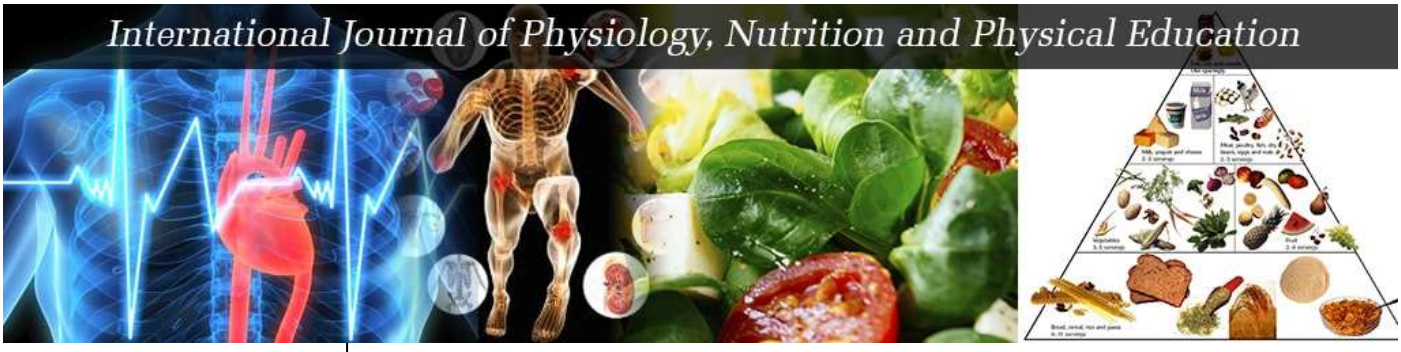

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Effect of plyometric exercises training on SAI badminton skills of badminton players

Dr. Sanjay V Deshmukh

Abstract
The study conducted on 10 intercollegiate badminton players by giving 3 months plyometric training to witness the effect on SAI badminton skills of Badminton players. It was found that there is positive significant effect of 3 month plyometric exercises on SAI badminton skills of Badminton players.

Keywords: Effect of plyometric exercises training

Introduction
Scholar being a physical education teacher has to prepare various sports and games teams for inter college teams to represent the college for inter collegiate tournaments. The various training methods are now available for training the teams of various teams. In recent years the sports scientist discovered various exercises for coaching for various sports and games teams. The training methods like functional training Imaginary newly discovered methods. The plyometric training method is discovered by Russian sports coach for developing the explosive power of the muscles of the players. Badminton is very famous game amongst male and female. The Indian players like Prakash Padukone, Sindhu Siana Nahelwal are the famous Indian player who won medals. The Badminton is popular in schools and colleges and universities.
Therefore scholar decided to take the study on the effect of plyometric exercises training on Badminton Players. The problem selected by the scholar is.
"The Effect of plyometric exercises training on the SAI Badminton skills of Badminton players" The purpose of this study was to see the effect of plyometric exercise training on the SAI badminton skills of badminton players. The SAI badminton Skills are 3 test Items given below.
I) Badminton shuttle Run test.
II) Tennis Ball throw test item
III) Standing backward Jump item

These three test items are included in SAI Badminton test items
I) Badminton shuttle Run Test Item.

This test is aimed to measure the Subjects speed and agility.

Equipment: A stopwatch and a Badminton court and a racket.

Test Dimension: Four corners of the half court are marked with 1.2 meter are at the rear end corners and with a 1.5 meter radius Ares on the net side corners as shown in the figure – 1.
Test Administration – The player stands on the point A on the left hand court net side corner are area. On the signal Ready? GO ? the subject has to start sprinting diagonally to the crone B (Right hand rear corner) and then straight to corner 'C' then diagonally to corners and straight to corner AE and continuously repeat the above course so as to complete two shuttle run rounds to finish at I starting corner simultaneously on GO signal the time keeper start the stop watch and as soon as the subject touches/reach the starting corner second time the stop watch

is stopped to record the time taken for 2 shuttle run laps. The time is recorded accurate up to 1/100 of a second.

