Original Article

A STUDY ON INFLUENCE OF MENSTRUATION IN EXERCISE APPROACH OF ADOLESCENCE GIRLS

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Abstract

Background: For adult girls, menstruation is the separate ordeal that should be experienced in every month. According to the study, most of the experience pain during exercises. The aim of this study is to investigate the influence of menstruation in exercise approach in adolescence girls. The method of this study was cross sectional study. The population in the study were all the students with regular exercising and with regular menses of the individual. The sample of the study are some students having pain during menstruation. The data was analysed during Menstrual Attitude Questionarie. This study was carried out in Krishna Institute of Medical Sciences, Karad. The result of these research is about of the individual have severe menstrual pain. During menstruation, the intensity of the exercise decreases as compared to normal days. Based on the analysis, using Instant software. It is concluded that Patient with painful menstruation must not perform severe exercises.

Keywords: menstruation, exercise, pain, adolescence.

INTRODUCTION

In girls, menstruation is a phenomena that starts between the ages of 11 and 14 and occurs at the same time as puberty. Between 50 and 200 mL of blood are lost over the 3-5 day bleeding period. The features of the circulatory, respiratory, and metabolic systems are affected by the menstrual cycle[1]. A natural technique to investigate how hormones affect various aspects of human cognition is through the predictable fluctuations in hormone levels that occur during the menstrual cycle.[2] Uncomfortability, mood fluctuations, lethargy, and fatigue are all possible effects of menstruation. Menstruation's start marks the beginning of maturation.[3] The normal progression of the menstrual cycle is regulated by a combination of pituitary and ovarian hormones. Regularly occurring menstrual cycle that lasts between 21 and 35 days. Follicular, ovarian, and luteal phases make up the cycle.[4] Menstruation typically lasts 4 to 6 days, and throughout the early follicular phase, the concentration of female menstrual sex hormones is very low and constant. The follicular phase and late follicular phase both last until ovulation. Oestrogen levels rise as ovulation follicles, which each contain an egg, mature. Gonadotropin release increases when oestrogen levels rise to a certain point. The hormone release causes a sharp increase in LH levels. When a mature ruptures and releases the egg during the Follicular Phase, ovulation has taken place[5]. Amenorrhea, dysmenorrhea, premenstrual syndrome, and oligomenorrhea are examples of menstruation disorders. A common cyclic illness known as premenstrual syndrome is characterised by mental and physical symptoms that reoccur often during the luteal phase of the menstrual cycle[6].The intense leg cramping known as dysmenorrhea occurs during menstruation[7]. . Amenorrhea is the lack of menstruation for an extended length of time following the commencement. Menstruation happening less frequently than every 35 days is known as oligomenorrhea. physical signs such nausea, vomiting, headaches, and mood changes[8].

Adolescence is a crucial developmental stage that lasts from the year up to puberty. Menstruating adolescent girls are more likely to have physical symptoms such nausea, vomiting, headaches, and mood changes. independence. It marks the age at which a child becomes an adult. The individual is between the ages of 13 and 18 when they reach puberty.[9] Menstrual hygiene is the issue that has to be addressed the most with adolescent girls. Adolescent females frequently experience missed periods or atypical menstrual ages due to their changing lifestyle, which can cause sleep problems and weight loss. Vigorous activity may cause people to experience irregular menstruation flow.[10]

The individual's exercise performance changes throughout the early follicular phase of her menstrual cycle. Acute exercises might also speed up the menstrual cycle. Both oestrogen and progesterone concentrations rise during activity, however the rise

in oestrogen is larger in the luteal phase than in the follicular phase relative to progesterone during exercise[11]. Progesterone and oestrogen levels being out of balance is the cause of decreased exercise performance during menstruation. Exercise has been shown to raise a person's endorphin levels and its concentration of luteinizing hormone while maintaining a normal level of follicle stimulating hormone. Growth hormone is also released, and the person's level of GnRH rises. Strong abdominal exercises must be avoided during puberty since girls often build weak abdominal muscles. Individuals who conduct just concentric abdominal work may experience pain. Exercise can also have an impact on the hypothalamus pituitary adrenal axis, which increases body heat and blood pressure.[12]

