

A Comparative Study of Physical Fitness among Sports and non Sports Women before and during Their Menstrual Periods

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Abstract - A Study was conducted to compare the physical fitness among sports women and non sports women before and during their menstrual periods. A Sample of 100 girls was selected on random selection basis from sports women of SAI centre H.A.U., Hisar or from local college of Hisar, out of these 50 were sports women and fifty were non sports women. Physical fitness components of both the groups were measured before and during their menstrual periods. standardized tools were used and t-test was applied on arranged and tabulated data for significance of results.

Physical fitness was found non significant, on comparison of pre and during menstrual periods Scores of both the groups on these components. however then pre to pre and during to during menstrual period differences of both the groups were compare it was found significant on all the variables of physical fitness.

Combined results of both the groups predict that 48 (48%) performed same, 29 (29%) performed increased and 23 (23%) showed decreased performance. it confirm that out of 100 sports and non sports women 77 (77%) performed same or increased performance and 23 (23%) performed decreased performance. The result of study confirm that menstrual periods have no effect on physical fitness of sports women and non sports women, where as significant difference were found in comparison of before and during menstrual period of sports women with non sports women.

Key words: Menstrual periods, Physical Fitness

I. INTRODUCTION

Now a days men and women have equal opportunities to show their worth in every field of life. The field of games, sports and physical education is no exception to this. They have equal rights to their counterparts in every field of life. However it has been found that women due to certain traditional or customary practices avoid participating in games, sports and physical activities, where there is lot of violent and jerky body movement. In most of the under developed and developing countries there is a strong belief that proceedings, during and succeeding days of menstrual periods, the women are generally in low physical and physiological fitness abilities and that is why they should not participate in vigorous physical activities. Added to this belief the other strong notion in the minds of physical education teacher and coaches is that if the women took part in vigorous play activities during the period, it is likely that their reproductive system would be damaged causing further complications for the preparations of mother hood in the women. Scientific researchers in the field have different view with solid scientific evidences.

According to K.L. Jones et a “the cycle of events in uterus from the beginning of one menstrual discharge until the next is called the menstrual of heat is called the menstrual cycle. It is under control of two sets of harmones, those from the anterior pituitary gland called the gonatotrophic harmones and those from the ovary. **Bilhuyber (1927)** states “that cycle had no effect on motor ability. **Kral and Markalow in 1930** indicated that 29% of competitor actually produced their best athletic performance while menstruating. In a further fact he says 63% the menstrual cycle had no effect, while 8% showed less in performance. **Edward et al** state says” Exercise during any state of menstrual cycle before or during of other medical conditions of regular exercise is believed improving the integrity of menstrual function. The findings of study will change the myth of menstrual cycle and exercise.

Method and Procedure: The following method and procedure was adapted for selection of subject and administration of test to assessed physical functions ability of sports and non sports women before and during their menstrual periods.

Selection of Subject: A Sample of 100 girls was selected from SAI Centre HAU Hisar and Govt P.G. College, Hisar on random Selection basis out which 50 were sports women and 50 were non sports women.

II. PHYSICAL AND PHYSIOLOGICAL EFFICIENCY COMPONENT MEASURED

Physical Fitness: Speed, Strength, Balance, Flexibility, agility and Endurance.

Administration of tests: Standardized tools were use for measurement of physical and physiological abilities of sports women and non sports women Pre and during their menstrual periods at place of their practice or in their institution, significance and volatility was decided by applying test retest method.

Statistical Analysis: Raw scores were arranged, tabulated and t-ratio was applied for significance of results.

III. ANALYSIS AND PRESENTATION OF DATA:

Performance of sports women and non sports women on physical fitness and physiological abilities before and during their menstrual periods presented in table I for analysis and discussion.

Table I - Analysis of mean performance scores and calculated values of sports and non sports women on physical fitness tests

Event	Sports women		N-50		t-value
	Before		During		
	Mean	S.D	Mean	S.D	
Strength	2.211	0.237	2.264	0.348	0.902 ^{NS}
Speed	6.956	0.485	6.890	0.471	0.689 ^{NS}
Balance	11.409	2.937	11.187	3.252	0.358 ^{NS}
Flexibility	6.579	1.614	6.640	1.651	0.186 ^{NS}
Agility	24.294	0.929	24.189	0.978	0.551 ^{NS}
Endurance	2.505	0.382	2.559	0.321	0.766 ^{NS}

Ns-Non Significant

Table no 1 predict their non significant results were found on before and during measurement of physical fitness among sports women.

Table No 2 Physical Fitness Non sports women

Event	Before		During		t-value
	Mean	S.D	Mean	S.D	
Strength	1.299	0.279	1.311	0.293	0.202 ^{NS}
Speed	12.427	1.803	12.411	1.753	0.045 ^{NS}
Balance	14.899	8.979	13.753	2.990	0.856 ^{NS}
Flexibility	5.579	1.614	5.651	1.547	0.229 ^{NS}
Agility	39.040	7.060	38.912	7.220	0.090 ^{NS}
Endurance	1.315	0.246	1.422	0.334	1.821 ^{NS}

Ns-Non Significant

Table No 2 Predict non significant difference were found on before and during menstrual periods performance on Physical fitness abilities among non sports women.

Table 3 Physical fitness of sports women and non sports women before menstrual period

N-50

Event	Before		Before		t-Value
	Mean	S.D	Mean	S.D	
Strength	2.211	0.237	1.299	0.279	17.571**
Speed	6.956	4.485	12.427	1.803	20.719**
Balance	11.409	2.937	13.753	2.990	3.953**
Flexibility	6.579	1.614	5.579	1.614	3.096**
Agility	24.294	0.929	39.040	7.060	14.642**
Endurance	2.505	0.382	1.315	0.246	18.485**

Significant at 0.01 level

Table No 3 predict that significant result found in physical fitness among sports and non sports women.

Table 4 Physical fitness of sports women & Non sports women during menstrual period

N-50

Event	During		During		t-value
	Mean	S.D	Mean	S.D	
Strength	2.264	0.348	1.311	0.293	14.804**
Speed	6.890	0.471	12.411	1.753	21.503**
Balance	6.640	1.651	5.651	1.570	3.088**
Flexibility	11.187	3.252	14.899	8.979	2.748**
Agility	24.189	0.978	38.912	7.220	14.287**
Endurance	2.559	0.321	1.422	0.334	17.340**

Significant at 0.01 level

Table No 4 predict that significant result found in physical fitness among sports and non sports women during menstrual period.

Table No 5 - Pre and During menstrual periods mean and percentage of over all physical performance of sports women and non sports women on all the components measured

N-100

Sr .No	Nature of test	Same performance		Increase performance		Decrease Performance	
1	Physical Fitness	48	48%	31	31%	21	21%
	Non sports women						

Table 5 predicts that over all physical fitness measured in terms of all the six test taken into account. It was seen that out of 100 sports and non sports women 48 (48%) showed same performance, 31 (31%) showed increase

performance where as 21 (21%) showed decreased performance. Thus it was found that nearly 79 (79%) sports and non sports women showed same or increased performance during their menstrual period.

IV. CONCLUSION OF THE STUDY

On basis of findings of study it is concluded safely that non significant differences were found in physical fitness of sports and non sports women before and during their menstrual periods performance on these test. However the comparison of physical fitness found significant among sports and non sports women of pre to pre and during to during menstruation combined results of both the groups showed that 48 (48% perform same. 29 (29%) showed increase performance and 23 (23%) showed decreased performance.

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