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A study to find the effectiveness of thrower's ten exercise program on shoulder performance among no-vice badminton players

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Abstract

Overhead throwing motion is a high velocity, extremely stressful athletic movement. Its repetitive nature places tremendous demands on the entire body, frequently resulting in injury to the throwing shoulder especially in badminton. Exercises used in Thrower's ten programme are most effective in activating the muscle important to the throwing motion and may be beneficial for athlete's pre-throwing warm up routine.

Methodology: 10 Subjects were randomly selected who fulfilled the inclusion criteria. Throwing distance was calculated by Medicine ball throw test and Throwing accuracy by Functional throwing performance index the thrower's ten exercise program is designed to exercise the major muscles necessary for throwing. The program's goal is to be an organized and concise exercise program. All exercises include are specific to the thrower and are designed to improve strength, power and endurance of the shoulder complex musculature.

Procedure: The thrower's ten exercise program included Diagonal extension (D2), External rotation at 0-degree abduction, Internal rotation at 0-degree abduction, Scaption with external rotation, Prone horizontal abduction- neutral, Prone rowing, etc

Statistical tool: The collected data were analyzed by paired 't' test to find out significant difference between pre-test and post-test values.

Conclusion: From the statistical results, it can be concluded that there is significant difference in throwing accuracy and throwing distance among 10 badminton players.

Keywords: Throwers ten exercise, medicine ball throw test, functional throwing performance index

Introduction

Background

The overhead motion such as throwing, serving in tennis, javelin and badminton etc are highly skilled movements. Such movements require flexibility, muscular strength, co-ordination, synchronicity and neuromuscular control of arm. Exercises used in Thrower's ten programme are most effective in activating the muscle important to the throwing motion and may be beneficial for athlete's pre-throwing warm up routine. Thrower's ten programme incorporates throwing motion specific exercises and movement patterns performed in a discrete series, utilizing principles of co-activation, high level neuromuscular control, dynamic stabilization, muscular facilitation, strength, endurance and co-ordination which all serve to restore muscle balance and symmetry in overhead athletes.

Study purpose

The purpose of the study is to find out the effectiveness of thrower's ten exercise programme in shoulder performance among badminton players.

Study design

Pre and Post-test, randomized control study

Method

10 No - vice Badminton players were randomly selected who fulfilled the inclusion criteria throwing distance was calculated by Medicine ball throw test. In this test, participants were instructed to throw a medicine ball as far as they could, in a kneeling position on the floor,

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holding the ball overhead with the dominant hand. The medicine ball used had a mass of 2 kg and diameter 56 cm. Each subject performed five trials with one minute rest between trials. The distance in meter to which the subject threw the medicine ball was measured with a measuring tape. The best of five trials was taken and used for further analysis. Throwing accuracy was calculated by Functional Throwing Performance Index (FTPI). The subject stood 4.57 m from a target, a 30.48 x 30.48 cm square on a wall at a height of 1.22m from the floor. The object of the test was to throw a rubber playground ball into the target as many times as possible over 30 second trials. The FTPI was calculated as the number of throws within the target divided by total number of balls thrown. The thrower's ten exercise program is designed to exercise the major muscles necessary for throwing. It included diagonal pattern D2 extension, diagonal pattern D2 flexion, external rotation at 0 degree abduction and internal rotation at 0 degree abduction.

Results

Analysis of dependent variable throwing accuracy, the calculated paired 't' value is 12.10 and that 't' table value is 3.250. Since the calculated 't' value is more than 't' table value, there is significant difference in throwing accuracy following thrower's ten exercise program among badminton player.

Analysis of dependent variable throwing distance, the calculated paired 't' value is 12.45 and the paired 't' table value is 3.250. Hence the calculated 't' value is greater than 't' table value. There is significant difference in throwing distance following thrower's ten exercise program among badminton players.

Conclusion

From the statistical results, it can be concluded that there is significant difference in throwing accuracy and throwing distance among no-vice badminton players.

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