In comparison to ovulation at rest, a light intensity of 40% VO2peak, and a moderate intensity of 60% VO2peak, oestrogen levels are lowest and blood pressure reactions are highest during menstruation. Lower oestrogen levels lead to an increase in peripheral resistance during menstruation because the sympathetic nervous system is more active and peripheral blood vessels are more constricted[13]. Increased oestrogen levels after ovulation influence vascular relaxation by generating nitric oxide, a substance that relaxes the arteries, but they also help to reduce blood pressure during exercise compared to during menstruation by directly relaxing the smooth muscle.[14]

According to the research' findings, it was not clearly established if menstruation had an impact on adolescent girls' ability to exercise. Understanding how adolescent females' actions are impacted by their menstrual cycle is crucial. In light of the foregoing, this research was done to look into how teenage girls' exercise habits are impacted by their menstrual cycles.

LITERATURE REVIEW-

1. "Effect of menstrual cycle on anaerobic power and jumping performance." et al Aysegul Yapici – Oksuzoglu, Halit Egesoy Pamukkale University Faculty of Sport Science, Turkey in 2021 conducted a study on the It was made to find out the exercise effect during menstruation. In this study result of hormonal changes in the menstrual period of the athletes and effect of psychological factors specific to thid period. In this study 15 female participated who had regular menses and who had daily workout. In these, Wingate Anaerobic Power Test and Active Jumping Test was applied in this study. The study mainly focuses on the hormonal changes in the menstrual period and psychological factors affecting the individual.

2. Lamina S, Hanif S, Muhammed H Biomedical Technology Department, Physiotherapy department of Medicine, Bayero University, Nigeria, Physiotherapy Department, University of Jos Teaching Hospital, Jos, Nigeria in 2011. In this study the height, weight, heart rate, blood pressure is mostly assessed during exercise of the individual. The result of this study is there is no change in endurance capacity of the individual in menstrual phase.

3. "Effect of menstrual cycle on the exercise performance.". Et al Xanne A. K. Janse de Jonge. This study reviews the potential effects of the female steroid hormone fluctuation during the menstrual cycle on the performance of the individual. The study mainly focuses on the various activities or exercise during various phases of the menstrual period of the individual. Also the max oxygen consumption of the individual is also observed in these study. In the maximum energy exertion activities the variation in vitals of the individual is also observed in these study. And also various phases of the menstruation affects the exercise capacity of the individual.

4. "A study on menstruation and personal hygiene among adolescence girls of Medical College". Et al Varsharani V Kendre, Chandrashekar H Ghattergi. In this study mainly focuses on the health of the adolescence girls and effects on the health of the menstruating girls. In this study 246 girls willingly participated in this study, which consist of rural area as well as slum area adolescence gils. The aim of the study is to improve the quality of the life of the individual and live the healthy life. Therefore, it was necessary to assessing the pattern of the menstrual period, disorders and the personal hygiene to the individual.

5. "A study on the effect of menstrual cycle phase on atlethic performance". Et al Constance M. Leburn, Donald C. McKenzie, Jerilynin C. Prior and Jack E. Taunton University of British Columbia in 1992 conducted. In this study capacity or performance of atlethics is checked in follicular as well as luteal phase of the individual. In this study the comparision was done in 16 individuals with their performance in different menstrual phase.

6. "Study on perception and practice among the school going girls among adolescence girls". Tanoja Bachloo, Randhir Kumar, Anmol Goyal, Parmal Singh, Sachin Singh Yadav, Anu a Bhardwaj, Anshu Mittal. This study was carried out in

Haryana in 2016. It is a cross-sectional study was carried out in Haryana. About 400 students were willingly participated in this study. In these rural area and urban area schools were taken in the survey. And also the aim of the study was to educate the students about menstruation and health hygiene to students and its adverse effects.

MATERIALS AND METHODS

In this research, about 120 adolescence girls between the age of 18-25, who have a regular menstrual cycle. The individual are engaged in daily exercising capacity and are healthy. Prior to the study, ethics committee approval was obtained from the Krishna Institute of Medical Sciences Ethics Committee. Participants were given detailed information of the study and consent of the individual was taken before intiating of the study.

