



EFFECT OF HIGH INTENSITY AEROBIC EXERCISE ON MENSTRUAL PAIN ON COLLEGE GOING GIRLS

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Abstract: *BACKGROUND: Most of the young population especially college girls do not have the awareness of the physical activities and its impact on health. Usually college going girls are having severe pain during menstrual cycle so that may lead to severe pain which causes absences in college going girls but these exercise has role on reducing pain related with menstrual symptom similarly there was evidence which proved that aerobic exercise is effective on menstrual symptom. Since there was less clarity whether various intensity may have impact on menstrual pain. METHODOLOGY: The study is quasi experimental study. 30 students from Sri Balaji Vidyapeeth Institutions are recruited in this study. Samples are collected in convenient manner and divided into two group. Subjects age between 17 to 22 were selected according through the selection criteria. After getting the consent from the subjects and with their parents, Group - A (experimental group) received High intensity aerobic exercise and Group - B (control group) have not received any form of exercise. High intensity aerobic exercise protocol consist of 50 minutes duration carries with 5 days in a week for total 8weeks.RESULT ANALYSIS: Significant difference found among experimental and controlled group where it has been concluded that high intensity aerobic exercise reduced menstrual pain among college going girls through it has been suggested that high intensity aerobic exercise can be advised for college going girls who are having severe menstrual pain during menstrual cycle and also it may be considered to carryout in health education.*

KEYWORDS: Pain, Menstrual pain, Menstrual Cycle, High intensity aerobic exercise.

I. INTRODUCTION

Pain is an unwanted experience that can affect the individual experiencing it negatively depending on its intensity, location, quality and duration. One of the causes of pain among girls is dysmenorrhea. Dysmenorrhea can be defined as pain during menstruation. A significant population of girls experience mild, moderate or severe pain during menstruation. Fraser and Cooper reported that 75% of menstruating girls experience dysmenorrhea, making it leading cause of incapacitation in adolescents. International association for the study of pain posited that dysmenorrhea affects 40 to 90% of girls. Dysmenorrhea may be primary without pathology or secondary to pelvic pathology. Primary dysmenorrhea is due to excessive quantities of prostaglandins synthesis during the breakdown of premenstrual endometrium on the other hand secondary dysmenorrhea may occur due to outlet obstruction which may result from a partial imperforate hymen or uterine malformation. Pain intensity can be measured using a scale. Visual analog scale suggested that pain intensity can be scaled as no pain, mild pain, moderate pain, severe pain and worst possible pain. No matter the intensity of pain, girls affected by dysmenorrhea experiencing discomfort, distress and suffering and will do anything within their reach to eradicate or reduce the pain. Health care provider suggest some form of aerobic exercise such as pelvic tilting, walking, bicycling and swimming may, improve blood flow relax abdomen muscle, reduce pelvic pain and relieve pressure on nerve centers pelvic organs and the alimentary canal. Exercise increase the release of several neuro transmitter including natural endorphins (the brain natural pain killer), estrogen, dopamine and endogenous opiate peptides, as well as altering the reproduction of hormone secretion, suppressing prostaglandin from being released and raising the estrone\estradiol ratio which act to decrease endometrial proliferation and shunts blood flow away from the uterus. Exercise may act as a distraction intrusive thoughts and promote positive thoughts, decreasing short term depression. Exercise may increase concentration and improve mood and behavior. Primary dysmenorrhea is a very common and serious problem that can often directly affect the quality of life for women, interfering in activities such as working or studing. In this study we investigate how menstrual discomfort affects the students quality of life and how its improve with exercise.

Effect of exercises: The idea that exercise might help to relieve menstrual pain is not new, it 1943 billing proposed that women with dysmenorrhea had contracted ligamentous bands in the abdomen and subsequently developed a series of stretching exercises for which he a high rate of symptom relief. The belief that exercise was effective seems to have prevailed and led to anecdotal beliefs among health agencies, clinicians, and women that exercise is beneficial however, a combination of organic, psychological, and sociocultural factors may be responsible. Evidence suggests that aerobic exercise reduces negative effect on women who exercise regularly exhibit lower levels of negative effect and physical symptoms across the menstrual cycle. This study test the hypothesis that women who participating in regular, aerobic exercise will report less negative effect and

