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## A Study To Assess The Effectiveness Of Aerobic Exercise On Primary Amenorrhea Among Adolescent Girls At Selected College, Bangalore

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### Abstract:

**Background of the study:** After menarche many adolescent girls face problems of irregular menstruation, excessive bleeding, and dysmenorrhoea. Of these, dysmenorrhoea is one of the common problem experienced by most of the adolescent girls. Dysmenorrhoea is quite frequent and may affect the daily activities especially during the early years of adolescence. Primary dysmenorrhoea (PD) is one type of painful menstruation. Because of recent concerns about pharmacological therapy, several studies investigated the efficacy of numerous non pharmacological measures for the relief of dysmenorrhoea such as aerobic exercise.

**Methods:** The research design adopted was Pre experimental one group pretest posttest design. The sample size was 40 adolescent girls in Royal College of Nursing. Purposive sampling technique was used in this study. Those who were fulfilled the inclusion criteria were selected for this study. The menstrual symptoms assessment questionnaire was used to assess the degree of dysmenorrhoea. Pretest data were collected during menstruation for 5 days using menstrual symptoms assessment questionnaire. Post test I and post test II data were collected on two consecutive menstrual cycles for 5 days. From 7th day of menstruation aerobic exercise was administered 40 minutes/day an alternative days up to 7 weeks for two consecutive menstrual cycles.

**Result and Conclusion:** Dysmenorrhoea is a very common problem among adolescent girls and they experience a number of physical, and psychological symptoms associated with it. Aerobic exercise was a one of the effective, inexpensive measure to reduce the primary dysmenorrhoea among adolescent girls. The study concludes that Aerobic exercise as physical activity is significant in reducing the symptoms of primary dysmenorrhoea during menstruation among adolescent girls.

**Key words:** Aerobic exercise, Adolescent girls, Primary dysmenorrhoea

### INTRODUCTION

The female reproductive system is indeed marvelous. Menstruation is a basic female physiological process, capable of affecting the several other metabolisms within the body. Every month, one egg leaves one of the ovaries on its way to the uterus via fallopian tubes. The inner uterine wall known as the endometrium thickens and there is increased blood circulation in the entire reproductive system. Women may face several difficulties during their menstrual flow. In some women the effects are more aggressive than others. And the most worrisome thing is that the symptoms could recur month after month. The biological term for menstrual problems is dysmenorrhoea.

Dysmenorrhoea or painful menstruation is normal, but it can be extremely painful influenced by physical and psychological factors such as stress and the effects of prostaglandins and progesterone hormones. During dysmenorrhoea, the uterine muscle contracted due to an excessive increase in prostaglandin that causes vasospasm of the uterine arterioles. It can cause ischemia and cramping in the lower abdomen that will stimulate menstrual pain.

### OBJECTIVES:

- To assess the degree of primary dysmenorrhoea among adolescent girls.
- To determine the effectiveness of aerobic exercise on primary dysmenorrhoea among adolescent girls.
- To correlate the menstrual characteristic with the menstrual symptoms among adolescent girls.
- To associate the degree of primary dysmenorrhoea with selected demographic variables among adolescent girls.

**Material And Method: Methods:** The research design adopted was Pre experimental one group pretest post-test design. The sample size was 40 adolescent girls in Royal College of Nursing. Purposive sampling technique was used in this study. Those who were fulfilled the inclusion criteria were selected for this study. The menstrual symptoms assessment questionnaire was used to assess the degree of dysmenorrhoea. Pretest data were collected during menstruation for 5 days using menstrual symptoms assessment questionnaire. Post-test I and post-test II data were collected on two consecutive menstrual cycles for 5 days. From 7th day of menstruation aerobic exercise was administered 40 minutes/day an alternative days up to 7 weeks for two consecutive menstrual cycles.

### RESULT AND DISCUSSION:

For the study, a total of 40 samples were chosen from urban community of Pune city.