Procedure

- A google form was made with 33 questions. These questions were mainly on the attitude towards the menstruation and who individual works in at particular
- The subjects were taken on the basis of inclusion and exclusion criteria.
- The procedure of the study was thoroughly explained to the subjects
- The proper informed constent was taken from each subject.
- These questionnarie was given to each subject to the students of Krishna College Students.
- This survey was mainly focusing on the capacity of physical activities during menstruation and lookout of the individual outwards it and also the mood factor is also considered in this survey.
- Youngster who participated in this survey are from the age group 13 years to about 25 years of age.
- Socio demographic variables such as name and age of the individual.
- 120 individuals are willingly to participate in this survey.
- Microsoft excel was used to make the statistical analysis.

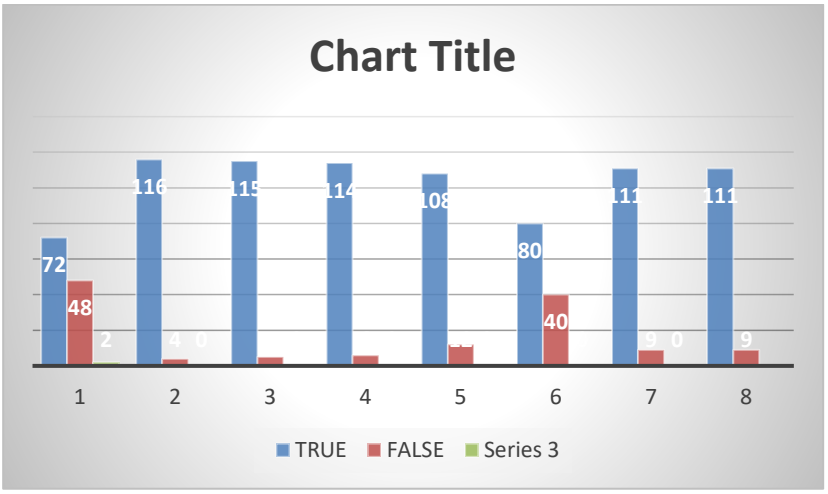
Statistical Analysis:

Descriptive analyzes of the participants basic characteristics were calculated as mean and standard deviation. Whether the data showed normal distribution was evaluated using Instat software. The level of significance was set at p is 0.036.

DEMOGRAPHIC VARIABLES IN THE STUDY

Table no.1

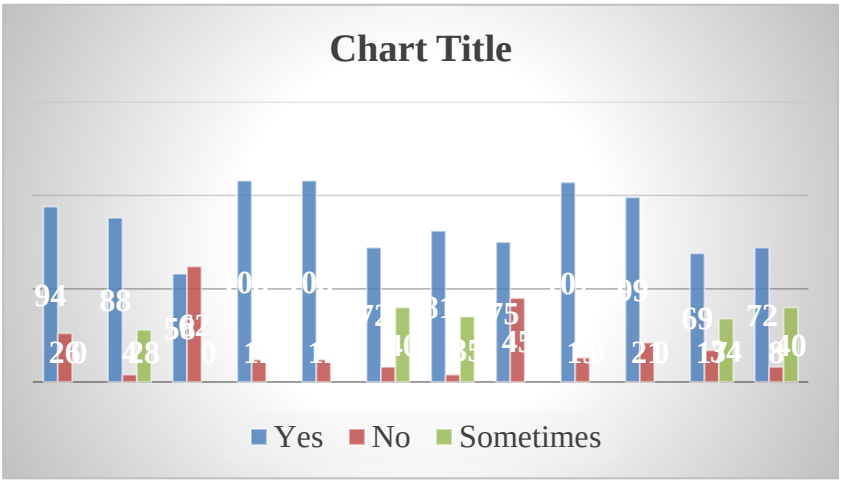
	Standard Deviation	P value
True	17.221	0.0036
False	17.221	0.0036



Graph no.1- The above bar graph shows that individuals responses in form of true and false. In these subject age group is 13 to 18 years of age.

