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A comparative study on selected physical variable of basketball players at their pre competitive and post competitive phase

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Abstract

The purpose of the study was to compare the selected physical variables of inter university Basketball players of Lakshmibai National University of Physical Education at their pre competitive and post competitive Phase. the subject for this study were total of Eighteen Basketball players , aged 20- 25 years ,the selected physical variable considered for this study strength, flexibility and speed. The data was collected after employing standard test and measurement procedure. The data was subjected to paired t test. In the variable strength the mean and standard deviation score of pre competitive state of Basketball players (110 ± 13.88) was found to a greater than that of the post competitive strength (108.89 ± 13.88) respectively, in flexibility the mean and standard deviation score of pre competitive state of Basketball players (16.67 ± 4.66) was found to be greater than that of the post competitive flexibility (14.56 ± 4.08) respectively. In speed, the mean and standard deviation score of pre competitive state of Basketball players ($4.86 \pm .315$) was found to a less than that of the post competitive speed ($5.11 \pm .128$).

Keywords: physical variable, basketball players and competitive phase

Introduction

The game of Basketball as it is known today was created by Dr. James Naismith in December 1891 in Springfield, Massachusetts, to condition young athletes during cold months. Naismith was a physical education instructor at YMCA International Training School (now known as Springfield College) in Springfield, Massachusetts. Upon the request of his boss, Naismith was tasked to create an indoor sports game to help athletes keep in shape in cold weather. It consisted of peach baskets and a soccer style ball. He published 13 rules for the new game. He divided his class of eighteen into two teams of nine players each and set about to teach them the basics of his new game. The objective of the game was to throw the basketball into the fruit baskets nailed to the lower railing of the gym balcony. Every time a point was scored, the game was halted so the janitor could bring out a ladder and retrieve the ball. After a while, the bottoms of the fruit baskets were removed. The first public basketball game was played in Springfield, Massachusetts, on March 11, 1892.

Methodology

Selection of the subject

Eighteen Basketball players were selected for present study. The Basketball players selected from Lakshmibai National University of Physical Education (Gwalior).all players were informed precisely regarding the purpose and the procedure of data collection. The age group of the subjects ranged from 20-25 years.

Selection of variable

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

Ordinarily when people talk about pranayama they generally mean those yogic practices, which involved some kind of manipulation of the breathing activity. But when one looks at the tradition of the yoga, one finds that the concept of pranayama has much greater width and its

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Statistical Analysis

Table 1: Descriptive statistics of selected physical variables of Basketball players

variables	Mean	Std Deviation
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

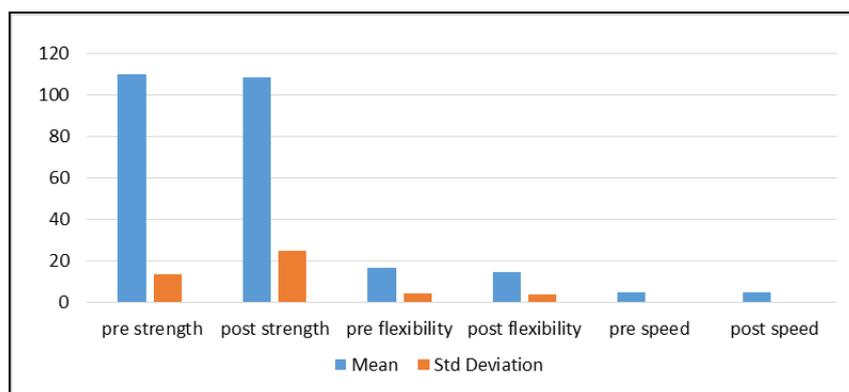


Fig 1: graphical representation of mean value of selected physical variables of basketball players

Table 2: Paired ‘t’ test for strength of basketball players

Competitions	Mean	Mean difference	t	Df	significant
Pre strength	110				
Post strength	108.89	1.11	0.184	17	0.856

*significant at .05 level
t.05 (17) = 2.110

Table 2 reveals that there was no significant difference found in strength among pre and post competition as calculated value was lower than that of tabulated value at .05 level of significance with 17 degree of freedom.

Table 3: Paired ‘t’ test for flexibility of basketball players

Competition	Mean	Mean difference	T	Df	Significant
Pre flexibility	16.67				
Post flexibility	14.56	2.11111	3.059	17	.007*

*significant at .05 level
t.05 (17) = 2.110

From Table 3 it reveals that there was a significant difference found in flexibility among pre and post competition as calculated value (3.059) higher than the tabulated value (2.110) at .05 level of significant with 17 degree of freedom.

Table 4: Paired ‘t’ test for speed of basketball players

competition	mean	Mean difference	t	Df	significant
Pre speed	4.86				
Post speed	5.11	-0.26389	-3.663	17	.002*

*significant at .05 level
t.05 (17) =2.110

From Table 4 it reveals that there was a significant difference found in speed among pre and post competition as tabulated value higher than the calculated value at 0.05 level of significance with the 17 degree of freedom.

deviation) of selected physical parameters of Basketball players, before and after competition. In the variable strength the mean and standard deviation score of pre competitive state of Basketball players (110±13.88) was found to a greater than that of the post competitive strength (108.89±13.88) respectively, in flexibility the mean and standard deviation score of pre competitive state of Basketball players (16.67±4.66) was found to be greater than that of the post competitive flexibility (14.56±4.08) respectively. In speed, the mean and standard deviation score of pre competitive state of Basketball players (4.86±.315) was found to a less than that of the post competitive speed (5.11±.128).

Discussion / Conclusions

There was a significant difference noted in the pre and post competition flexibility score of the Basketball players. The research suggests that, to improve sports performance, active stiffness should be reduced and active flexibility should be improved. Basketball 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 & Dzhanaya, 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 Basketball 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 Sayers (2008) ^[6] *et al.* Attest this; they have investigated the effect of static stretching on phases of sprint performance in elite Basketball 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 ($p < 0.0167$), 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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