#### Section I

**Table 1: Distribution of population based on demographic characteristics**

n=40

S.No	Demographic Variables	Frequency (f)	Percentage (%)
1	<b>Age</b>		
	18 years	15	37.5%
	19 years	25	62.5%
2	<b>Education</b>		
	B. Sc (N) II yr	21	52.5%
	B. Sc (N) III yr	19	47.5%
3	<b>Type of family</b>		
	Nuclear family	37	92.5 %
	Joint family	3	7.5%
4	<b>Family income</b>		
	Below 10,000	7	17.5%
	11,000 – 30,000	21	52.5 %
	31,000 – 50,000	7	17.5 %
	Above 51,000	5	12.5%
5	<b>Family history of dysmenorrhoea</b>		
	Yes	13	32.5%
	No	27	67.5%

## Section 2: Menstrual profile of adolescent girls and management for primary dysmenorrhoea

S.No	Menstrual profile	Frequency (f)	Percentage (%)
<b>1</b>	<b>Age at menarche</b>		
	12-13 years	28	70 %
	14-15 years	12	30 %
<b>2</b>	<b>Duration of menstrual cycle</b>		
	15 – 20 days cycle	-	-
	21-28 days cycle	30	75 %
	29-35 days cycle	10	25 %
<b>3</b>	<b>Number of days of menstruation</b>		
	< 3 days	2	5 %
	3-4 days	25	62.5 %
	5-6 days	13	32.5 %
<b>4</b>	<b>Characteristics of bleeding</b>		
	Only blood	19	47.5 %
	Blood with clots	21	52.5 %
<b>5</b>	<b>Nature of pain</b>		
	Mild pain	8	20 %
	Moderate	6	15 %
	Severe	9	22.5 %
	Cramping pain	4	10 %
	Radiating pain to back and thigh	13	32.5 %
<b>6</b>	<b>Onset of dysmenorrhea</b>		
	1 <sup>st</sup> menarche onwards	11	27.5 %
	Within an year after menarche	7	17.5 %
	After 1 year	9	22.5 %
	After 2 or more years	13	32.5 %
<b>7</b>	<b>Day of menstruation with severe pain</b>		
	One day before onset of menstruation	4	10 %
	On the 1 <sup>st</sup> day	27	67.5 %
	On the 2 <sup>nd</sup> day	9	22.5 %

S.No	Menstrual profile	Frequency (f)	Percentage (%)
<b>8</b>	<b>Do you take adequate rest</b>		
	Yes	23	57.5 %
	No	17	42.5 %
<b>9</b>	<b>Do you skip meals</b>		
	Yes	8	20%
	No	32	80%
<b>10</b>	<b>Have you consulted doctor for dysmenorrhoea</b>		
	Yes	1	2.5 %
	No	39	97.5 %
<b>11</b>	<b>Have you been prescribed medications</b>		
	No	40	100%
<b>12</b>	<b>Have you take medicines without prescription</b>		
	No	40	100%
<b>13</b>	<b>Measures take to get relieve from abdominal pain</b>		
	Hot/cold application	3	7.5 %
	Massage	4	10 %
	Bed rest	21	52.5 %
	No measures	12	30 %
<b>14</b>	<b>Do you perform any exercise</b>		
	Yes	3	7.5 %
	No	37	92.5 %
<b>15</b>	<b>Action taken for dysmenorrhoea during class hours</b>		
	Inform class teacher and seek help	3	7.5 %
	Inform friends and get help	6	15 %
	Manage the situation by self	30	75 %
	Ask permission and going to hostel	1	2.5 %
	Other measures	-	-

