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AN ASSESSMENT OF BLOOD PRESSURE AND PEAK FLOW RATE AMONG SELECTED UNIVERSITY LEVEL FEMALE FOOTBALL PLAYERS

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Abstract:

The main purpose of the study was to compare the blood pressure (systolic & diastolic) and peak flow rate among university level female football players. To achieve the objectives of the study, a total of forty seven (47) University female football players were selected purposively as the subjects of the study. Subjects were selected from Panjab University, Chandigarh (N=15), Punjabi University, Patiala (N=16), Allahabad University, Allahabad (N=16). The age of the subjects ranged between 18-25 years. To determine the significance difference on blood pressure (systolic & diastolic) and peak flow rate, analysis of variance (ANOVA) was calculated with the help of SPSS software. The level of significance was set at 0.05 level of confidence. Statistical calculation on gathered data showed that there were no significant differences found on blood pressure (systolic & diastolic) and peak flow rate among University level female football players.

Keywords: Blood Pressure, Peak Flow Rate, Systolic Blood Pressure, Diastolic Blood Pressure & Female Player

Introduction:

Blood Pressure may be defined as the force or pressure which the blood exerts on the walls of the artery in which it is contained (R.S. Winwood and Smith 1985). It is expressed by two numbers: the systolic pressure and the diastolic pressure. Systolic blood pressure is the highest pressure within the vascular system. Diastolic blood pressure is the lowest pressure there. Mean arterial pressure in the average pressure on the vessel wall *(Wilmore and Costill, 1994).* It is important to measure both systolic and diastolic blood pressure because it is the combination of these two pressures that determines your mean arterial pressure. Regular exercise has been shown to reduce blood pressure in many individual (Powers and Dodd, 1999). During aerobic exercise, systolic blood pressure increases with increasing intensities, while the diastolic blood pressure response remains near resting values and decrease slightly *(Ekelund & Holmgren, 1976).* Therefore, physicians often prescribe light exercise for hypertensive patients in an effort to lower their blood pressure (Powers and Dodd, 1999).

In general, lung volumes and capacities change little with training. Vital capacity (the amount of air that can be expelled after maximal inspiration) increases slightly. At the same, residual volume (the amount of air that cannot be moved out of the lungs) shows a slight decrease, and the changes in these two volumes may be related. Respiratory rate remains steady at rest, can decrease slightly with sub-maximal exercise, but increase considerably with maximal exercises after training (Wilmore and Costill, 1994).

Objectives of the Study:

The objectives of the study were to compare the blood pressure (systolic blood pressure and diastolic blood pressure) and peak flow rate among selected university level female football players.

Methodology:

For the purpose of the study, forty seven (N=47) university level female football players from Panjab University, Chandigarh (15); Punjabi University, Patiala (16), Allahabad University; Allahabad (16) *were* selected as subjects of the study by using purposive sampling technique. To assess blood pressure of the subjects, Perfecxa TM Fully Automatic Upper Arm Blood Pressure Monitor (MC 100F) was used and for peak flow rate, peak flow meter was used. To find out the significance differences among university female players on blood pressure (systolic blood pressure and diastolic blood pressure) and peak flow rate, Analysis of Variance (ANOVA) was applied with the help of SPSS software. For testing hypothesis, the level of significance chosen was 0.05.

Fig-I: Illustration of Blood Pressure Measurement

Findings:

Descriptive analysis of blood pressure (systolic and diastolic) among university level female football players is presented in table-1.

Table-1

Descriptive Analysis of Blood Pressure among Selected University Level Female Football Players

Variable	Group	N	Mean	Std. Deviation	Std. Error
Systolic Blood Pressure	Panjab University	15	109.73	12.22	3.15
	Punjabi University	16	110.50	9.17	2.29
	Allahabad University	15	107.37	16.64	4.16
Diastolic Blood Pressure	Panjab University	15	70.46	9.51	2.45
	Punjabi University	16	72.81	5.46	1.36
	Allahabad University	15	73.18	10.30	2.57

The Analysis of Variance (ANOVA) among university level female football players on blood pressure is presented in Table 2.

Table-2

ANOVA of Selected Different University Level Female Football Players on Blood Pressure (Systolic Blood Pressure and Diastolic Blood Pressure)

Variable	Source of Variance	Sum of Squares	df	Mean Square	F
Systolic Blood Pressure	Between Group	84.59	2	42.297	**.782**
	Within Group	7506.68	44	170.606	
	Total	7591.27	46		
Diastolic Blood Pressure	Between Group	66.668	2	33.334	**.645**
	Within Group	3310.608	44	75.241	
	Total	3377277	46		

**Significant at .05 level*

$F_{.05}(2, 44) = 3.23$

Table-2 clearly indicates that there were no significant differences among university level female football players on blood pressure (systolic blood pressure and diastolic blood pressure) since the obtained 'F' values at 0.05 level were .782 (systolic blood pressure) and .645 (diastolic blood pressure) whereas, value needed to be significant was 3.23. Mean scores of different University female football players on blood pressure are depicted graphically in figure-1.