lower levels of physical symptoms, throughout the menstrual cycle, than non exercises emotional and behavioral problems may exacerbate menstrual cycle problem and dysmenorrhea. Due to the negative effects dysmenorrhea on an individual's physiological status health related qualities of life may be disrupted among adolescent women. exercise today is an integral part of normal life for many women. It is clear that there are many health benefits for women to exercise regularly and then moderation. Exercise improves cardiovascular status increase bone mineral content; improve dysmenorrhea and premenstrual syndrome symptoms. Considering the side effects of drug treatment and surgery and non-drug treatment particularly physical activity, has attracted the attention profession and women. Also it helps in reducing pain, relieving stress, elevating mood and improving health. Women who exercise show less severe dysmenorrhea and greater positive effect than women who was sedentary. Most of the young population especially college girls do not have the awareness of the physical activities and its impact on health. Usually college going girls are having severe pain during menstrual cycle.so that may lead to severe pain which causes absences in college going girls but these exercise has role on reducing pain related with menstrual symptom similarly there was evidence which proved that aerobic exercise is effective on menstrual symptom. Since there was less clarity whether various intensity may have impact on menstrual pain. So this study conducted by means of high intensity aerobic exercise for college going girls. The aim of the study To find out the effect of high intensity aerobic exercise on menstrual pain on college going girls.

II. METHODOLOGY

The study is quasi experimental study. 30 students from Sri Balaji Vidyapeeth Institutions are recruited in this study. Samples are collected in convenient manner and divided into two group. Subjects age between 17 to 22, who can cooperate till the end of the study, pain more than 5 through visual analog scale were included in this study. subjects having any other musculoskeletal pain, any other gynecology problem, neurological problem were excluded in this study. Numerical rating pain scale were used to assess the level of dysmenorrhea among college going students. The instrument was found to be reliable. The numerical rating pain scale are 0 consider as no pain, 1-3 are consider as mild pain, 4 -6 are consider as moderate pain, 7 -9 are severe pain and 10 is a excruciating pain. After getting the consent from the subjects and with their parents, Group - A (experimental group) received High intensity aerobic exercise and Group - B (control group) have not received any form of exercise. High intensity aerobic exercise such as running, Cycling, Speed Walking, Climbing Stairs, Jump roping, swimming and low impact dance. Protocol consists of 50 minutes duration carries with 5 days in a week for total 8 weeks.

III. RESULT ANALYSIS

3.1 Analysis of Pre-Test:

The table 3.1 shows pretest values of menstrual pain on college going girls, between two groups that is Experimental Group and Controlled group. The mean value & standard deviation of experimental group was 6.4 ± 2.09 respectively and Controlled group was 6.8 ± 2.00 respectively. The t score between the group was -0.533 and P value was 0.298, $p > 0.05$ shows the data's observed consider as not statistically significant.

Tabulation 3.1: Pre-test values

Sl no.	Group	Number of sample	Mean	Standard Deviation	T score	P value
1	Group A	15	6.4	2.09	-0.533	0.298
2	Group B	15	6.8	2.00		

The table 3.2 shows pretest values of menstrual pain on college going girls, between two groups that is Experimental Group and Controlled group. The mean value & standard deviation of experimental group was 3.9 ± 2.1 respectively and Controlled group was 6 ± 2.90 respectively. The t score between the group was -2.89 and P value was 0.0036, $p < 0.05$ shows the data's observed consider as statistically significant

Tabulation 3.2: Post-test values

Sl no.	Group	Number of sample	Mean	Standard deviation	T score	P value
1	Group A	15	3.9	2.1	-2.89	0.0036
2	Group B	15	6	2.90		

