



ISSN: 2456-4419

Impact Factor: (RJIF): 5.18

Yoga 2022; 7(2): 210-215

© 2022 Yoga

www.theyogicjournal.com

Received: 15-11-2022

Accepted: 21-12-2022

Dr. Dinesh Singh Chahar
Assistant Teacher, Govt. High
School, Firozabad, Uttar
Pradesh, India

Analysis of hockey performance on the basis of selected kinaesthetic perception visual and auditory of various groups

Dr. Dinesh Singh Chahar

Abstract

The objective of this study is to analyse the within group improvement in two experimental groups and one control group on the performance of the field hockey sixteen yards push skill test due to kinaesthetic perception drills. In this study Descriptive statistics was used for to compare within group difference was analyzed using paired 't' test and the difference between experimental and control group was using the information studying tools SPSS- 21 software turned into used. The purpose of this study is to find out to comparative effect of visual and auditory perception sixteen yards push test drills on the hockey performance. The objective of this study is to analyse the within group improvement in two experimental groups and one control group on the performance of the field hockey sixteen yards push test due to kinaesthetic perception drills. The study was select to 14 to 18 years of hockey players of Indore district participating at different levels of achievement and who voluntary opt hockey for their sports period. The study was further defined to the basic skills of sixteen yards push test, The total number of subjects forty five (N = 45) subjects from three groups two experimental groups and one control groups were selected for the each group equal subjects fifteen (15) for this study age ranged between 14-18 years players of Hockey comprising from Indore district, who voluntary opt hockey for their sports period. In this study Descriptive statistics was used, the within group difference was analysed using paired' test and the difference between experimental and control group was analysed the data analysing tools SPSS- 21 software was used. The level of significance was set at 0.05 level. There was significance Mean effects of two experimental and one control groups sixteen yards push test of kinaesthetic perception drills of hockey performance.

Keywords: Analysis, training, drills, hockey, performance, control, experimental etc.

Introduction

The period kinesthesia refers to the potential to pick out bodily motion as nicely as the motion of unique segments of the human body. Kinesthesia is related to the thinking of spatial attitude. it is commonly understood as a lasting and unchanging attribute of wholesome human beings and is viewed to be an extra sense, whose use does no longer require aware participation. An analogy between kinesthetic and sensual appreciation is satirically inclined in the direction of the opinion that the grasp of function and spatial physique actions are a procedure emanating from realized experience. An instance should be the differentiation between scent and style when recalling sensory impressions from the past. A comparable foundation exists in the improvement of stability thru the perfection of a range of types of locomotion in the course of the ontogenetic improvement of a human being (from crawling to balanced walking). By accepting the above arguments, dialogue can be accepted on the adaptive motion of the human being as a system that makes bodily exercise possible, i.e., thru the engagement of person motor skills as nicely as the kinesthetic transformation of one's body. Treating kinaesthetic as an adaptive process, managed by way of humans, is essential in grasp the trouble undertaken in this find out about.

Hockey, as a sport of stick and ball, dates back to middle-age. Some of the carvings of this sport were found in Ireland and Greece in 1200 and 600 BC respectively. It is assumed that the sport existed some 4000 years ago. However, hockey took its actual form with government organization to recognize the sport. Hence, specific rules of the game were introduced in early

Corresponding Author:
Dr. Dinesh Singh Chahar
Assistant Teacher, Govt. High
School, Firozabad, Uttar
Pradesh, India

19th century. Countries like England, Germany, Argentina, Spain, India, Malaysia, and Pakistan have international teams and take part in all the annual events organized by International Hockey Federation (FIH) formed in 1924.

Objectives of the study

The objective of this study is to analyse the within group improvement in one control group and two experimental groups on the performance of the field hockey sixteen yards push skill test due to kinaesthetic perception drills.

Statistical Procedure

In this study Descriptive statistics was used for to compare within group difference was analyzed using paired 't' test and the difference between experimental and control group was using the information studying tools SPSS- 21 software turned into used.

