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## RESEARCH ARTICLE

### EFFECT ON FLEXIBILITY OF VOLLEYBALL PLAYERS BY SOME SELECTED EXERCISES

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Hip stretch and Hamstring stretch.

#### ABSTRACT

The aim of the study was to determine the effect on flexibility of volleyball players by some selected exercises. For this purpose 20 male volleyball players (10 for control group and 10 for experimental group) of Government Boys Higher secondary school Charirshareef Budgam were selected randomly as subject and the age was ranging from 17 to 21 years. Exercises were restricted to Trunk twisting, Rope skipping, Shoulder and chest stretch, Alternative toe touch zigzag Running, Hip stretch and Hamstring stretch. Flexibility were restricted to Trunk and shoulder flexibility. The data were collected before the start of 8 weeks selected exercise programme (pre test) and immediately after the completion of 8 weeks selected exercise programme (post test) by sit and reach test for the trunk flexibility and shoulder elevation test by using yard stick and ruler and score was recorded in centimeters. To determine the training effect on flexibility Independent and Dependent t-test statistical technique were employed. The level of significance was set at 0.05 to check the significant mean difference. The finding of statistical analysis revealed that there were significant difference between the mean of pre and post test of experimental group and post test of control and experiment group. Experimental group significantly improved the selected flexibility because of systematic training programme.

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#### INTRODUCTION

The only way by which joint flexibility can be developed is by exercising. Physical exercise is a bodily activity that enhances and maintains physical fitness and overall health and wellness. It is performed for various reasons including growth and development, weight loss, strengthening muscles and cardiovascular system etc. Flexibility refers to the absolute range of movement in a joint or a series of joints and length in muscles that cross the joint to induce a bending movement or a motion. Flexibility varies from individual to individual particularly in terms of difference in muscle length of multi-joint muscles. Flexibility in some joints can be increased to a certain degree by exercises, with stretching a common exercise component to maintain or improve flexibility. Perfection of players in skills and techniques are very much dependent on effective way on training practice and some suitable exercise for the development of general strength and power, flexibility, coordination and agility for the optimum performance.

#### Significance of the study

- The result of the study would highlight the effect of selected exercise on flexibility on volleyball players.

- The result would also be helpful to the players to know their flexibility level.
- The result would be also helpful to the players, coaches, and physical education teachers to prepare the exercise schedule particularly for the enhancement level of flexibility.

#### Hypothesis

It was hypothesized that there would be a significant effect of selected exercises on shoulder and trunk flexibility of volleyball players.

#### MATERIALS AND METHODS

20 male volleyball players of Government Boys Higher secondary school Charirshareef Budgam were selected randomly as subject and the age was ranging from 17 to 21 years. Exercises were restricted to Trunk twisting, Rope skipping, Shoulder and chest stretch, Alternative toe touch zigzag Running, Hip stretch and Hamstring stretch. Flexibility were restricted to Trunk and shoulder flexibility. The dependent variables were chosen as trunk and shoulder flexibility. Trunk flexibility was measured by sit and reach test and score was recorded in centimeters.

