

Effect of the Plyometric Exercises on the Hockey Skill of Hockey Players

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Abstract-

The scholar selected 30 hockey players to the effect of plyometric exercises on the Hockey skills of the players. The scholar given the plyometric training to hockey players and conducted Said Hockey skill test of the players. The Said Hockey Skill test consist of 3 skill test (1) Shooting in the goal (2) Balancing the ball on the stick (3) Moving with ball for semesters. These test were conducted before the start of training and after the finish of training. After statically analysis the scholar tested the hypothesis and accepted the hypothesis and concluded that the plyometric exercises training have the positive significant effect on the Hockey skill of the Hockey players.

Key words- Plyometric Exercise, Hockey Skills, SAI Hockey skill test, Hockey players

Introduction :-

In the field of sports and games Russian coach explore the new type of exercise known as “Plyometric” exercise. The district method of training for power or explosiveness.

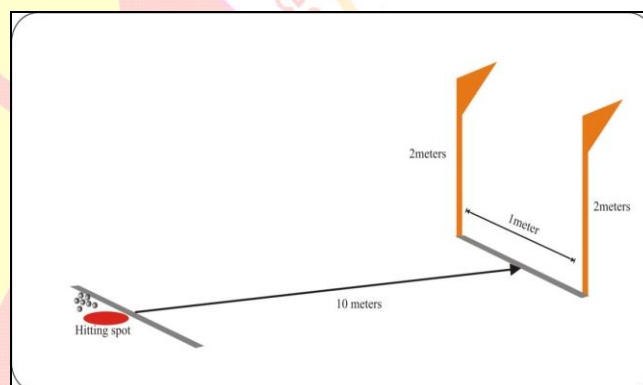
The scholar decided to see the effect of 6 weeks plyometric training on the skills of Hockey players. For the Study the scholar selected the 30 Hockey players from the school of the average age 15-15 yrs. These players were practicing Hockey skills by playing daily in the evening for the 1 ½ hour.

The Scholar decided to see the skill of Hockey players by conducting SAI Hockey Skill Test. There are three terms of the Hockey Skill Test.

- (i) Shooting in the Target (Goal)
- (ii) Balancing the ball on the stick.
- (iii) Moving with the ball.

(i) Shooting in the Target (Goal) :-

Hockey sticks, cork balls, Two flags posts, measuring type and marking powder Test :- Target dimension :- Target is formed by posing two flag posts (each two meters height). At the distance of one meter from each other. A restraining line at a distance



of 10 meters from the target is marked. Ten balls are placed near the shooting spot on the restraining line. The subject is asked to hit all ten balls into the target one by one.

Scoring: - The number of accurate hits in the target are scored with the SAI Hockey Skill table given in Table A

(ii) Balancing the Ball on the stick:-

This test is aimed to measure the balancing ability of the hockey players.

Equipment: - Hockey stick and cork ball.

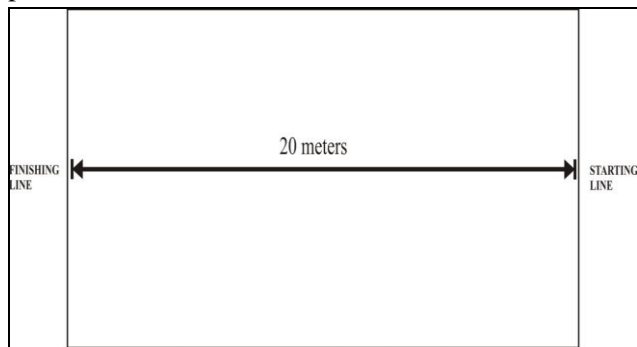
Test procedure: - The subject is asked to balance the ball on the hockey stick blade for maximum duration possible. The subject is allowed to place a ball on the stick with hand the ball is lifted from the ground with hockey stick time in the stop watch is recorded up to second two trials are allowed.

Scoring: - Out of two trials the better time is recorded and converted into points with the help SAI prescribed table as given in table A

(iv) Moving with the Ball :-

This test item is aimed to measure the ball controlling ability the hockey players when moving with the ball.

Equipment: - Stopwatch, hockey stick and ball, measuring tape and marking powder.



Ground marking: - Two horizontal lines are marked 20 meter distance as show in the figure on starting line and other finishing line.

Test Administration:-

The subject must stand behind the starting line by holding the stick in both hands and ball placed on starting line. On the signal ready! Go! The subject must start moving forwarded by rolling the ball with the stick without breaking the contact of the blade of the sticks on the ball and try to cross the finish line with the ball as early as possible. The forwarded movement of the ball with the blade of the stick should be rolling be recorded from the 'go' Signal to cross the finish line is recorded as time of the subject. The minimum time is converted as points of the players from the said hockey skills Table A.

Age	Shooting Target	Balancing The ball on stick	Moving with ball in seconds	Score
15 yrs and Above	11	25	1.20 & less	3
	10	20-24	4.21-4.329	2
	9	15-19	4.30-4.37	1

The scholar before starting the plyometric exercises conducted the said Hockey skill test of the 30 hockey players and recorded the scores of the skills and calculated means and standard deviations. Then scholar selected the plyometric exercises as

follows (1) Medicine ball exercise (2) Jump on the box of the box (3) bond (4) Hurdle Jump (5) Single leg happing (6) Box Jump (7) Depth jump (8) Two legged Hops (9) Incline push up.

