

A STUDY TO ASSESS THE EFFECT OF JACOBSON'S RELAXATION TECHNIQUE ON DYSMENORRHEA AMONG ADOLESCENT GIRLS IN SELECTED SCHOOLS

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ABSTRACT

Introduction: Menstruation is the cyclic uterine bleeding experienced by most of the female of reproductive age. Dysmenorrhea literally means painful menstruation. But a more realistic and practical definition includes cases of painful menstruation of sufficient magnitude so as to incapacitate day to day activities¹The present study title: A study to assess the effect of Jacobson's Relaxation Technique on dysmenorrhea among adolescent girls in selected schools. The objectives are to identify the pain during menstruation among adolescent girls and find association of pain among adolescent girls with selected demographic variables. **Material and Methods:** Researcher adopted evaluative research approach. Pre-experimental method and one group pretest post-test design was used. Data collected on 60 samples. Non-probability Purposive Sampling Technique was used. **Result:** before intervention (41) 68.3% of the adolescent girls had moderate pain (score 5-7) and (19) 31.7% of them had severe pain (score 8-10), day 2 observation (4) 6.7% of the adolescent girls had mild pain (score 1-4) and (56) 93.3% of them had moderate pain (score 5-7). On day 3 observation (29)48.3% of the

adolescent girls had mild pain (score 1-4) and (31)51.7% of them had moderate pain (score 5-7). On day 4 observations fourth, all the adolescent girls had mild pain (score 1-4). Conclusion: It was evident that the reduce dysmenorrhea among adolescent girls improved remarkably after Jacobson's relaxation technique.

(Keywords: Assess, Effect, Jacobson's Relaxation, Dysmenorrhea, Adolescent Girls)

INTRODUCTION

Menstrual cycle is a sequence of events, occurring regularly in women every 28 to 30 days throughout motherhood period of about 36 years. The cycle consists of a series of changes taking place concurrently in the ovaries and uterine walls, stimulated by changes in blood concentrations of hormones. The ordinary length of the menstrual cycle is 28 days. By convention the days of the cycle are numbered from the beginning of the menstrual phase of the menstrual cycle, which usually lasts about 4 days. This is followed by the proliferative phase about 10 days, then by secretory phase about 14 days.²

Dysmenorrhea defines as painful menstruation. But a more realistic and practical definition includes cases of painful menstruation of sufficient magnitude so as to incapacitate day to day activities.¹

Dysmenorrhea is one of the most common reproductive disorders affecting more than half of menstruating women. Dysmenorrhea is classified into categories; primary dysmenorrhea which is showed by a cramping pain in the lower abdomen which occurs just before or during menstruation without evident of pelvic pathological lesions more over the pelvic examination and ovulatory functions were normal. Secondary dysmenorrhea which refers to painful menstruation along with an identifiable gynecological pathology such as endometriosis and tumor. Dysmenorrhea is a major problem of adolescent girls. Which is characterized by painful cramps in the lower abdomen sometimes accompanied by diarrhea, vomiting, dizziness and fainting which affects 20 to 90 percent of adolescent girls and severely impacts another 14 to 42

percent? Dysmenorrhea is excessive cramping that causes a young girl to miss the school or work.³

Dysmenorrhea was reported in 76% of the participants. Poor concentration at school (59.9%) and refusal of participation in social events (58.6%) have been most affected. Multivariate analysis shows that being in upper secondary level was the strongest predictor for poor concentration absenteeism and poor school grade due to dysmenorrhea (Wong, 2011). More than one alternative therapy for alleviating menstrual discomfort and dysmenorrhea can be offered. Women can try options and decide which one works best for them. Heat (hot bath) minimizes cramping by increasing vasodilation and muscle relaxation and minimizing uterine ischemia. Massaging the lower back can reduce pain by relaxing par vertebral muscles and increasing pelvic blood supply. In recent years most of the population prefers complementary and alternative therapies of medicine. Acupressure is a traditional healing practice that is based on the same principle as acupuncture. Instead of applying needles to acupuncture point pressure is applied. A point that is often recommended by acupuncturist for menstrual cramps is called SP6. Although there are only preliminary studies on acupressure by alternative practitioners.⁴

Aromatherapy with lavender, clary sage and rose could be effective in dysmenorrhea. So, aromatherapy could be applied to adolescent suffering with dysmenorrhea. Gynecologic symptoms which are often chronic in nature may be self-treated with herbs and dietary supplements. Nurses should be aware of the therapies that have evidence-based support which carry a low side effect burden and the least potential to interact with other medicine.⁵

