from traditional pharmacological treatments because of the adverse effects. These therapies include vegetarian diets, dietary supplements, medicinal herbs, acupuncture and even, in extreme cases, surgical treatment.⁵ Physiotherapy is an alternate method that has been used in an effort to assist these patients. The use of heat, massage, trans-cutaneous electrical stimulation, short wave, targeted exercise, and spinal manipulations have been the most popular.⁶ However, because of the great number of available techniques in this area, known for the lack of secondary effects, requires the larger studies to be carried out with the aim of validating different and novel therapeutic procedures. Despite the apparent efficacy of these procedures and their frequent use, there is a lack of solid scientific evidence, for example in the case of medical taping concept (MTC). This could be a potential technique to reduce this type of pain, as it produces sensory tactile impulses on the skin that can block or reduce the arrival of pain sensations to the brain.⁷

Need for study

Primary dysmenorrhea is a common complaint experienced by many females in their reproductive years. The use of medicinal plants in the treatment of various gynecological conditions is on the increase, despite the limited evidence available regarding efficacy and safety of their use.⁸

Primary dysmenorrhea (PD) is the most common gynecological problem among menstruating young adults and adolescents. (PD) is

defined as a cramp-like pain in the lower abdomen at the onset of menstruation without any identical pelvic pathology. Pain may be accompanied by back pain, nausea, vomiting, blotting, breast tenderness and diarrhea. Besides being a gynecological problem, PD is an important health problem concerning public health, occupational health and family practice, as it affects both the quality of life and the national economy due to short-term school/college absenteeism and loss of labor.⁹

Prevalence rates are as high as 90 percent. Initial presentation of primary dysmenorrhea typically occurs in adolescence. It is a common cause of absenteeism and reduced quality of life in women. The problem is often underdiagnosed and undertreated. Women with primary dysmenorrhea have increased production of endometrial prostaglandin, resulting in increased uterine tone and stronger, more frequent uterine contractions. A diagnostic evaluation is unnecessary in patients with typical symptoms and no risk factors for secondary causes. Nonsteroidal anti-inflammatory medications are the mainstay of treatment, with the addition of oral contraceptive pills when necessary. About 10 percent of affected women do not respond to these measures. It is important to consider secondary causes of dysmenorrhea in women who do not respond to initial treatment. Many alternative treatments (ranging from acupuncture to laparoscopic surgery) have been studied, but the supporting studies are small, with limited long-term follow-up.¹⁰

A study was conducted to assess the effectiveness of yogic postures mentioned in Siddha system of medicine in primary dysmenorrhea. Yoga asanas were advised to the patient with primary dysmenorrhea for the period of 2 months, excluding 5 days of menstrual period, to access increasing the quality of life by reducing the pain during menstruation. 16 years old female present with the complaints of Primary dysmenorrhea was taken as a study subject. Yoga asanas were advised to the study subject for the period of 2 months. There was a significant improvement found in subject. The quality of life is improved and there is also decrease in the pain during menstrual cycle. The quality of life and pain was accessed before and after intervention of yoga therapy.¹²

A study aimed at understanding the effect of slow and fast pranayama on primary dysmenorrhea among Physiotherapy girl students. Unmarried girls (n=90) under the age group of 18-25 with primary dysmenorrhea were randomly assigned to the study, Group A (n=45) Group B (n=45). Moos menstrual distress questionnaire (MMDQ), Numerical pain rating scale for pain, Quality of life scale by American chronic pain association were administered at baseline, after 1st menstrual cycle and follow-up after 2nd menstrual cycle. Group A was subjected to slow pranayama (Nadi Shodhan) and Group B was subjected to fast pranayama (Kapalbhati). Significant (P<0.0001) improvement in quality of life and pain scores after intervention was seen in Group A as compared to Group B.¹³

Yoga is recognized as a form of mind-body medicine that integrates an individual's physical, mental and spiritual components to improve aspects of health, particularly stress related illnesses. A 3,000-year-old tradition, yoga, is now regarded in the Western world as a holistic approach to health and is classified by the National Institutes of Health as a form of Complementary and Alternative Medicine (CAM).¹¹ From the above reference the researcher felt to do a study on the effectiveness of yoga on primary dysmenorrhea among the adolescent girls.

Problem Statement

A study to assess the effectiveness of yoga on primary dysmenorrhea among the adolescent girls at SCPM College of Nursing, Gonda.

Objectives

1. To check the level of primary dysmenorrhea among adolescent girls before receiving yoga practices.
2. To check the level of primary dysmenorrhea among adolescent girls after receiving yoga practices.
3. To find the significant difference between pre and post assessment pain level.
4. To find the significant association between sociodemographic variables and pre assessment pain values.

