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ORIGINAL ARTICLE

THE EFFECT OF MENSTRUAL CYCLE PHASES ON FLEXIBILITY: A COMPARATIVE STUDY

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ABSTRACT

Objective: To compare the effect of menstrual cycle phases on flexibility among women volleyball athlete and non sports athletes. **Methodology:** A total of 20 female subjects were selected. Out of which10 where taken from the game of volleyball and other ten from the women who were living a sedentary lifestyle from Lucknow, U.P, city by using the purposive sampling technique. The age of the subjects ranged from 24 to 29 years. Mesuration phases were opted as I.V (Independent variable)for the study whereas flexibility as D.V (Dependent Variable). Subjects where acknowledge well before the test took place**. Conclusion**- From the evaluation of the test results on SPSS 25 by descriptive statistics and independent t test, It was found that women volleyball athletes showed a significant difference in all the three phases of mensuration. Hence the result significantly differed at a 0.05 level of significance.

KEYWORDS: volleyball athletes, sedentary lifestyle, flexibility, menstruation phase, purposive sampling.

INTRODUCTION

However, the menstrual cycle could have an influence on one's ability to exercise for an extended period of time. Despite the fact that the majority of research suggests that oxygen consumption, heart rate, and rating of perceived exertion responses to sub-maximal steady-state exercise are not affected by the menstrual cycle, several studies report a higher cardiovascular strain during moderate exercise when the woman is in the mid-luteal phase. Despite this, there is no variation in the amount of time it takes to reach fatigue while exercising at intensities below maximum levels. As a result of the limited repeatability of the time to exhaustion test, the relevance of this conclusion need to be called into doubt. In the middle of the luteal phase, when the body temperature is at its highest, there is a reduction in the amount of time it takes for an individual to get exhausted after extended activity in hot settings. Therefore, the mid-luteal phase may have a potentially unfavourable influence on the ability to undertake extended activity due to a rise in core body temperature and maybe an increase in the amount of strain placed on the cardiovascular system. Adjusting competition timetables for female endurance athletes to accommodate their menstrual cycles may have important practical repercussions, particularly when taking place in hot and humid environments. The limited breadth of the present study as well as its methodological shortcomings call for more exploration into the influence that the menstrual cycle has on the ability to do extended exercise.

Given the recent increase in the number of women participating in exercise and the lack of consensus regarding the effects of the MC on exercise performance, there is a growing need to determine the effects of the fluctuations in oestrogen and progesterone across the MC on exercise performance. To our knowledge, this is the first meta-analysis to critically examine existing studies investigating changes in exercise performance across the MC, in eumenorrheic women. Additionally, this review is the first of its kind to appraise the quality of previous studies using robust assurance tools. The information provided by this meta-analysis can be used to inform practical recommendations for athletes, practitioners and researchers interested in managing exercise performance across the MC.

This given study has produced an effort to explore the findings of the effect of menstrual cycle's 4 phases on flexibility among volleyball sports athlete and non sports athletes.

METHODOLOGY

The purpose of the research was to conduct a comparative evaluation to analyze the effect menstruation cycle phases on the flexibility of women volleyball atheletes and Non sports athletes. A total of 20 female subjects were selected from all three above-mentioned sport from Jhansi, U.P.by using the purposive sampling technique. All the players of the volleyball sports were participants of All India University and West Zone Inter-university and other group were following the sedentary lifestyle. The age of the subjects ranged from 24 to 29 years and all were regular players with a good and sound level of skill. Mesuration phases were opted as I.V (Independent variable)for the study whereas flexibility as D.V (Dependent Variable).

ANALYSIS OF THE DATA

For the analysis of data descriptive statistics were applied which were mean, standard deviation, skewness, and kurtosis. Furthermore, Independent T test was applied to analyze the result. For this study, the level of significance was set at α 0.05.

RESULTS AND DISCUSSION

If a skewness value is greater than twice its standard error, this may indicate that there is a departure from symmetry. Since the skewness of the variables is less than twice the size of the standard error, this indicates that all of the variables have a symmetrical distribution. Similarly, the value of kurtosis for the data was normal for the variable and is less than twice its standard error of kurtosis. This indicates that the value of kurtosis is not significantly different from zero. To put it another way, the distribution of each and every variable is of the Meso-Kurtic type.

The below-mentioned table-1 shows the Mean and Standard deviation scores on the effect of menstruation phases on flexibility of women volleyball athletes and non sports athletes.

TABLE- 1

Group Statistics

PHASES	FLEXIBILITY	N	Mean	Std. Deviation	Std. Error Mean
MENSTURAL	WSP	10	8.0000	4.21637	1.33333
	NWSP	10	4.2500	2.90832	.91969
FOLLICULAR	WSP	10	10.2000	3.85285	1.21838
	NWSP	10	4.4500	2.80327	.88647
OVULATON	WSP	10	10.0000	4.08248	1.29099
	NWSP	10	4.4500	2.79335	.88333
LUTEAL	WSP	10	10.0000	4.08248	1.29099
	NWSP	10	4.5000	2.76887	.87560

TABLE – 2

The below mentioned table 2 shows the result of independent t test

Independent Samples Test

MENSTURAL PHASES	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
MENSTURAL	2.934	.104	2.315	18	.033	3.75000	1.61976	.34702	7.15298
			2.315	15.983	.034	3.75000	1.61976	.31598	7.18402
FOLLICULAR	.505	.486	3.816	18	.001	5.75000	1.50674	2.58445	8.91555
			3.816	16.443	.001	5.75000	1.50674	2.56282	8.93718
OVULATON	.774	.391	3.548	18	.002	5.55000	1.56427	2.26359	8.83641
			3.548	15.912	.003	5.55000	1.56427	2.23240	8.86760
LUTEAL	.715	.409	3.526	18	.002	5.50000	1.55991	2.22274	8.77726
			3.526	15.834	.003	5.50000	1.55991	2.19031	8.80969

CONCLUSION

The purpose of the study was to compare the two groups which were of women volleyball athletes and non sports athletes. Which were examined on the basis of the effect of menstruation phase on the flexibility of the above two mentioned groups. For analyzing the results descriptive statistics and as there was only two groups independent t test was used to analyze was used to analyze the mean difference between the groups. From the evaluation of the test results, it was found the women volleyball athletes showed a significant difference at a 0.05 Level of significance. As a consequence of the findings, it is clear that one of the primary advantages of volleyball female Athletes was the sheer will and adaptation to load in different mensuration phases throughout the training period.

RECOMMENDATIONS

1. A similar kind of study can be done using the elite level of athletes in different age categories.
2. Further study can be done with a different research appoarch i.e. cross-sectional as well as longitudinal.

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