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# A STUDY ON SELECTED PHYSICAL VARIABLES OF SOCCER PLAYERS DURING THEIR PRE-COMPETITIVE AND POST-COMPETITIVE STATE

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# ABSTRACT-

A study was conducted by the researcher to compare the selected physical variables of soccer players who represented Lakshmibai National Institute of Physical Education, Gwalior in All India Inter-University during their pre-competitive and post-competitive state. A total of sixteen soccer players who were between the age of 20 to 25 years were selected for the study. The physical variables selected for this study were leg strength, flexibility and speed. Paired t-test was used as the statistical technique. The study revealed that leg strength was greater in pre-competitive state ( $110\pm13.88$ ) than post-competitive state ( $108.89\pm13.88$ ), flexibility was greater in pre-competitive state ( $16.67\pm4.66$ ) than post-competitive state ( $14.56\pm4.08$ ) and speed was greater in post-competitive state ( $5.11\pm.128$ ) than in pre-competitive state ( $4.86\pm.315$ ).

Keywords: Soccer, Leg strength, Flexibility, Speed, Competitive state.

# **INTRODUCTION:**

Soccer is one of the most popular sports in Europe and the Americas. It has a vivid and interesting history in the world of sports. Early evidence of soccer being played as a sport finds occurrence in China during the 2nd and 3rd centuries BC. In China, it was during the Han dynasty that people dribbled leather balls by kicking it into a small net.

Football is a tough, physical game requiring a wide range of attributes including explosive power, strength, agility, speed, and physical and mental toughness. The huge collisions and intricate plays involving the 22 players out on the field are what make it the spectacle that most of us love. Games can take up to 3 hours to complete and can look quite complex, largely because each play is often highly tactical. In reality football is actually a relatively easy sport to follow and enjoy.

# Method

A total of sixteen soccer players were selected for this studyfrom Lakshmibai National Institute of Physical Education (Gwalior). The players were informed precisely regarding the purpose and the procedure of data collection. The age group of the subjects ranged from 20-25 years.

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The researcher had selected the following variables for present study: physical variables: i.e. leg strength, flexibility and speed.

#### Results and findings of the study

Table- 1
Descriptive statistics of selected physical variables of football players

Variables	Mean	S.D.
pre strength	110	13.88
post strength	108.89	24.94
pre flexibility	16.67	4.66
post flexibility	14.56	4.08
pre speed	4.86	0.315
post speed	5.11	0.128

Table 1 reveals the descriptive statistics (mean and standard deviation) of selected physical parameters of football players, before and after competition. In the variable strength the mean and standard deviation score of pre competitive state of football players ( $110\pm13.88$ ) was found to a greater than that of the post competitive strength ( $108.89\pm13.88$ ) respectively, in flexibility the mean and standard deviation score of pre competitive state of football players ( $16.67\pm4.66$ ) was found to be greater than that of the post competitive flexibility ( $14.56\pm4.08$ ) respectively. In speed, the mean and standard deviation score of pre competitive state of football players ( $4.86\pm.315$ ) was found to a less than that of the post competitive speed ( $5.11\pm.128$ ).



Fig. 1: Graphical representation of mean value of selected physical variables of football players

# **Discussion of findings and conclusion**

There was a significant difference noted in the pre and post competition flexibility score of the football players. The research suggests that, to improve sports performance, active stiffness should be reduced and active flexibility should be improved. Football as a sports involve both vigorous movement and very short but strong muscular contractions. Alter (1996) suggests that the active flexibility can be improved by any kind of active movement through the available active range of motion. For instance, weight-training exercises have been shown to improve active flexibility (Tumanyan&Dzhanya, 1984). The 2003 study by Zakas et al. indicates that flexibility improves significantly even when stretching is not included in the warm-up, however, any comparisons should be made with caution because of differences in methodology.

Speed is a physical attribute which is genetically determined and hence the trainability is less though it only can be explored but the development is restricted beyond a certain point. The statistical procedures have indicated a significant difference in the pre and post competition speed performance of the football players. The mean scores of speed indicated a decrease in the speed performance in the post competition than that of pre competition. This may be attributed to the increase in the flexibility. Literature indicated that flexibility and the speed has a negative correlation. An ideal research conducted by Savers (2008) et.al. Attest this; they have investigated the effect of static stretching on phases of sprint performance in elite soccer players. The purpose of this study was to determine which phase of a 30-m sprint (acceleration and/or maximal velocity) was affected by pre- performance static stretching. The athletes in the stretch condition performed the standard warm-up protocol, completed a stretching routine of the hamstrings, quadriceps, and calf muscles, and then immediately performed three 30-m sprints, also with a 2-minute rest between each sprint. On the second day, the groups were reversed, and identical procedures were followed. One-way repeated-measures analyses of variance revealed a statistically significant difference in acceleration (p < 0.0167), maximal-velocity sprint time (p < 0.0167) 0.0167), and overall sprint time (p < 0.0167) between the stretch and no-stretch conditions. Static stretching before sprinting resulted in slower times in all three performance variables. These findings provide evidence that static stretching exerts a negative effect on sprint performance and should not be included as part of the preparation routine for physical activity that requires sprinting.

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