

## Effect of Set-up Exercise on Flexibility among Football Players

Md. Imran Hussain<sup>1\*</sup>, Oinam Sonika Devi<sup>2</sup>

<sup>1</sup> Department of Physical Education, Kalinga University, Naya Raipur, (India)

<sup>2</sup> Department of Physical Education, Annamalai University, Chidambaram, (India)

\*Corresponding author; Email: [ih456263@gmail.com](mailto:ih456263@gmail.com)



**Received:** 10 July 2022

**Revision:** 20 August 2022

**Accepted:** 12 February 2023

**Available Online:** 27 March 2023

**Published:** XX March 2023

**Volume-X, Issue-X**

✔ **Cite This:** *ICRRD Journal*, 2023, 4(1), XXX-XXX

**ABSTRACT:** The purpose of the present study was conducted on the Effect of Step-up Exercise on Flexibility among Football Players. Two hundred and fifty (N = 250) male football players from different schools were taken as the subject for the study. The age of the subjects ranged from 15 to 18 years and were randomly selected. All the subjects of the present study were tested on the selected criteria, after the pre-test, subjects were divided into two groups, one experimental and one group were kept as control where the experimental group were given 10 weeks of step-up exercise (three days in a week). To find out the difference among pre and post-test, Pair sample t-test was use to analysed the data. Results of the study reveals that significant difference were found in experimental and control groups on Flexibility among football players after 10 weeks of step-up Exercise.

**Keywords:** Football, Flexibility, and Step-up Exercise

### Introduction

Football is consider as the top leading sports today. As the greatest game ever created people all over the world loves the game and supports the own countries in the World cup which held every four years. This game brings love and harmony among every nation. Football can be played as a professional or casually at home in Local Park or in the garden. Football is a game combination skills like kicking, sprinting, walking and running. There are many types of exercises which we are used in our daily life. Exercise may be specific or general, it benefits us in many ways. Step-up exercise is one of the exercise which we used to step up our foot like staring, climbing hills, running up etc. It benefits us in many ways like strengthen our lower body path, keeping our body fit and releasing our stress.

### METHOD

#### Selection of the Subjects:

For the purpose of this present study, Two hundred and fifty (N = 250) male football players from different schools of Manipur (India) were selected as subjects for the study. The age of the subjects

ranged from 15 to 18 years.

### Selection of Tools:

The criterion measures for the selected Flexibility was given below:-

Flexibility was measured by using Sit and Reach test and the score was recorded in Centimeters.

### Collection of Data:

Before collecting the data, the method and procedure of performing the test was clearly explained and demonstrated to the subjects. The information pertaining to this study was collected by administer to test on the selected variable.

### Data Analysis:

The data was analyzed by using Statistical Package of Social Sciences (SPSS) and were computed to examine the difference regarding Flexibility. Pair sample t-test was applied to find out the mean significant difference among football players and level of significance was set at 0.05 level.

## RESULTS

On the basis of statistical treatment the result of study has been explained in the following tables:-

**Table-1**

Variable	Tes t	N	R	Min.	Max.	Sum	Mean	SEM	SD	Var.
Flexibility	Pre	125	18.90	30.10	49.00	4341.40	34.73	0.27	3.08	9.49
	Post	125	18.30	24.70	43.00	4029.20	32.23	0.24	2.74	7.51

**Descriptive analysis of pre-test and post-test on Flexibility of Control group**

The above table - 1 reveals that the Mean (M) and Standard Deviation (SD) of pre-test and post-test of the subjects on Flexibility of the control group were  $34.73 \pm 3.08$  and  $32.23 \pm 2.74$ , respectively. In addition, the Range (R), Minimum (Min.), Maximum (Max.), Sum, Standard Error Mean (SEM) and Variance (Var.) of pre-test and post-test were 18.90, 30.10, 49.00, 4341.40, 0.27 & 9.49, 18.30, 24.70, 43.00, 4029.20, .245, & 7.51, respectively.