Hypothesis

H₁: There will be a significant difference between pre and post assessment pain level.

H₂: There will be a significant association between sociodemographic variables and pre assessment pain values.

Assumptions

Yoga practices will help to reduce the dysmenorrhea.

Limitations

The study will be limited to 50 adolescent girls at SCPM College of Nursing, Gonda.

Methodology

The conceptual framework of the present study was developed using the concepts from ground general system's theory (Von Ludwing Bertalamffy 1956). One group pretest and posttest research design was used to assess the effectiveness of yoga on primary dysmenorrhoea among the adolescent girls. The present study was conducted in SCPM College of Nursing and Paramedical Sciences, Gonda, Uttar Pradesh. 50 adolescent girls were selected for this study. Non-probability convenient sampling technique was used. The inclusion criteria are the samples who are willing to participate, students who can write and read English and only female students were included. Exclusion criteria are those who were not willing to participate and sick. Socio demographic data and the numerical pain rating scale were used to assess the severity of pain level. The scale has 4 categories of pain level. 0 indicates No pain, the score of 1 to 3 indicates mild pain, 4 to 6 indicates moderate pain and the scores of 7 to 10 shows the severe pain. The informed written consent was obtained from the adolescent girls and benefits of regular yoga practices explained to them. The pilot study was conducted by 5 subjects to assess the feasibility and reliability of the tools and for the main study the data collection procedure done for a period of two months from 21st February 2022 to 25th March 2022 at SCPM College of Nursing and Paramedical Sciences, Gonda. Data collection done according to the convenience and flexible timings of the subjects. Pretest conducted on the 1st day of menstruation to assess the severity of dysmenorrhea with the help of numerical pain rating scale. Regular yoga practice demonstrated for two months then again, the pain level assessed with numerical pain rating scale. Data was organized in excel and intended for descriptive and inferential statistics.

RESULTS

In this article the result was discussed under the following headings.

1. Frequency and percentage distributions of sociodemographic variables
2. Pain level in pretest and posttest
3. Comparison of pre and posttest pain levels
4. Assess the significance of association between socio demographic variables and the pretest pain level.

Table 1: Frequency and percentage distributions of sociodemographic variables

S.No.	Variables		Fre que	per nta ece ge
1	Residential area			n=50
	a)	Urban	17	34
	b)	Rural	33	66
2	Age in years			
	a)	18 years	16	32
	b)	19 years	14	28
	c)	20 years	20	40
3	Religion			
	a)	Hindu	20	40
	b)	Muslim	16	32
	c)	Christian	8	16
	d)	Any other	6	12
4	Education			
	a)	Nursing	16	32
	b)	Paramedical	16	32
	c)	Other	18	36
5	Age at menarche in years			
	a)	11 to 12	0	0
	b)	13 to 14	18	36
	c)	15 to 16	22	44
	d)	>16	10	20
6	Dietary habits			
	a)	Vegetarian	20	40
	b)	Non-vegetarian	12	24
	c)	Both	18	36
7	Mother's educational status			
	a)	No education	4	8
	b)	Primary school	12	24
	c)	Middle school	12	24
	d)	High school	8	16
	e)	Graduate and above	8	16
	f)	Post-graduate and above	6	12
8	Mother's occupation			
	a)	Housewife	14	28
	b)	Private job	10	20
	c)	Government employee	8	16
	d)	Coolie	12	24
	e)	Business	6	12
9	Type of family			
	a)	Nuclear family	14	28
	b)	Joint family	36	72
10	Height in centimetres (cm)			
	a)	140-145	18	36
	b)	145-150	20	40
	c)	150-155	12	24
11	Weight in kilogram (kg)			
	a)	45-50	32	64
	b)	50-55	18	36
12	Body mass index			
	a)	<18.5	10	20
	b)	18.5-24.9	16	32
	c)	25-29.9	14	28
	d)	>29.9	10	20
13	Daily exercise routine			
	a)	Regular	20	40
	b)	Irregular	22	44
	c)	Not doing any exercise	8	16
14	Regularity of menstruation			
	a)	Regular	32	64
	b)	Irregular	18	36
15	Onset of dysmenorrhea			