Table no. 2

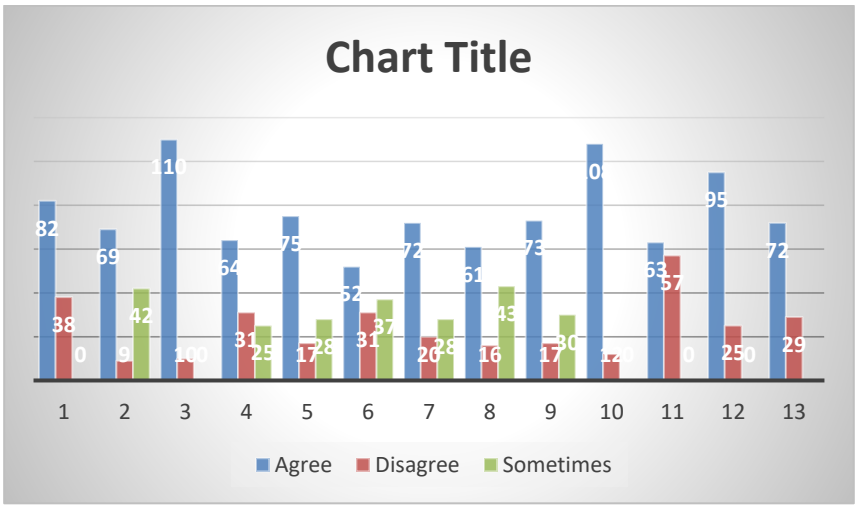
	Standard Deviation	P value
Yes	4.967	>0.10
No	5.080	0.0986
Sometimes	5.333	<0.0001



Graph no 2

Table no. 3

	Standard Deviation	P Value
Agree	17.741	0.0618
Disagree	13.276	>0.10
Sometimes	17.203	0.0200



Graph no 3

DISCUSSION

Influence of menstruation on teenage girls' exercise behaviours was examined in this study. Girls in the current study ranged in age from 15 to 18 years old. About 120 people voluntarily took part in this study. Due to variations in a person's hormones, the menstrual cycle has an impact on a variety of metabolic, cardiovascular, and pulmonary parameters in addition to their performance. The study's findings showed that the participants had acute discomfort, which had a negative impact on their ability to exercise. Additionally, going about one's regular business was different. The menstrual cycle has different phases, each of which affects an individual's potential. Exercise during menstruation has not been shown to significantly change in some research, but on the other hand, in some exercise patterns during menstruation have been shown in some research to remain largely unchanged, while in other studies it has been found that these patterns have either increased or decreased.

Looking at research that are similar to our study's findings, Aysegul Yapici[15] did a study on the impact of the menstrual cycle on anaerobic power and leaping performance. Results of hormonal changes throughout the athletes' menstrual periods and the impact of psychological elements unique to this time were examined in this study. 15 women with regular periods and everyday exercise participated in the study. The Wingate Anaerobic Power Test and the Active Jumping Test were used in this investigation. The study largely focuses on psychological aspects impacting the individual as well as hormonal changes throughout the menstrual period. Similar research by Xanne[16] revealed the possible effects of the female steroid hormone variations during the menstrual cycle on exercise performance. The article contends that a reduction in luteal phase exercise time under hot conditions

In a study by Osman Imamoglu, Tulin Atan, and Dursan Katkat,[17] it was discovered that there is no difference in the athletic performance of female athletes before and during menstruation. Additionally, it was observed that an individual's discomfort is reduced while engaging in athletic training and competition. Lamina S. Hanif S. The goal of the study was to evaluate how the menstrual cycle affected young female adults' maximum aerobic capacity. The findings of this investigation showed no appreciable impact on menstruation or peoples' endurance.

According to the study's findings, 95% of people suffer from menstruation pain. Additionally, it limits a person's ability to exercise more than on average days. According to these studies, as a person increases their exercise, blood flow throughout the menstrual cycle also increases. Increasing the person's menstrual pain as a result. Therefore, it is important to avoid exercising during a period.

CONCLUSION

As a result, it is said that practically every adolescent has physiological changes related to menstruation, and it should be noted that these changes may have an impact on a person's ability to exercise. When a person is not in her menstrual cycle, she performs physical labour with a higher level of general quality, such as running or climbing stairs. Furthermore, blood flow increases during intensive activity while decreasing exercise capacity. Therefore, it is recommended, according the research, to avoid strenuous exercise for at least two days before and after a woman's period and instead give her body a rest.

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