Methodology

The purpose of this study is to find out to comparative effect of visual and auditory perception sixteen yards push test drills on the hockey performance. The objective of this study is to analyse the within group improvement in two experimental groups and one control group on the performance of the field hockey sixteen yards push test due to kinaesthetic perception drills. The study was select to 14 to 18 years of hockey players of Indore district participating at different levels of achievement and who voluntary opt hockey for their sports period. The study was further defined to the basic skills of sixteen yards push test, The total number, of subjects forty five (N = 45) subjects from three groups two experimental

groups and one control groups were selected for the each group equal subjects fifteen (15) for this study age ranged between 14-18 years players of Hockey comprising from Indore district, who voluntary opt hockey for their sports period. In this study Descriptive statistics was used, the within group difference was analyzed using paired' test and the difference between experimental and control group was analyzed the data analyzing tools SPSS- 21 software was used. The level of significance was set at 0.05 level.

Criterion measure

Visual Perception Drills

16 Yards Push Test

Purpose: To evaluate the ability of Push skill in Hockey.

Age and Gender

Male Hockey players of age 14-18 yrs.

Equipment's

Hockey Stick, Balls, Stop-watch, Lime Powder, Score-sheet, Target broad with fixed net and marked field.

Field Marking

The Hockey play field are marked as shown in Fig. 3(a). Inside the shooting circle, three push squares of 2x2 yards were marked at 60° to the right and left, and at 90° in the center.

The hitting target board was 4 yards in length and 18 inches above the ground was placed just behind the goal line. The target board was marked with the numbers 5, 4, 3, 2, 1, 2, 3, 4 and 5 of equal width as shown.

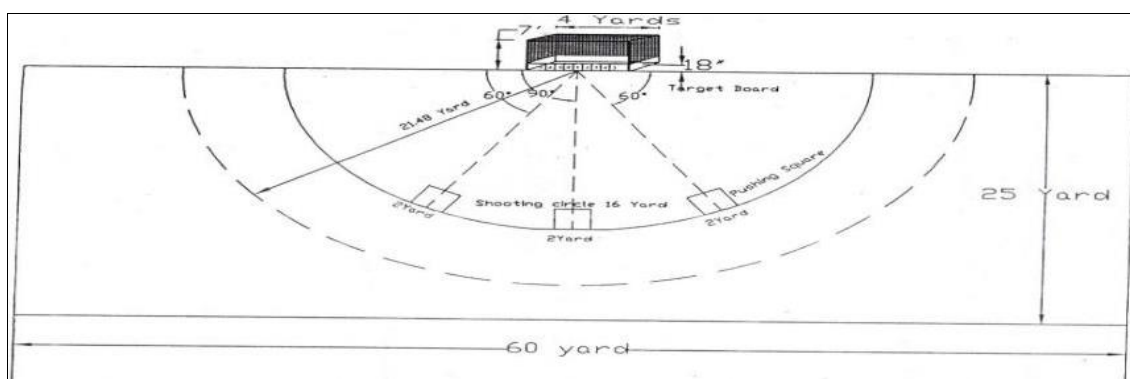


Fig 1: Yards push test

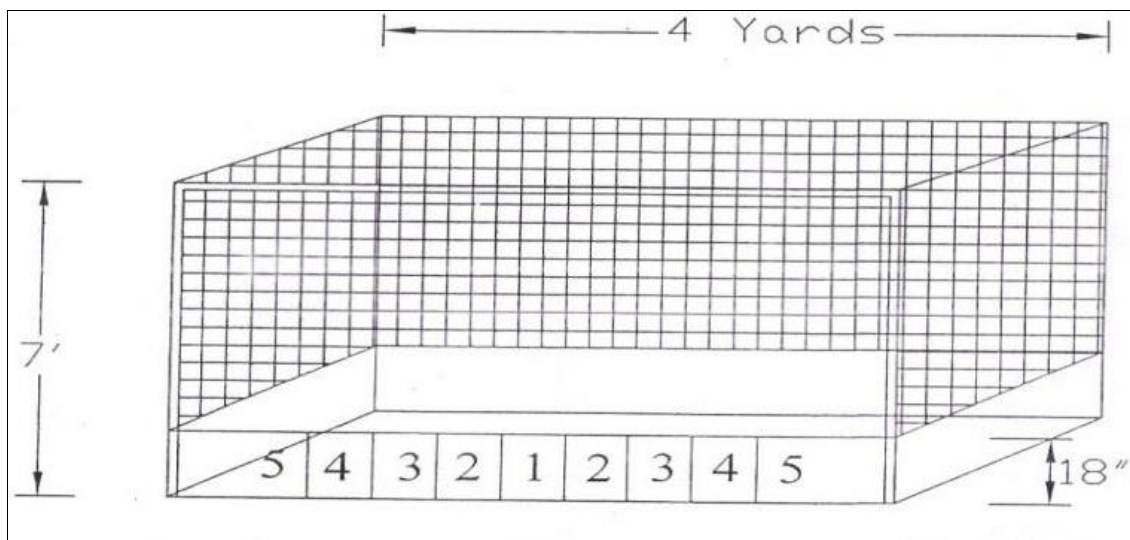


Fig 2: Marked goal post for 16- yards push test

Directions

The player stood inside the hitting square with a Hockey stick and a ball. With the sound of the whistle the player tries to push the ball on to the target-board.