a)	Starts before menstruation, continues upto 24 hrs. of menstruation	6	12
b)	Start with the onset of menstruation continues upto 48 hours	24	48
c)	Start before menstruation, continues throughout menstruation	12	24
d)	Starts after 24 hours of menstruation and continue throughout the menstruation	8	16
16	Flow of the menstruation on		
a)	Mild	8	16
b)	Moderate	20	40
c)	Heavy bleeding	22	44
17	Family history of dysmenorrhea		
a)	Yes	30	60
b)	No	20	40
18	Duration of menstruation		
a)	Less than 3 days	10	20
b)	3 to 6 days	22	44
c)	More than 6 days	18	36
19	Pain during menstruation		
a)	always	40	80
b)	sometimes	10	20
c)	rarely	0	0
d)	None of the above	0	0
20	Menstrual pain usually last		
a)	Less than one day	4	8
b)	1- 2 days	12	24
c)	3-4 days	16	32
d)	More than 4 days	18	36
21	Place where experience pain?		
a)	Lower abdomen	28	56
b)	Lower back	12	24
c)	Thighs	6	12
d)	Legs	4	8
22	Relief from your menstrual pain		
a)	Bed rest	14	28
b)	Use heating pad/ hot water bottle	12	24
c)	Take medicines prescribed by the doctor	6	12
d)	Take medicines by myself	8	16
e)	Take herbal medicines/ drinks	10	20
23	Consulted a doctor for your menstrual pain		
a)	Yes	22	44
b)	No	28	56
24	Hospitalized for the management of your menstrual pain		
a)	Yes	8	16
b)	No	42	84
25	Missed a school day because of your menstrual pain		
a)	sometimes	18	36
b)	rarely	16	32
c)	None of the above	16	32
26	Disrupted sleep during the menstrual on		
a)	Yes	32	64
b)	No	18	36
27	Mode of information regarding menstrual pain relief		
a)	Parents	24	48
b)	Health professionals	8	16
c)	Friends	8	16
d)	Media	4	8
e)	Neighbour	6	12

Table 2: Pain level in pretest and posttest

				n=50
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Pain Level	Pretest		Post test	
	Frequency	Percentage	Frequency	Percentage
Mild	0	0.0	37	74.0
Moderate	32	64.0	11	22.0
Severe	18	36.0	2	4.0

The above table 2 implies that in the pretest 36% of the samples had severe dysmenorrhea, whereas in posttest only 4% of the samples had severe dysmenorrhea.

Table 3: Comparison of pre and posttest pain levels

Aspects	Max. Score	Mean	SD	Std. Error Mean	df	Significance t value
Pretest	10	8.16	1.299	.184	49	.000 P<0.05 Significant
Posttest	9	4.02	2.290	.324		

The above table 3 shows that there is a significant different between pre and posttest pain scores. It shows that the practice of yoga has effective on the reduction of dysmenorrhea.

Assess the significance of association between socio demographic variables and the pretest pain level.

The chi-square test shows that there is significant association between sociodemographic variables such as age in years, mothers' education, flow of menstruation on and the mode of information regarding primary dysmenorrhea and the primary dysmenorrhea.

DISCUSSION

In this study the results show that in the pretest 36% of the samples had severe dysmenorrhea, whereas in posttest only 4% of the samples had severe dysmenorrhea. There is a significant different between pre and posttest pain scores. It shows that the practice of yoga has effective on the reduction of dysmenorrhea. The chi-square test shows that there is significant association between sociodemographic variables such as age in years, mothers' education, flow of menstruation on and the mode of information regarding primary dysmenorrhea and the primary dysmenorrhea.

A related study was found. It says the same result of this study. It says that Primary dysmenorrhea is menstruation cramps which is common, recurrent and without any pathological condition. In India 50 to 87.8% adolescents had complaints of primary dysmenorrhea, while equaling occurrence of primary dysmenorrhea from other countries, Ethiopia reported 70%, Malaysia 6.8% and Jordan reported 55.8%. There are many factors which make pain worse include heavier, irregular, or longer, menstrual cycle; lack of exercise; mental or social stress; drinking alcohol; smoking; being overweight and other factors. Most of studies show that yogic practices like different yogasana such as Bhujanagasana, Matsyasana, Vajrasana, Dhanurasana, Apanasana and Shavasana, relaxation techniques, pranayama's and meditation have proven very beneficial in the treatment of primary Dysmenorrhea. After reviewing literatures its concluded that yoga is effective to decrease menstrual pain and it will also increase productivity in daily living activity by enhance self-confidence level.¹⁴

CONCLUSION AND SUMMARY

The yoga was demonstrated to practice for 30 min per day, for two months at home. There were significantly improve in the reduction of menstrual pain. In the pretest 36% of the samples had severe dysmenorrhea, whereas in posttest only 4% of the samples had severe dysmenorrhea. This proves the effectiveness of intervention in relieving dysmenorrhea in adolescent girls. Yoga practice is beneficial for adolescent girls during menstruation to relieve pain.