Hypothesis:-The scholar for this study made the hypothesis that the plyometric exercises training have positive significant effect of said Hockey skills of Hockey players of the school.

Methodology:- This plyometric exercises were given to the hockey players doing in the evening from 4 pm to 5.30 pm 6 day a week for 6 weeks. After the six week training again the scholar conducted Said Hockey skill test and recorded the scores. The scholar calculated the means and standard deviations of pre-test scores and post test scores are give in the table number one and table number 2.

The number one indicates the means and standard deviation of the said hockey skills. Pre-test scores

Table No. 1:- Pre-test means and standard deviations of said hockey skill test.

Said Hockey skill	Pre test	
	Mean	Standard deviation
1) Shooting in the Goal.	2.5	0.62
2) Balancing the ball	2.2	0.77
3) Moving the ball	1.63	0.66

Source :- from the pre-test scores of SAI Hockey Skill test.

Discussion:-

The above table number one indicated the means and standard deviations of the said hockey skill test of the hockey players. The means and standard deviation of goal shooting is 2.5 and 0.62. The Balancing the ball skill means is 2.7 and standard deviation is 0.77. The moving with the ball skill mean is 1.63 and standard deviation is 0.66.

The scholar conducted the plyometric training for the hockey players for six week duration. After completion of the six weeks training the scholar conducted post test of all the hockey player SAI Hockey Skill Test and collected the scores and calculated means and standard deviations of Hockey skills. The means and standard deviation are given in the table No. 2 below.

Table No. 2 :- Post test means and standard deviations of hockey skill of the players.

Said Hockey skill	Post Test	
	Mean	Standard deviation
1) Shooting in the Goal.	2.93	0.25
2) Balancing the ball	2.73	0.33
3) Moving the ball	2.76	0.5

Source :- From the post test scores of Hockey skills test of said Hockey skill test.

Discussion :-

The above table No. 2 indicated the means and standard deviations of SAI Hockey skills of the hockey players. The means and standard deviation of shooting the ball in goal are 2.93 and 0.25. The means and standard deviation of balancing the ball on stick are 2.73 and 0.33. The moving with the ball 20 meter distance mean is 2.76 and standard deviation is 0.5.

The scholar to find out the effect of 6 weeks plyometric exercises training on the skill of Hockey players. The scholar calculated the 't' value and compared it with the tabulated 't' value the table No. 3 indicated the pre-test and post- test means and standard deviations of Hockey skill

Table No. 3 :- Means and standard deviations of pre-test and post test scores of Hockey skill of Hockey player and calculated 't' value and tabulated 't' value.

S N.	Hockey skill	Pree test		Post test		Cal 't' value	Tabulate 't' value
1	Shooting in the Goal.	2.5	0.6	2.9	0.2	3.66	Tab 't' = 2.76 at 0.01+ level of significance and 29 degree of freedom
2	Balancing the ball	2.2	0.7	2.7	0.3	3.78	
3	Moving the ball	1.6	0.6	2.7	0.5	7.53	

Source: - From the pre-test, post test means and standard deviation of the Hockey skills scores and calculate 't' value and tabulated 't' value from statistical table.

Discussion:-

The above table No.3 indicated the pre -test and post- test means and standard deviations and

calculated't' values and tabulated 't' values of Hockey skills of Hockey players. The calculate't' value of shooting in the goal accuracy is 3.66 whereas the tabulated't' value is 2.66 at 0.01 level of significance and 29 degree of freedom. The calculated't' value of balancing the ball on the stick is 3.78 whereas the tabulated 't' value is 2.76 at 0.01 level of significance and 29 degree of freedom. The calculated't' value of moving with the ball in 20 meters is 7.53 at 0.01 level of significance and 29 degree of freedom. It is observed that the calculated't' values of all the Hockey skills are greater than the tabulated't' value of statistical table. Hence it is concluded that the effect of Plyometric exercise of 6 weeks duration had positive significant effect on the Hockey skills of Hockey players.

Hence the hypothesis made by the scholar is accepted. Hence the scholar drawn the conclusion that the effect of plyometric exercise training for 6 week had a positive significant effect on hockey skills of Indian Hockey players.

This type of research is beneficial for the hockey players to improve their Hockey skills.

References

1. **F.M. Inpellizzeri et.al.**Effect of Plyometric training on sand versus grasss on muscle soreness and jumping and sprinting ,ability in soccer players ,study conducted in neuromuscular laboratory, schutthess clinic [Lengghalde2,8008Zurich Switzerland
2. **Ademola Olasupo Abbas** "Comparative effect of three models of plyometric training on leg muscle strength of university male students"Ph.D. Study university of Ibadan Nigeria
3. **Michel G Miller**, "The effect of A 6 week plyometric Training programme on Agility",published online 1st September 2006
4. **M.S.Malhotra et.al**, "Physiological Assessment of Indian Hockey Olympic Players" **Sports Medicine**. (2 July 1973)
5. **Karmajit Singh** "Physical Fitness of Hockey Players" NIPER, Society for the National Institute of Physical Education and Sports Journal. (Vol. : 1. No. 1, January 1978) : 30,31.
6. **Subir Debnath. R.N. Dey**, "Physiological Study of Sportsman with Different Aerobic capacities," The Scientifie Journal, (Vol : 23 April, 2000) : 33.