Scoring

Points are awarded according to the numbers on which the ball is push by the player on hanged target board. No point is awarded for missing the target. Every player is given ten trials from each angles and best score of the three trial is the score of the player.

If a ball push in between the two numbers the higher point value is awarded to the player.

Additional Pointers

1. Practice sessions was given to the players prior to the test.
2. Before the description of test, the scholar was explained the purpose of the present study and procedure of test.
3. Before the description of tests, sufficient number of trials was given.

Visual Training

In visual perception drill the subjects were asked to follow the visual signals without having a proper sight to the target, they were asked to practice the drills with partially blind folded with a thin cloth, gradually the vision was made more difficult by adding layers of cloths on the subject’s eyes. In an skill subjects were directed to practice in dark or low light where the target is not visible clearly. Light signal was given for a second so that subjects could identify their target. Keeping in the mind, the safety of the player the kinesthetic perception drills was given individually so the chance of injury is minimized. The details of the kinesthetic perception drills were prepared before the administration of the training program.

Table 1: Shows the week and training details

Week	Training Details
Week 1-8	After Completion of Warm-up, Various Skills was practiced with the help of different kind of marking, which helped the players to visualize the objects.

Auditory Training

In auditory perception drills, we gave the same training as above which we was given in visual perception drills, but target was not be visible at the moment of performing the skills. We had increased difficulty level by producing different sound frequencies or making them so that they can look partially means not clearly. And some sound producing equipment such as ball was used so they can recognize the sound and percept the object’s location. Today many equipment / electronic devices are coming in market so as to produce different-different sounds/signals. We had developed or arranged some sound generating system operated from remote so as to give different auditory signals as different places so as to make players to percept the actual locations for the targets.

Auditory Drills

- Tapping the ball standing in front of each other with smaller distance in low vision with sound.
- Keeping the ball bouncing on the stick for maximum possible time with the sound of the ball, covering the

eyes.

- Pushing and hitting the ball in sound direction.
- Pushing and hitting the ball on different frequencies of sound.
- Pushing the sound producing ball against the wall by standing near the wall.
- Scooping the ball on different sound frequency areas/zones perfectly i.e. Not more not less.

Visual Drills

- Hitting and pushing the ball on light signals which was given for friction of second.
- Tapping the radium painted ball standing in front of each other with smaller distance in a very low light/vision.
- Keeping the radium painted ball bouncing on stick for maximum time in the dark.
- Pushing the radium painted ball against the ball and stopping while returning it and practice slap hitting again n again.
- Scooping the ball against light emitting zone i.e. not more not less.

Table 2: Auditory Training

Week	Training Details
Week 1-8	After Completion of Warm-up, Various Skill was practiced on different sounds like beep sound, whistle and Clap which helped the players to complete the skills with auditory instructions.

Criterion measure

The criterion measure chosen for testing the hypothesis was the scores achieved by the subjects in individual skill test of Field Hockey.

Administering the training programme and collection of data

All the subjects were divided into three equated groups, on the basis of playing ability. The playing ability was assessed by three experts using a seeding method. The two groups were named as Experimental Group and one Control Group. The control group was given training three times a week using normal drill and practice session. The experimental groups were also be given training three times a week but other than the normal training procedure, they were trained through visual and auditory kinesthetic perception drills i.e.

1. Reacting against various types of auditory signals without having a visual sight.
2. Practicing the drills with blind folded.
3. Practicing in the dark.

Note: Keeping in the mind, the safety of the player the kinesthetic perception drills was given individually so the chance of injury is minimized.

The details of the kinesthetic perception drills were prepared before the administration of the training program.

Pre-test data was collected after a brief orientation of the test and post-test data was collected after the completion of the training program i.e. after 2 months.