*The summary of paired sample t-test of pre-test and post-test on Flexibility of the Control group is shown in table below:-*

**Table-2**

### Summary of paired sample t-test of pre-test and post-test on Flexibility of the control group

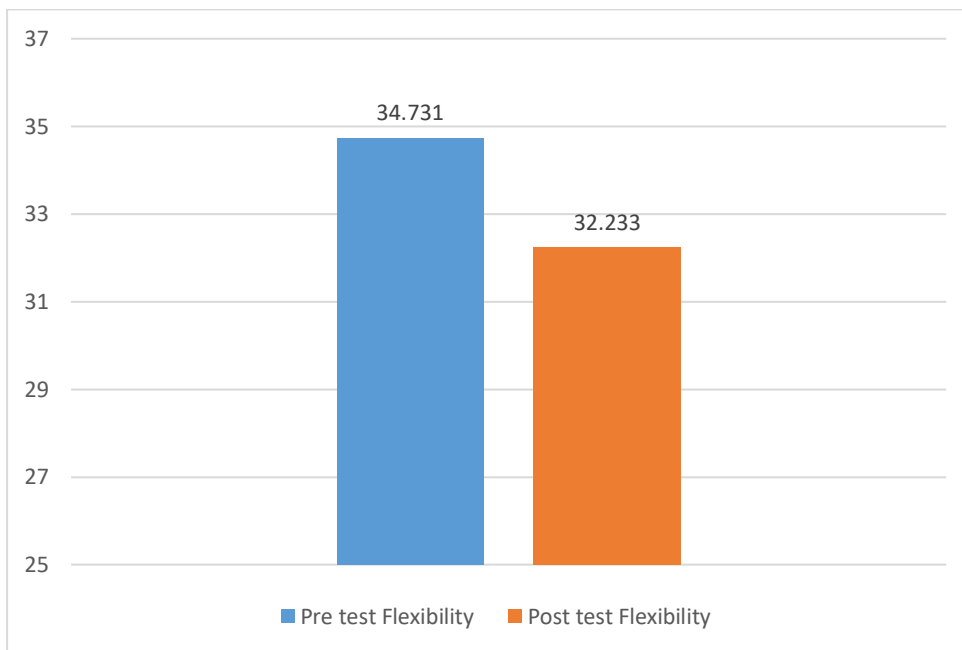
Control Group			
Test	Mean	Standard Deviation	Calculated t-Value
Pre-test	34.73	±3.08	21.27*
Post-test	32.23	±2.74	

\*Significance at 0.05 level

tabulated  $t_{0.05} (124) = 1.98$

The finding shown in table-2 reveals that the values of the Mean (M) and Standard Deviation (SD) of pre-test and post-test of the subjects on Flexibility of the control group were  $34.73 \pm 3.08$  and  $32.23 \pm 2.74$ , respectively. Further the result indicates that, there was a significant difference found between pre-test and post-test on Flexibility of the control group, as the calculated t-value 21.27 is relatively higher than the tabulated t-value 1.98 ( $p < 0.05$ ) at 0.05 level of confidence (2 tailed) in 124 degree of freedom (df).

*The graphical presentation of mean comparison of Pre- test and Post-test on Flexibility for Control Group is given in Figure-1*



**Figure-1: Mean comparison of Pre- test and Post-test on Flexibility for Control Group**

**Table-3**

**Descriptive analysis of pre-test and post-test on Flexibility of experimental group**

Variable	Test	N	R	Min.	Max.	Sum	Mean	SEM	SD	Var.
	Pre	125	9.30	30.00	39.30	4344.40	34.75	0.26	2.89	8.36

Flexibility	Post	125	9.70	33.00	42.70	4720.30	37.76	0.26	2.94	8.68
-------------	------	-----	------	-------	-------	---------	-------	------	------	------

The above table - 3 reveals that the Mean (M) and Standard Deviation (SD) of pre-test and post-test of the subjects on Flexibility of experimental group were  $34.75 \pm 2.89$  and  $37.76 \pm 2.94$ , respectively. In addition, the Range (R), Minimum (Min.), Maximum (Max.), Sum, Standard Error Mean (SEM) and Variance (Var.) of pre-test and post-test were 9.30, 30, 39.30, 4344.40, 0.26 & 8.36, 9.70, 33, 42.7, 4720.3, 0.26 & 8.68, respectively.