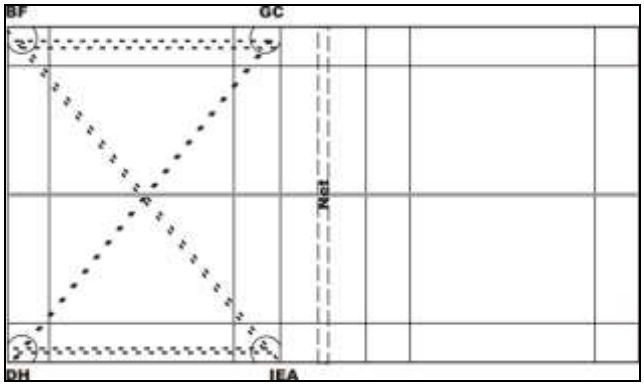


Fig 1: Illustration of badminton court shuttle run test

Scoring: The time taken is recorded in second with the help of SAI prescribed standards recorder in table A given below.

Tennis Ball throw Item: This test item aim to measure one's throwing capacity.
Equipment - A football field or any open space (field) ; Tennis balls; tape marking powder, small metal tape marking powder, small metal or wooden pegs, plastic tape of 50 meters.

Test Dimensions: A Horizontal starting line is marked on the field Eighteen meters away from starting line the field is marked with one meter distance parallel horizontal lies. All the one meter interval lines and throw restraining starting line should be parallel to each as shown in figure 2.

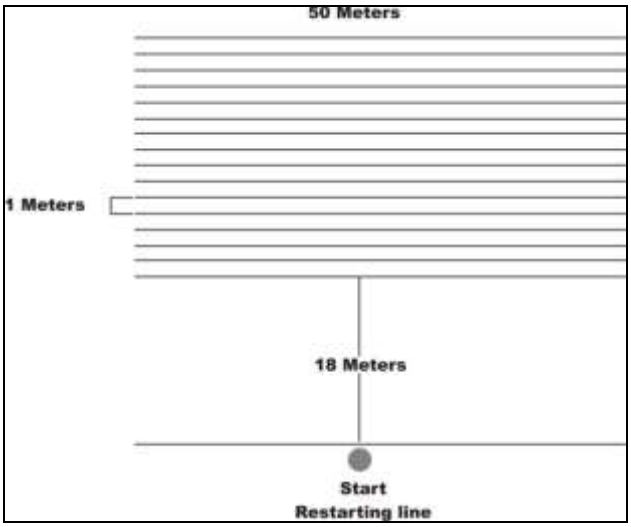


Fig 2: One meter interval lines and throw restraining starting line

Test Administration and Description: The subject is asked to throw a tennis ball from behind the starting line. The ball is to be thrown from standing position using overhead throw movements and not using under hand throw movements. The point of contact of the Ball on the field is marked by the pegging the stake. Each subject is given three trials. If the second and third is further the marker is moved the longest of the distance thrown is measured.

Scoring: The maximum distance is recorded on giving three trials is noted and the scored with help of SAI prescribed standards given in table number A.

Standing Backward Jump Item: This test Item is performed by marking a 2-3 meter long straight line to which a perpendicular start restraining line is marked near one end as shown in the figure no3.

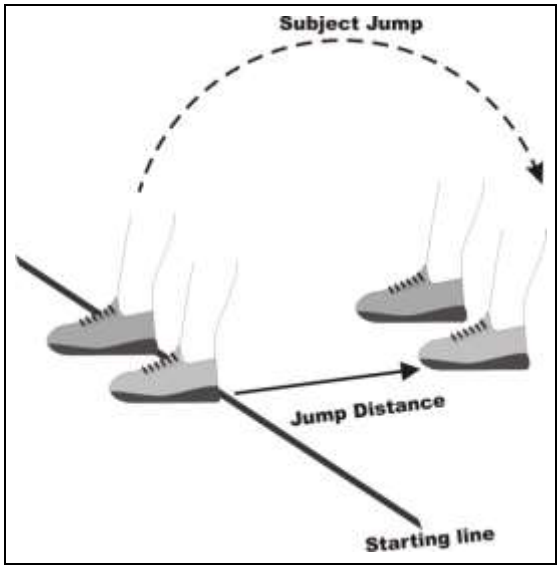


Fig 3: Standing Backward Jump Item

The subject is asked stand in front of the restraining line with his back towards the 2-3 meter long axis line without touching the restraining line but keeping the heals as close as possible to this line and arms extended backwards swing his arms forward and backward simultaneously to take off.
The spot nearest to the straining live on which the toe of the subject has landed is marked and the distance is recorded Each subject is given two attempts and the better of the two is consider for scoring to be given with the help of SAI prescribed standards given in table A.