### Section 3 Pretest assessment of degree of primary dysmenorrhoea among adolescent girls

S. No	Dysmenorrhoea symptoms	No		Mild		Moderate		Severe	
		f	%	f	%	f	%	f	%
1.	<b>General characteristics</b>								
	Total duration of pain in hours	-	-	36	90	4	10	-	-
	Does dysmenorrhoea affect your daily activities	9	22.5	24	60	7	17.5	-	-
	Does dysmenorrhoea affect your college work or studies	11	27.5	25	62.5	4	10	-	-
2.	<b>Physiological symptoms</b>								
	Exhaust, lethargic, tired	4	10	30	75	6	15	-	-
	Painful cramps in lower abdomen	3	7.5	24	60	13	32.5	-	-
	Back ache	3	7.5	22	55	15	37.5	-	-
	Radiating pain to thighs and lower back	7	17.5	29	72.5	4	10	-	-
	Nausea	35	87.5	5	12.5	-	-	-	-
	Vomiting	36	90	4	10	-	-	-	-
	Changes in bowel and bladder pattern	37	92.5	3	7.5	-	-	-	-
	Fainting	34	85	6	15	-	-	-	-
	Painful breast	25	62.5	15	37.5	-	-	-	-
	Abdominal bloating	28	70	12	30	-	-	-	-
	Joint pain	18	45	20	50	2	5	-	-
	Urinary frequency	31	77.5	9	22.5	-	-	-	-
	Dizziness	26	65	13	32.5	1	2.5	-	-
3.	<b>Psychological symptoms</b>								
	Menstrual migraines	38	95	2	5	-	-	-	-
	Depression	27	67.5	12	30	1	2.5	-	-
	Irritability/easily agitated	18	45	20	50	2	5	-	-
	Rapid mood changes	23	57.5	16	40	1	2.5	-	-
	Poor concentration	12	30	26	65	2	5	-	-
	Anxiety	23	57.5	16	40	1	2.5	-	-
	Insomnia	29	72.5	9	22.5	2	5	-	-
	Hypersomnia	36	90	4	10	-	-	-	-
	Over eating/food craving	38	95	2	5	-	-	-	-
	Tension/nervousness	12	30	27	67.5	1	2.5	-	-
4.	Menstrual pain intensity in numerical pain rating scale	-	-	23	57.5	17	42.5	-	-

### DISCUSSION:

This chapter presents a detailed discussion based on the major objectives, corresponding findings and observation during the conduct of the study. This study was conducted to assess the effectiveness of aerobic exercise in reduction of primary dysmenorrhoea among adolescent girls. This study finding is compared with the findings and observation of similar studies. Report of the prevalence of dysmenorrhoea has varied over the years but it estimated that around 70% adolescent girls are experienced with dysmenorrhoea which affects their daily activities and experienced with some of the physiological and psychological symptoms.

Post test I revealed that among 40 students, more than half of the students 29 (72.5%) was not affected in their daily activities, and post test II majority of the students 36(90%) was not affected in their daily activities.

Post test I more than half of the students 27 (67.5%) had no physiological symptoms, and post test II majority

of the students 36 (90%) had no physiological symptoms, Post test I most of the students 32 (80%) had no psychological symptoms, and post test II majority of the students 38 (95%) had no psychological symptoms, Post test I most of the students 33 (82.5%) had no pain, post test II majority of the students 39 (97.5%) had no pain. This finding are similar to another study on effect of aerobic exercise on primary dysmenorrhoea students 15-17 years among 60 non-athletes, which showed that the average difference between pre-test and post-test psychological symptoms ( $P<0.0001$ ), Health ( $P<0.0001$ ), pain ( $P<0.0001$ ) in the aerobic exercise group and the control group was significant Psychiatric symptoms ( $P=0.345$ ), physical ( $P=0.462$ ), intensity ( $p<0/0001$ ) was not significant. The results Comparison between aerobic exercise and control groups showed that psychiatric symptoms ( $p<0/0001$ ) and physical ( $p<0/0001$ ), intensity ( $p<0/0001$ ) was significantly reduced. The results of this study showed that eight weeks of aerobic exercise can reduce the symptoms of physical and mental pain among 15-17 years old students with primary dysmenorrhoea.

## CONCLUSION:

Dysmenorrhoea is a very common problem among adolescent girls and they experience a number of physical, and psychological symptoms associated with it. Adolescent girls, almost silently suffer the pain by dysmenorrhoea and the symptoms associated with it. Aerobic exercise was a one of the effective, inexpensive and nonpharmacological measure to reduce the primary dysmenorrhoea symptoms among adolescent girls. The study concluded that aerobic exercise as physical activity has significant in reducing the symptoms of primary dysmenorrhoea during menstruation among adolescent girls.

**Ethical Consideration:** Institutional Research Committee clearance was obtained, permission was taken for conduct pilot study and main study and then informant concerned has taken from each of the participant .

**Funding Source:** Nil.

**Interest-based conflict:** Nil