Need of the Study

The study on incidence of dysmenorrhea in India revealed that it occurs in 50% menstruating women and about 10% are incapacitated for 1-3 days each month. In the first year after menarche 38% of girls develop dysmenorrhea. In the second and third year after menarche 20% experience pain related to menstruation.⁶

Agarwal and Agarwal (2010), conducted a study on the prevalence of dysmenorrhea was found to be 79.67% among adolescent girls in Gwalior suffer from dysmenorrhea. Most of them

(37.96%) suffered regularly from dysmenorrhea. The three most common symptoms present on both days, that is, day before and first day of menstruation were lethargy and tiredness (first), depression (second) and inability to concentrate on work (third), whereas the ranking of these symptoms on the day after the stoppage of menstruation showed depression as the first common symptoms.⁷

Primary dysmenorrhea is thought to be caused by excessive levels of prostaglandins hormones that make uterus contract during menstruation and childbirth. Its pain probably results from contractions of uterus that occur when the blood supply to its lining is reduced. During endometrial sloughing, endometrial cells release prostaglandins as menstruation begins. Prostaglandins stimulate myometrial contractions and ischemia. Women with more severe dysmenorrhea have higher levels of prostaglandins in menstrual fluid and these levels are highest during the first two days of menstruation.⁸

In view of the above facts, the investigators observed that dysmenorrhea occurs mostly among adolescents. There are many physiological side effects with pharmacological management that become secondary problems and as the health care are moving toward complementary and alternative therapy in managing of many problems, the researcher is also interested in study the effect of Jacobson's relaxation technique on dysmenorrhea, which is to improve the lifestyle and decrease the absenteeism of the adolescent girls. If the Jacobson's Relaxation Technique is advised for the adolescent girls, then the insufficiency at study and attendance will be decreased. Hence the researcher needs to investigate the problem identified.

According to Edmund Jacobson, the Jacobson's relaxation technique means, 'a type of therapy that focuses on tightening and relaxing specific muscle groups in a sequence.'⁹

REVIEW OF LITERATURE

Harsh Bakshi, Sangita Patel, conducted a study to find the prevalence of primary dysmenorrhea among 116 nursing students in Gujarat. They used chi square, chi square for trends, fisher exact test and prevalence rate. Out of 116 students, 52 (45%) had primary and majority (46) of these, had regular menstrual cycles. BMI and ovarian volume did not demonstrate any significant association with presence of dysmenorrhea and regular menstrual cycle.¹⁰

Hingle, Subrata, Manjulika Conducted a cross sectional study on relaxation technique for menstrual disturbances in Bangalore. Muscles therapy also promotes relaxation to the body's mechanoreceptors which interpret warmth, pressure and touch to be relaxation mechanisms. Muscles relaxation improves muscle tone, eliminates muscle knots, relieves muscle spasms and cramps, decreases muscle swelling and reduces scar tissue and also relax muscles lowers blood pressure accelerates metabolic waste and increases tissue nutrition which in turn improves circulation and stimulates blood flow throughout the deeper veins and arteries. Muscles relaxation also help menstruating women reduce PMS associated anxiety, depression and decrease fluid retention.¹¹

A study was conducted on "The effect of Jacobson's relaxation technique on dysmenorrhea among adolescent girls" at Mysore. The objective of the study was to assess the effect of Jacobson's relaxation technique on dysmenorrhea among adolescent girls. The size of sample is 80 girls. Convenient sample technique was used. The tool used was structural interview questionnaires scheduled. The max score was 84 and the minor score was 0. The reliability was valued by 5 experts. Correlations-coefficient was $r=0.56$. the collected opinion was analyzed by using descriptive and inferential statistics. The study concluded that the Jacobson's relaxation technique for dysmenorrhea.¹²

A study was conducted on "Jacobson's relaxation exercise on treating symptoms of dysmenorrhea" Raipur. The objective of the study was to assess the effect of Jacobson's relaxation exercise in preventing the dysmenorrheal symptoms. The Jacobson's relaxation exercise is may not only reduce dysmenorrhea, but also eliminate or reduce the need for medication to control menstrual cramps and other associated symptoms with emphasis on data from experimental studies, this report seeks to review the available evidence regarding the role of exercise in the management of dysmenorrhea and menstruation-related symptomatology. Evidence from controlled trials suggested that Jacobson's relaxation exercise can reduce dysmenorrhea and associated symptoms. However, several possible mechanisms by which exercise might be effective in the management of dysmenorrhea. A large randomized controlled

trial is required before women and clinicals are advised that exercise is likely to be effective in reducing dysmenorrhea and related menstrual symptoms.¹³

Materials and methods

In present study, researcher adopted evaluative research approach. Pre-experimental method and one group pretest post-test design was used. Data collected on 60 samples. Non-probability Purposive Sampling Technique was used. Data analysis was done mainly using descriptive statistics.