Fig 3.1: Statistical Analysis of Pre Test

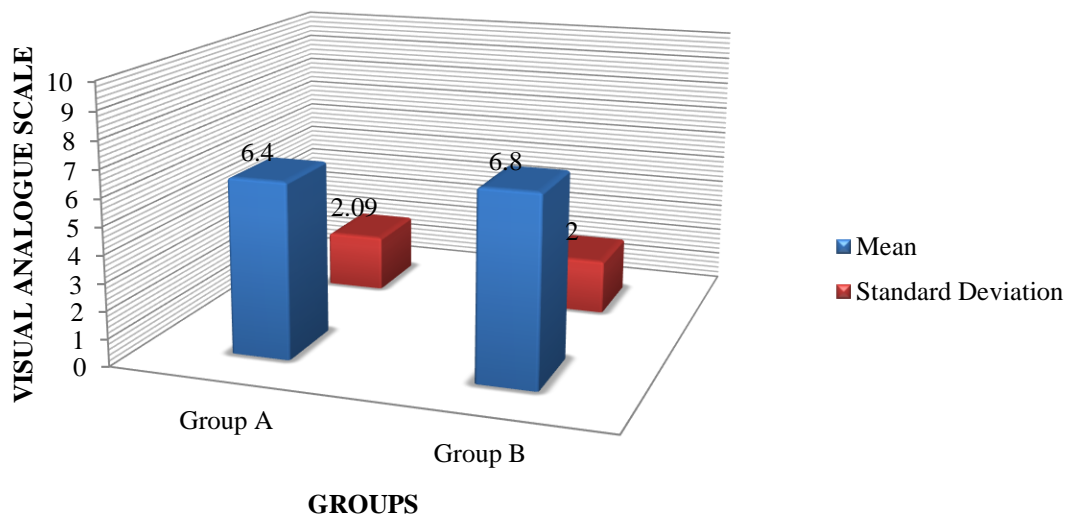
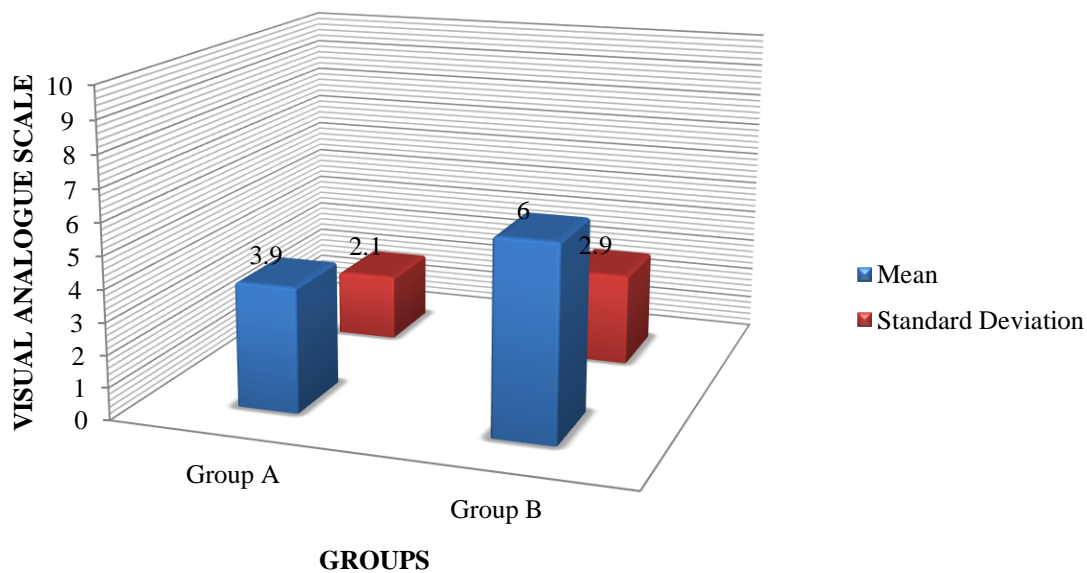


Fig 3.2: Statistical Analysis of Post Test



Significant difference found among experimental and controlled group where it has been concluded that high intensity aerobic exercise reduced menstrual pain among college going girls through it has been suggested that high intensity aerobic exercise can be advised for college going girls who are having severe menstrual pain during menstrual cycle and also it may be considered to carryout in health education

IV. DISCUSSION

The cross sectional study is done to measure the prevalence of pain and it's intensity during menstrual cycle among participants and to assess the effects of aerobic exercises in reducing the pain .The aerobic exercise are beneficial in primary dysmenorrhea and improves quality of life .Aerobic exercise is found to be effective in reducing pain and symptoms of dysmenorrhea. It is considered that the pain during menstrual cycle is due to prostaglandins which are present in high quantities in menstrual fluid. They are potent vasoconstrictor and thus cause ischemia to the uterus and even reduced progesterone may also cause increased production of prostaglandin, the mediator of pain. Reduced titer of progesterone causes increased myometrium contraction that gives more strain to ischemic myometrium and intensity pain resulting dysmenorrhea. Exercise act on the lining of the uterus and increase level of circulating endorphins which in turn raise the pain threshold. The result of the present study is concluded that women who exercised at least once per week show a significant improvement in reduction of pain and quality of life.

V. CONCLUSION

Based on the findings of this study, it can be concluded the occurrence of pain during menstrual cycle is very high. Therefore, the use of regular aerobic exercise with moderate intensity can reduce or prevent the occurrence of certain menstrual disorders and pains. The study confirmed that the treatments with high intensity aerobic exercises may be the preferred treatment for dysmenorrhea as it is cost effective. The visual analog scale score showed statistically significant pain reduction in experimental group. Our findings show that exercises can help to reduce pain and improve physical symptoms which overall improves quality of life of primary dysmenorrhea girls. Dysmenorrhea is a problem for girls that cause absence from college; we recommend regular exercise as a helpful means in this age group. We advise that these young adolescent girls should be educated regarding and consultation with physiotherapist for effective relief of pain.

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