Table A: The scores of SAI badminton score and their points 1

No.	Badminton shuttle Run (Second)	Tennis Ball (Meters)	Standing Backward Jumps (CMS)	Points
1	12.00 & less	50 & more	130 & more	3
2	12.1 – 13.00	48.0 49.9	128-129	2
3	13.1-14.00	47.0-47.9	126-127	1

The above table –A indicates the scores of SAI badminton score and their points 1.
The scholar selected 10 badminton players for the study and explained them the importance of plyometric exercises. And also the effect of plyometric exercises on the physical fitness and muscular fitness of the players. The badminton players accepted the proposal of the scholar to participate in the research study. The scholars selected the 10 plyometric exercise for the training of the badminton player. The exercises for the training of the badminton player. The exercise were (1) Medicine ball drill (2) Jump on the box and off the box (3) Bonds (4) Hurdle hopping (5) Single leg hopping (6) Box jump (7) Depth Jump (8) Two legged hop (9) Incline pushups (10) Tuck Jump. The scholar designed the exercised schedule for 3 months duration in the morning from 7.00 am to 8.30 am 5 days a week.

Hypothesis: The scholar made the hypothesis for this study that there is positive significant effect of plyometric exercise training on the SAI badminton skills of Badminton players. Hypothesis is assumption of the conclusion of the research study. Hypothesis helps the researcher to reach the

conclusion.

Methodology: The scholar selected 10 badminton player of inter collegiate level of SGB Amravati University and explained them the importance of plyometric exercises for Improving the explosive power of the muscles, also explained them the design of the research study. The scholar decided the see the effect of the plyometric exercise on the SAI Badminton skill. The plyometric exercises was planned for 3 months duration daily in the morning from 7-00 am to 8-30 am 5 days a week.

Collection of data: To collect the data the scholar conducted the SAI badminton skill test before starting the plyometric exercise training of the Badminton player and collected the scores and calculated mean and standard deviations of the scores. After 3 months plyometric training again the scholar conducted post test of SAI badminton skill test and collected the score and converted the scores in the means and standard deviations. In this way scholar collected the data.

The scholar prepared the tables of pretest means and standard deviations of the SAI Badminton skills which is given the table number one below.

Table 1: The means and standard deviations of SAI badminton skills of pretest scores

No	SAI Badminton Skills	Pre -Test	
		Mn	Sd
1	Badminton shuttle Run	9.9	0.78
2	Tennis Ball throw	46.2	4.19
3	Standing Backward Jump	125.1	3.5

Source: From SAI Badminton skill test – scores.

Discussion: The above table number one indicates the means and standard deviation of SAI badminton skills.

1) Badminton shuttle run
2) Tennis Ball throw and
3) Standing backward Jump.

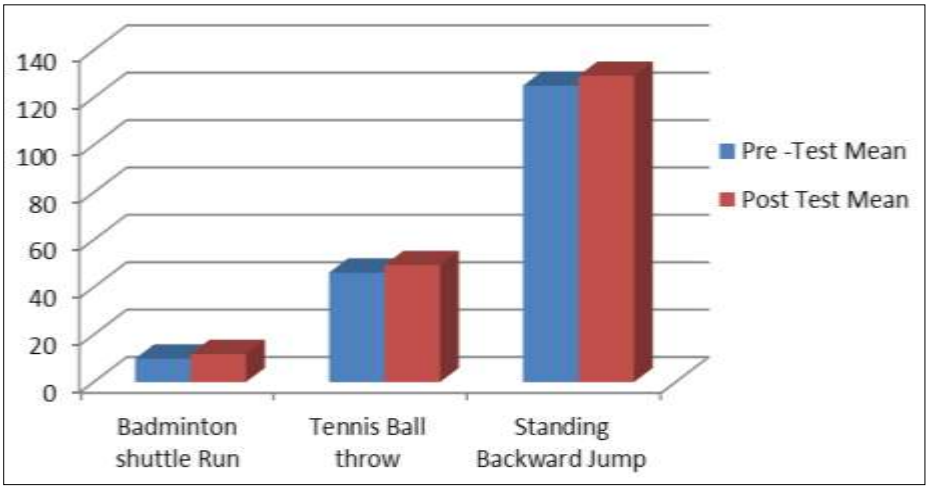
Table 2: The means and standard deviations of SAI badminton skills of post test scores