Result:

Section I

Table 1: Description of samples (adolescent girls) based on their personal characteristics in terms of frequency and percentages

n=60

Sr. No.	Demographic variable	Frequency (f)	Percentage (%)
1.	Age		
	13-15 years	22	36.7
	16-17 years	22	36.7
	18 years	16	26.6
2.	Age of Menarche		
	10-12 years	21	35.0
	13-14 years	22	36.7
	Above 14 years	17	28.3
3.	Duration of Menstrual Cycle		

	3 days	12	20.0
	4 days	23	38.3
	5 days	14	23.4
	More than 5 days	11	18.3
4.	Frequency of Menstruation		
	Regular	40	66.7
	Irregular	20	33.3
5.	Family history of Dysmenorrhea		
	Yes	33	55.0
	No	27	45.0

Table no.1 cont....n=60

Sr. No.	Demographic variable	Frequency (f)	Percentage (%)
6.	Dietary pattern		
	Nonvegetarian	33	55.0
	Vegetarian	27	45.0
7.	Type of family		
	Joint	35	58.3

	Nuclear	25	41.7
8.	Educational Qualification		
	VIII Std	5	8.3
	IX std	23	38.3
	X std	15	25.0
	XI	11	18.4
	XII	6	10
9.	During dysmenorrhea? Do you practice home remedies		
	No	38	63.3
	Yes	22	36.7
10.	If Yes, Specify		
	Hot water	17	28.3
	Lemon water	6	10
	No	18	30
	Tablet	19	31.7

The table no. 1 deals with the demographic data with regard to demographic characteristics.

Section II

Table 2: Pain during menstruation among adolescent girls

n=60

Pain	Day 1 O1	
	Frequency (f)	Percentage (%)
No (Score 0)	0	0.0
Mild (Score 1-4)	0	0.0
Moderate (Score 5-7)	41	68.3
Severe (Score 8-10)	19	31.7

Table no.2 shows that, in day 1 observation first (41) 68.3% of adolescent girls had moderate pain of dysmenorrhea (score 5-7) and (19) 31.7% of them had severe pain of dysmenorrhea (score 8- 10)

Section III

Table 3: Effect of Jacobson’s relaxation technique on pain during menstruation among adolescent girls

n=60

Pain	Day 1 O1		Day 2 O2		Day 3 O3		Day 4 O4	
	Freque ncy (f)	Percent age (%)	Freque ncy (f)	Percent age (%)	Freque ncy (f)	Percent age (%)	Freque ncy (f)	Perce ntage (%)
	No (Score 0)	0	0.0	0	0.0	0	0.0	0

Mild (Score 1-4)	0	0.0	4	6.7	29	48.3	60	100.0
Moderate (Score 5-7)	41	68.3	56	93.3	31	51.7	0	0.0
Severe (Score 8-10)	19	31.7	0	0.0	0	0.0	0	0.0

Table no. 3, shows that day 1 first observation, (41) 68.3% of the adolescent girls had moderate pain (score 5-7) and (19) 31.7% of them had severe pain (score 8-10), day 2 observation second, (4) 6.7% of the adolescent girls had mild pain (score 1-4) and (56) 93.3% of them had moderate pain (score 5-7). Day 3 observation third, (29)48.3% of the adolescent girls had mild pain (score 1-4) and (31)51.7% of them had moderate pain (score 5-7). On day 4 observation fourth, all the adolescent girls had mild pain (score 1-4). This indicates that the reduce dysmenorrhea among adolescent girls improved remarkably after Jacobson's Relaxation Technique.