Discussion of Results

16 Yard Push Test (Table 1)

Pre and Post-test Mean, Standard Deviation, Standard Error, Mean Difference and ‘T’ Ratio For Experimental Group One, Experimental Group Two and Control Groups On Kinaesthetic Perception Drills of Hockey Performance for the (16 Yard Push Test).

Table 3: 16 Yard Push Test

Group	Pre-test Mean	Post-test Mean	Mean Diff	SD Pre-test	SD Post-test	SE (DM)	Cal. 't'	Tab 't'
Experimental Group 1	20.47	23.07	-2.60	1.55	2.22	0.57	-4.52*	2.145
Experimental Group 2	20.87	23.40	-2.53	1.96	2.41	0.64	-3.92*	2.145
Control Group	19.53	20.80	-1.26	1.46	1.15	0.48	-2.62*	2.145

Data depicted in table no. 6 on significance of difference on 16 yard push test within the experimental group one, experimental group two and control group clearly indicate significant difference in pre-test and post-test means scores of Experimental Group one, experimental group two and control group.

In experimental group one pre-test mean score was 20.47 whereas post-test mean score was 23.07 and calculated 't' value for is 4.52 which is higher than the required table value 2.15 to be significant at 0.05 level. Similarly experimental group two also showed significant difference between the pre-test and post-test mean scores on Dribbling and goal shooting test as the obtained pre-test mean score is 20.87 and post-test mean score is 23.40, calculated 't' value is 3.92 which is much higher than the tabulated 't' 2.15 to be significant at 0.05 level.

Comparison of control group pre-test and post-test mean score on 16 yard push test also revealed significant difference

between the groups. Obtained pre-test mean score is 19.53 and post-test mean score is 20.80, calculated 't' value is 2.62 is higher than the required table 't' 2.15 value to be significant at 0.05. Level of significance.

There was significant difference found between Pre-test and Post-test score of all groups on Kinaesthetic Perception Drills of Hockey Performance for the 16 Yard push Test. The mean scores value has been graphically presented in Figure 5 of both the experimental groups and control group on 16 yard shooting test with respect to before and after the Kinaesthetic Perception training.

Fig 1. Bar Diagram Showing The Mean Of Both Experimental Groups One And Control Groups On Kinaesthetic Perception Drills Of Hockey Skill (16 Yard Push Test) Test Performance.

The graphical representation of mean two experimental groups and one control group for 16 Yard Push Test.

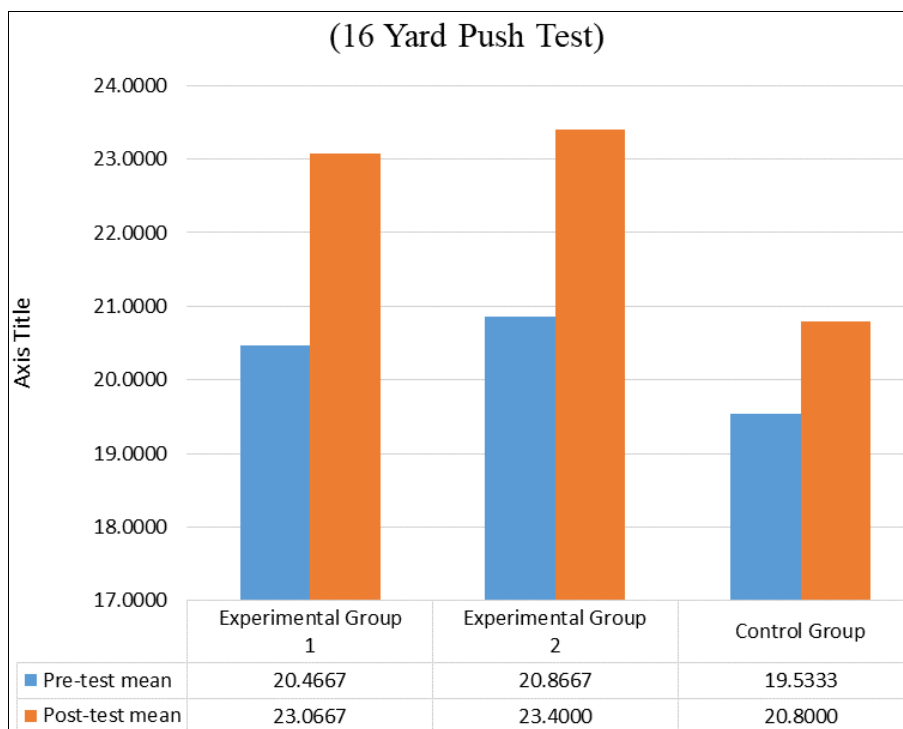


Fig 3: Mean of two experimental groups and one control group for 16 yard push test