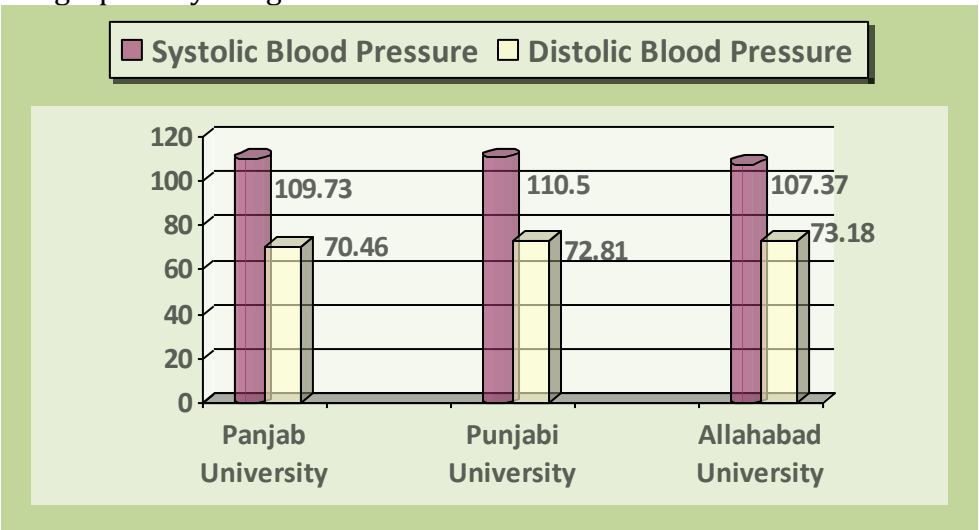

Fig: 1. Graphical Representation of Mean Scores of University Level Female Football Players on Blood Pressure

Descriptive analysis of peak flow rate among selected University female football players is presented in table-3.

Table-3

Descriptive Analysis of Selected University Female Football Players on Peak Flow Rate

Variable	Group	N	Mean	Std. Deviation	Std. Error
Peak Flow Rate	Panjab University	15	276.7	48.20	12.44
	Punjabi University	16	318.12	68.45	17.11
	Allahabad University	16	296.56	55.57	13.89

The Analysis of Variance (ANOVA) among selected University female football players on peak flow rate is presented in Table 4.

Table-4

ANOVA of Selected Different Three University Level Football Players on Peak Flow Rate

Variable	Source of Variance	Sum of Squares	df	Mean Square	F	Sig.
Peak Flow Rate	Between Group	13330.59	2	6665.29	1.96	.152
	Within Group	149163.0	44	3390.06		
	Total	162493.6	46			

**Significant at .05 level*
$F_{.05}(2, 44) = 3.23$

Table 4 clearly indicates that there was no significant difference among university female football players from Panjab University, Punjabi University and Allahabad University on peak flow rate since the F obtained at .05 level was .152 whereas, the value needed to be significant was 3.23 for 2 and 44 degree of freedom. Mean scores of different University female football players on peak flow rate are depicted graphically in figure-2.

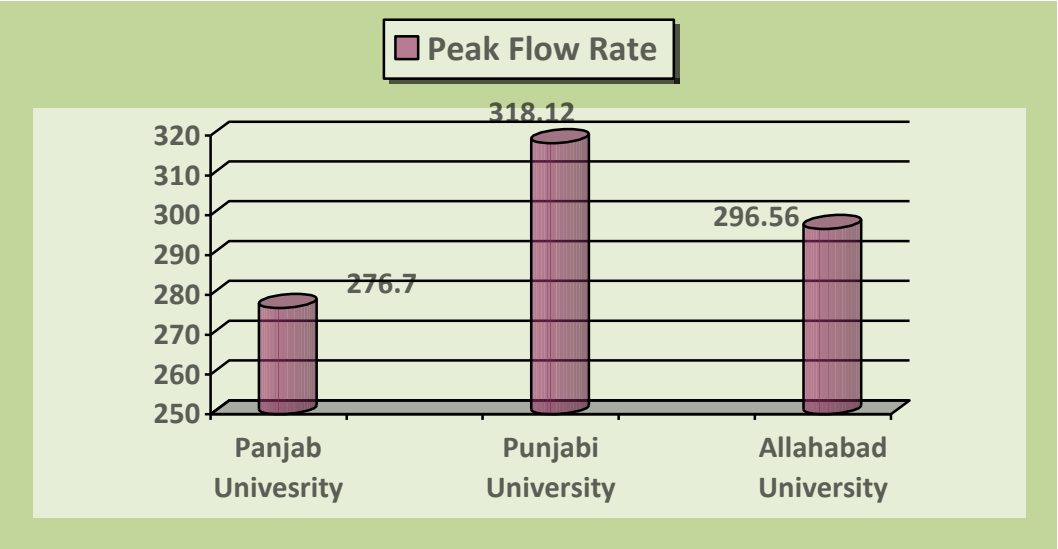

Fig: 2. Graphical Representation of Mean Scores of University Level Female Football Players on Peak Flow Rate

Discussion of Findings: The finding of the study showed that there were no significant differences obtained on blood pressure (systolic and diastolic) and peak flow rate among university female football players. The probable reason could be that University level football players need equal level of fitness. Henceforth, the physiological variables like blood pressure and peak flow rate among university level female football players could not differentiated.

Conclusion:

In the light of the findings and limitations of the present study the following conclusions were drawn:

1. No significant differences were found among university level female football players on blood pressure (systolic and diastolic).
2. No significant difference was found among university level female football players on Peak Flow Rate.

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