Figure no. 12

Bar diagram shown analysis of effect of Jacobson's relaxation technique on dysmenorrhea among adolescent girls.

n = 60

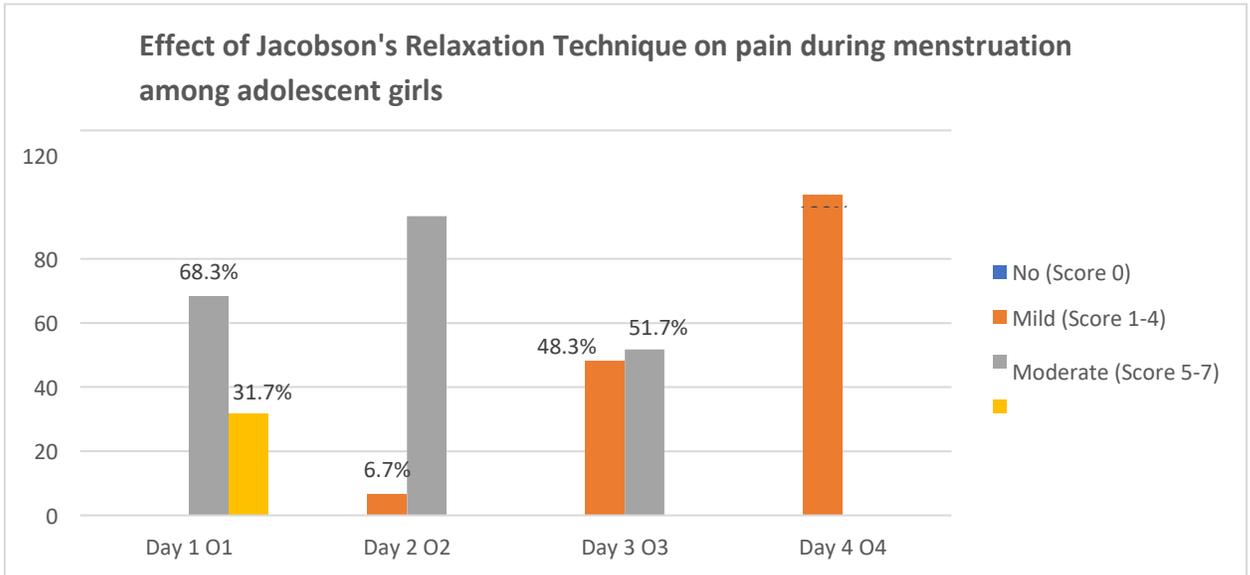


Table 4: Paired t-test foreffect of Jacobson’s Relaxation Technique on pain during menstruation among adolescent girls

n=60

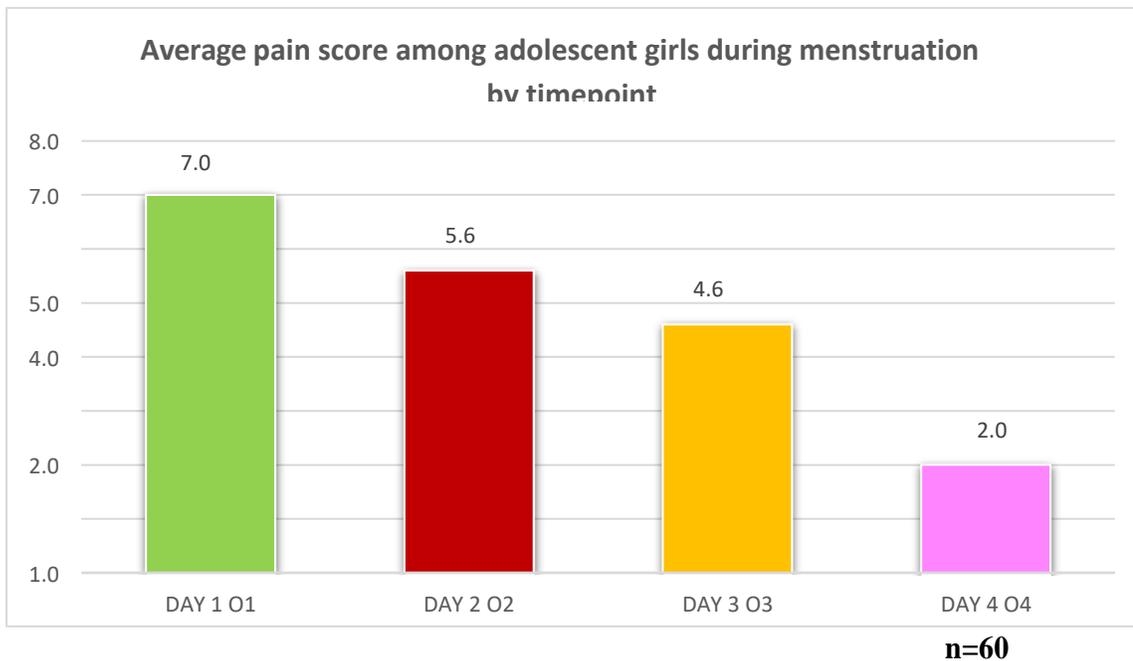
Timepoint	Mean	S.D.	‘t’	df	p-value
Day 1 O1	7.0	0.8			
Day 2 O2	5.6	0.8	9.9	59	0.000
Day 3 O3	4.6	0.8	16.0	59	0.000
Day 4 O4	2.0	0.9	32.7	59	0.000