Table 4: Analysis of co-variance for both experimental groups and one control group pre-test, post-test and adjusted post-test groups mean and 'F' ratio for the Kinaesthetic perception drills of hockey performance for 16 yard push test

Tests	Groups Mean			Sum of square	DF	Mean Sum of square	'F' Ratio
	Experimental Group 1	Experimental Group 2	Control				
Pre-test	20.47	20.87	19.53	B= 14.04	2	B= 37.89	2.52
				W=117.20	41	W= 155.33	
Post-test	23.07	23.40	20.80	B=60.04	2	B=18.54	7.46*
				W=168.93	41	W=3.79	
Adjusted Post-test	23.01	23.20	21.06	B= 28.58	2	B=0.62	5.00*
				W=39.93	41	W=1.95	

Data depicted in Table 8 on 16 yard push test of experimental and control groups indicated significant difference among the groups on post-test means ('F'=7.46) and adjusted post mean

('f'=5.00 as the obtained F-ratios were much higher than the required table value to be significant at .05 level. In pre-test means (F=2.52) which indicated insignificant difference as

the obtained F-ratio was lower than the required f-value to be significant at .05 level.

Test of Post-hoc Analysis was computed to find out the significance of difference between adjusted paired means of

different groups and the data has been presented in the table 9. Mean scores data of various groups has been graphically presented in Fig 2.

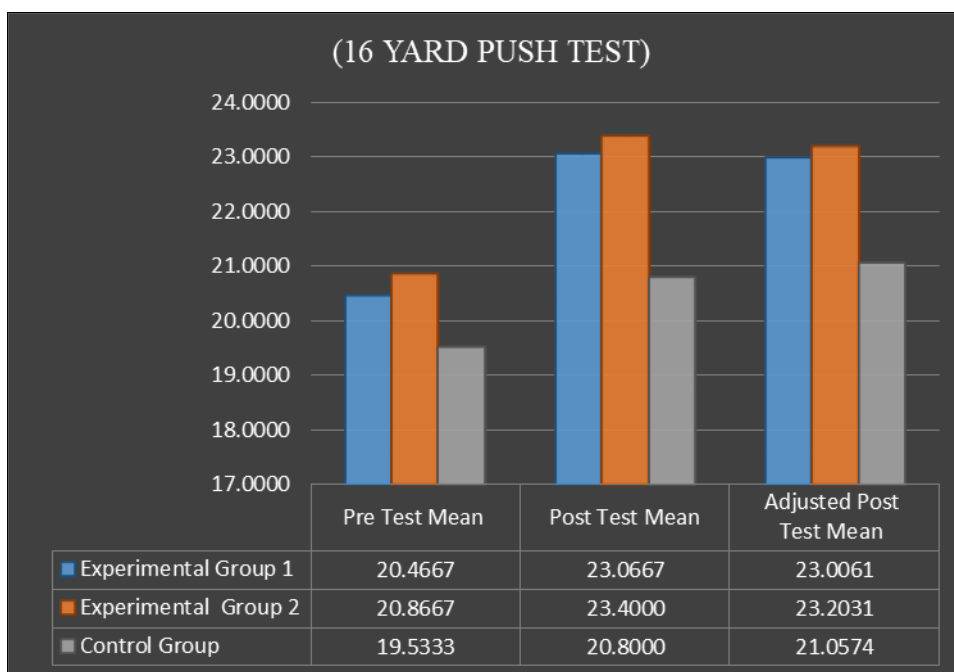


Fig 4: The pre-test, Post-test and adjusted post-test means of two experimental and one control group for 16 yard Push skill test.

Table 3: Paired adjusted final means and difference between means

Experimental one	Experimental two	Control	Mean Diff	Critical Diff	Results
23.0061	23.2031		-0.1970	1.0780	Not Sig
23.0061		21.0574	1.9487	1.0780	Sig
	23.2031	21.0574	2.1457	1.0780	Sig

Table 3. clearly indicates that difference between Experimental Group One and control group were found significant. And experimental group two and control group had significant mean difference in 16 yard push test but no significant difference was found Experimental Group One and Experimental Group two.