*The summary of paired sample t-test of pre-test and post-test on Flexibility of experimental group is shown in table below:-*

**Table-4**  
**Summary of paired sample t-test of pre-test and post-test on Flexibility of experimental group**

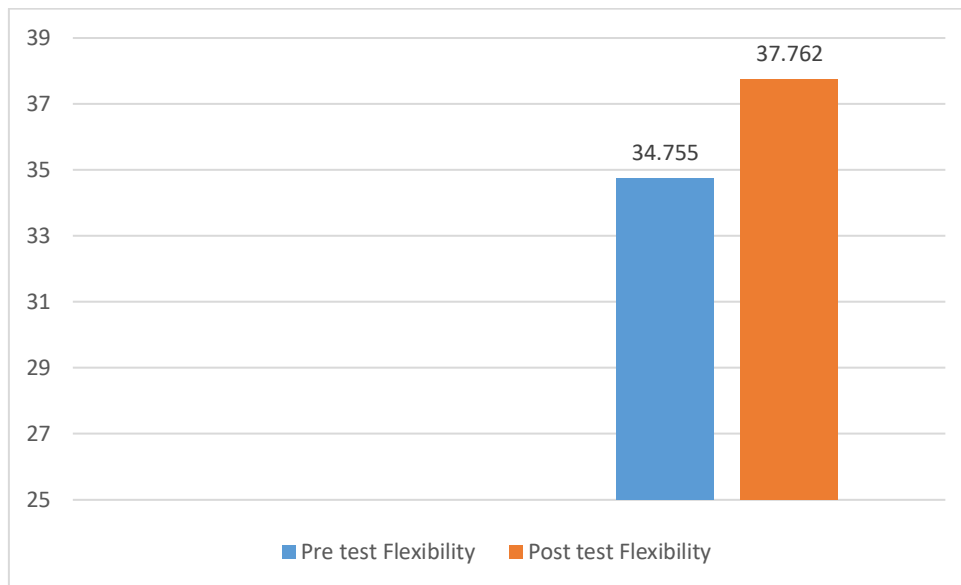
Experimental Group			
Test	Mean	Standard Deviation	Calculated t-Value
Pre-test	34.75	$\pm 2.89$	57.63*
Post-test	37.76	$\pm 2.94$	

\*Significance at 0.05 level

tabulated  $t_{0.05} (124) = 1.98$

The result shown in table-4 reveals that the values of the Mean (M) and Standard Deviation (SD) of pre-test and post-test of the subjects on Flexibility of experimental group were  $34.75 \pm 2.89$  and  $37.76 \pm 2.94$ , respectively. Further the result indicates that, there was a significant difference found between pre-test and post-test on Flexibility of experimental group, as the calculated t-value 57.63 is relatively higher than the tabulated t-value 1.98 ( $p < 0.05$ ) at 0.05 level of confidence (2 tailed) in 124 degree of freedom (df).

*The graphical presentation of mean comparison of Pre- test and Post-test on Flexibility for Experimental Group is given in Figure-2*



**Figure-2: Mean comparison of Pre- test and Post-test on Flexibility for Experimental Group**

## DISCUSSIONS

The findings of statistical analysis revealed that the subjects belonged to Experimental and Control group had shown significant improvement in the variable of Flexibility while pre and post-test means were compared, it may be attributed to the fact that the age group of the selected subjects was 15 to 18 years i.e, rapid growing periods in which all the physical as well as physiological capabilities enhance, normally during this age most of the boys keep themselves most busy by participating different sport activities, therefore such result might be occurred in this study.

## CONCLUSIONS

Based on the results, the following conclusions may be drawn.

1. Significant improvement was found in Flexibility of the control group.
2. Significant improvement was found in Flexibility of the experimental group due to step-up exercise.

## CONFLICTS OF INTEREST

There are no conflicts to declare.

## REFERENCES

- [1] Adams, K.; O'Shea, J. P.; O'Shea, K. L.; Climstein, M., 1992. The effects of six weeks of squat, plyometric, and squat plyometric training on power production. *Journal of Applied Sports Science Research*, 6(15): 36-41.
- [2] Babbie, 2007. *Research mythology in sociology*, India Edition. pp 165.

- [3] Caspersen, C.T., Powell, K.E., & Christenson, G.M., 1985. Physical activity, exercise, and physical fitness: Definition and distribution for health-related research. *Public Health Research*, 100(2): 126-130
- [4] Harms CA, Wetter TJ, St. Croix CM, Pegelow DF, Dempsey JA, 2000. Effects of respiratory muscle work on exercise performance. *Journal of applied physiology*, 89(131138).
- [5] Kotzamanidis C, Chatzopoulos D, Michailidis C, Papaiakevou G, Patikas D., 2005. The effect of a combined high-intensity strength and speed training program on the running and jumping ability of soccer players. *Journal of Strength Conditioning*, 19(2): 369-375



© 2023 by ICRRD, Kuala Lumpur, Malaysia. All rights reserved. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<http://creativecommons.org/licenses/by/4.0/>).