Table no. 4 shows that, Researcher applied paired t-test for effectiveness of Jacobson’s Relaxation Technique on dysmenorrhea among adolescent girls. Average pain score on day 1 observation first was 7.0 which improved as 5.6, 4.6 and 2 over the time points day 2 observation second, day3 observation third

and day 4 observation fourth t-values of this test was 16.0 and 32.7 at timepoints day 4 observation fourth, day3 observation third and day 4 observation fourth. Corresponding pa-values at all the timepoints were small (less than 0.05), null hypothesis is rejected. Jacobson's relaxation technique is proved to be significantly effective to reduce dysmenorrhea among adolescent girls.

Figure no. 13

Bar graph shown analysis data of average pain score among adolescent girls during dysmenorrhea



Major Findings of the study

Section: II

Analysis of data related to the pain during menstruation among adolescent girls.

Finding of section II shows that the (41) 68.3% of the adolescent girls had moderate pain (score 5-7) and 31.7% of them had severe pain (score 8-10).

Section III

Analysis of data related to the effect of Jacobson's relaxation technique on pain during menstruation among adolescent girls.

Finding of section III shows the effect of Jacobson's Relaxation Technique on pain during menstruation among adolescent girls, in on day 1 observation first score in (41) 68.3% of the adolescent girls had moderate pain and (19) 31.7% of them had severe pain. On day 2 observation second, (4) 6.7% of the adolescent girls had mild pain and (56) 93.3% of them had moderate pain. On day 3 observation third, (29) 48.3% of the adolescent girls had mild pain and (31) 51.7% of them had moderate pain. On day 4 fourth observation, all the adolescent girls had mild pain. This indicates that the dysmenorrhea among adolescent girls improved remarkably after Jacobson's Relaxation Technique.

Paired t-test for effect of Jacobson's Relaxation Technique on pain during menstruation among adolescent girls. Average pain score on day 1 observation first was 7.0 which improved as 5.6, 4.6 and 2 over the time points day 2 observation second, day 3 observation third and day 4 observation fourth. T-values for this test were 9.9, 16 and 32.7 at time points day2 second observation, day 3 third observation and day 4 fourth observation. Corresponding p-value was 0.000 which is small (less than 0.05), the null hypothesis is rejected. This is indicating that Jacobson's Relaxation Technique is proved to be significantly effective in improving the pain during menstruation among adolescent girls

Discussion: - The findings of the study have been discussed with reference to the objectives and hypothesis stated in chapter I and with the findings of the other studies. Evaluate the effect of Jacobson's Relaxation Technique on dysmenorrhea among adolescent girls.

Ms. Gayathri conducted quasi-experimental non-equivalent pretest-posttest control group design was used to collect the data. A total of 60 adolescent girls in C.S.I girls higher secondary school at Madurai were selected as control group(n=30) and experimental group (n=30) through Non-probability purposive sampling technique by using premenstrual syndrome scale. Jacobson muscle relaxation therapy was given for twenty-eight days to the twenty-eight day by using modified premenstrual syndrome scale. There is a highly significant improvement in the posttest mean score of premenstrual syndromes in experimental group than the control group [$t = 17.09$ $p < 0.001$]. the present study findings concluded that, Jacobson muscle relaxation therapy is effective in reducing premenstrual syndrome among adolescent girls. Most of the adolescent girls have moderate, severe and very severe level of Jacobson muscle relaxation therapy, level of premenstrual syndrome has decreased significantly in experimental group. The findings that, Jacobson muscle relaxation therapy can be administered to the school going adolescent girls in reducing the level of premenstrual syndrome

Conclusion

The conclusion drawn from the findings of the study are as follows: The 't' test done to find the effect of Jacobson's Relaxation Technique on dysmenorrhea among adolescent girls in selected schools, related to dysmenorrhea revealed that there is highly significant reduce the pain score in the post-test who had been supplemented with the Jacobson's relaxation technique related to dysmenorrhea Jacobson's Relaxation Technique on dysmenorrhea among adolescent girls has shown a significant effect in reduce the pain score in dysmenorrhea.

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