No	SAI Badminton Skills	Post Test	
		Mn	Sd
1	Badminton shuttle Run	11.88	0.29
2	Tennis Ball throw	49.4	1.34
3	Standing Backward Jump	129.3	1.17

After 3 months plyometric exercises training the scholar conducted posttest of SAI Badminton skills and calculated means and standard deviations which are given above in table number 2.

Table 2a: The means and standard deviations of SAI badminton skills of pre test and post test Mean

SAI Badminton Skills	Pre -Test Mean	Post Test Mean
Badminton shuttle Run	9.9	11.88
Tennis Ball throw	46.2	49.4
Standing Backward Jump	125.1	129.3



Source: From the post test scores of SAI Badminton Skills.

Fig 4: The means and standard deviations of SAI badminton skills of pre test and post test scores mean

Discussion

The above table number standard deviations of the post test scores of badminton players SAI badminton skills, (1) Badminton shuttle run mean is 11.88 and standard deviation is 0.29 (2) The tennis ball throw mean is 49.4 and standard deviation is 1.34 (3) The standing backward Jump mean is 129.3 am and standard deviation is 1.17. To see the effect of the plyometric exercises training on the SAI badminton skills of badminton players the scholar calculated 't' value between pretest means standard deviations and post test means and standard deviation and compared calculated value with the tabulated 't' value from statistical table at 0.01 level of significance and a degree of freedom. This is given in the table numbers three below.

Table 3: Means and standard deviations of pretest and posttest scores of SAI badminton skills and calculated 't' value and tabulated 't' value from Standard table.

No	Badminton Skills	Pretest		Post test		Cal 't' value	Tab 't'
		Mn	Sd	Mn	Sd		
1	Badminton shuttle Run	9.9	0.78	11.88	0.29	6.51	3.25 at 0.01 level of significant 9 degree of freedom
2	Tennis Ball Throw	46.2	4.19	49.4	1.34	3.62	
3	Standing Backward Jump	125.1	3.5	129.3	1.17	3.81	

Source: From pretest, posttest means and standard deviations and calculated 't' value some tabulated 't' values.

Discussion

The above table number three indicates the pretest and post lest means and standard deviations also it represent the calculated 't' values of SAI badminton skills of Badminton players. The table three indicates the tabulated 't' value. At 0.01 level of significance and 9 degree of freedom. The calculated 't' value of shuttle run is 6.51 where as tabulated value of 't' is 3.25 at o.01 level of significance and 9 degree of freedom. The calculated value of 't' of Tennis Ball throw is 3.92 there as the tabulated value is 3.25 at 0.01 level of significance and 9 degree of freedom. The calculated value of 't' of standing backward Jump is 3.81. whereas the tabulated 't' value is 3.25 at 0.01 level of significance and 9 degree of freedom that proved that the calculated 't' values of SAI badminton skill are greater than tabulated 't' values. Hence the hypothesis made by the scholar is accepted. The hypothesis made by the scholar was. There is positive significant effect of the plyometric exercise training for 3 months skills of badminton player is accepted.

The scholar drew the following conclusion.

Conclusion

The scholar concluded is study as there is positive significant effect of 3 month plyometric exercises on SAI badminton skills of Badminton players. The scholar recommended that the other sports and games players can adopt this type of research for their sports and games. The other coaches of various games and sports also can adopt plyometric exercises training for improving the performance of the players. This type of research is helpful for the various players of the society.

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