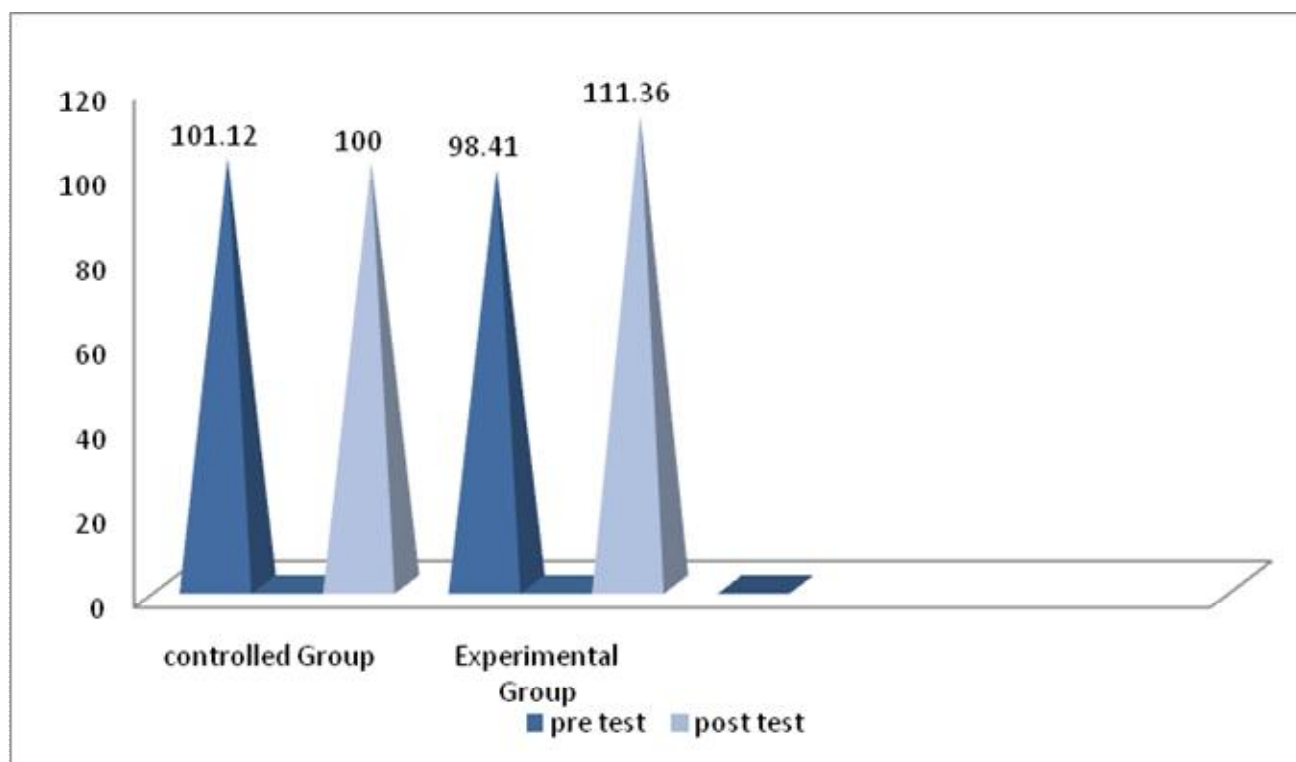
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**Table 1. Description of Mean, Standard Deviation and t ratio for the data on the flexibility of pre and post test of controlled and Experimental Group**

Controlled Group (pre test)		Experimental Group (pre test)		Controlled Group (post test)		Experimental Group (post test)		MD Mean difference	SE Standard error	"t" ratio
Mean	SD	Mean	SD	Mean	SD	Mean	SD			
101.12	15.97			100	1.41			1.12	5.07	0.227@
		98.41	19.67			111.36	19.198	12.95	0.87	14.89*
				100	1.41	111.36	19.98	11.36	6.07	1.87*

\*significant at 0.05 level Tabulated  $t_{0.05(9)} = 1.83@$  not significant at 0.05 level Tabulated  $t_{0.05(18)} = 1.73$

**Figure 1. Pre and Post test Data of Control and Experimental group for flexibility**

Shoulder flexibility was measured by applying shoulder elevation test and the score was recorded in centimeters. By adding both the composite scores was computed for the formation of two equated groups namely control and experiment groups a total period of eight weeks training programme with the selected exercises administrated on the experiment group but no specific treatment was given to control group but they were busy with their regular activity.

#### Exercise traing programme

The training programme of eight weeks, six days in a week. The training was given in the evening session for one hour for the first two weeks and then kept on increase the duration of exercise programme by adding 15 min for each interval of two weeks. No specific treatment was given to the control group. Both the groups used to practice volleyball game regularly.

## RESULTS AND DISCUSSION

The collected data on flexibility were converted into t- score and determine the composite score on flexibility. To determine the effect of selected exercises on volleyball players independently as well as dependently "t" test statistical technique were employed.

The level of significance was set at 0.05 for testing the hypothesis. Finding of the Table 1 defines that there are significant mean difference in flexibility between the mean of pre and post test of experimental group as well as post tests of control and experiment group as the calculated t-ratio of 14.89 and 1.87 respectively are higher than the tabulated t-ratio value of 1.83 and 1.73 respectively at 0.05 level for 9 and 18 degree of freedom respectively. It is also evident from the table 1 that there is no significant mean difference in flexibility between pre and post test of control group as the calculated t ratio of 0.227 is lesser than the tabulated t-value of 1.83 at 0.05 level for the 9 degrees of freedom.

## DISCUSSION

The finding of the table 1 indicated that there were significant improvement in flexibility of experimental group while compared with the control group. This signifies that because of 8 weeks of selected exercises training brought fruitful results within the subject of experimental group. It may be attributed to the fact that selected exercises was given to the selected volleyball players with desired level of intensity and volume that may leads to increase mobility of shoulder and trunk joint and increase elasticity of tendon and ligament of shoulder, trunk and knee. Hence this type of result was shown.

**Conclusion**

- Significant improvement was found in flexibility because of selected exercise training.
- For the utmost development of flexibility among the volleyball players selected exercises with the desired level intensity and volume is highly recommended.

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