The data on post-hoc analysis in table 9 indicated significant difference in 16 yard push test between experimental group one and control group (1.97) and between Experimental group two group and control group (2.14) as the mean difference were higher than the critical difference of 0.70 to be significant at 0.05 level. The mean difference between experimental group one and experimental group two (0.19) was statistically insignificant.

Discussion of Findings

Purpose of the present study was to compare the effects of skill drills of kinesthetic perception among the groups of hockey players. Results of the present study revealed significant effects in relation to the selected kinesthetic perception drills like 16 yard hitting test, Dribbling & Goal shooting test and 16 yard push test and no significant difference was observed in 20 yard scoop test and stopping test. The results I be due to differences in physical component training and prerequisites for coaches and number of training sessions and the level of involvement are most likely responsible factors for these discrepancies, as shown by the aforementioned data. This can also be driven by the fact that coaches and athletes have had different levels of physical training and have consumed a variety of nutritional food

or supplements. Small sample size and other considerations, such as varied body shapes and variations in body composition may also be the reason for the present findings. These findings could be explained by a lack of adherence to the recommended dietary guidelines. Stress, sports competition anxiety, anger, fear, motivation, confidence, focus, and concentration are a few examples of psychological characteristics that could be to blame. The reason of these differences can be associated with above results this is probably due to the different nature of the physical components training and pre-requisite for coaches. Number of training and level of participation. The reason may be attributed that the physically trained Coaches or level of athletes achievements and taken deferent types nutrition food. These results may be due to a small sample of size and other factors such as different types of body, differences in body composition. These results may be nutrition diet schedule deference. The reason may be Psychological variables like stress, sports competition anxiety, aggression, fear, motivation confidence, attention concentration etc. the findings of present study is supported by the study conducted by Abbas “The Effect of Visual, Auditory, and Kinaesthetic Learning Styles on Language Teaching”, “The Effect of a Tae Bo Exercise Program on Physical Fitness and Some Kinesthetic Perceptions for University Level Basketball Players in Egypt”, “The Effect Of A Tae Bo Exercise Program On Physical Fitness And Some Kinesthetic Perceptions For University Level Basketball Players In Egypt”, “Association of impulsive behavior with motor ability, motor educability and kinesthetic perception among players of individual, team

and combat sports”.

Conclusions

According to objectives of the study the following conclusions were drawn:

There was significance Mean effects of two experimental and one control groups sixteen yards push test of kinaesthetic perception drills of hockey performance.

References

1. Aranga Panbilnathan, *et al.* Effect of different phases of training on body composition among university kabaddi players, International Journal of Physical Education. 2011;4(2):177-180.
2. Betul Cicek, Ahmet Ozturk, Demet Unalan, Meral Bayat, Meral Bayat, Selim Kurtoglu. Four-site skinfolds and body fat percentage references in 6-to-17-year old Turkish children and adolescents. Journal of Pakistan medical association. (JPMA). 2014;64:1154.
3. Cynthia Ogden L, Yan Li, David Freedman S, Lori Borrud G, PH RD, Katherine Flegal M. Smoothed Percentage Body Fat Percentiles for U.S. Children and Adolescents. 1999-2004. National Health Statistics Reports; c2011.
4. Rahaman A, *et al.* A comparative study of will to win between male and female inter-Collegiate Kabaddi players of Manipur, International Journal of Yoga, Physiotherapy and Physical Education. 2018;3(1):1&2.
5. Singh B. Comparative study of anthropometric variables of male kabaddi and kho-kho players, International Journal of Physiology, Nutrition and Physical Education. 2018;3(1):177-178.
6. Kumar N. Anthropometric Characteristics of Kabaddi Players in Relation To Their Playing Positions”, Indian Journal of Research, July 2016; Vol5 (7): pp. 195-197.
7. Bodzsar EB. Socio-Economic Factors and Body Composition. International Journal of Anthropology. 1999 Apr;14(2-3):171-180.
8. Shukla H, *et al.* Descriptive Epidemiology of Body Mass Index of an Urban Adult Population in Western India, Journal of Epidemiology & Community Health. 2002;56(11):876-880.
9. Hongjian Wang, Rachel Story E, Scott Venners A. Patterns and Interrelationships of Body-Fat Measures Among Rural Chinese Children Aged 6 to 18 Years. Official Journal of the American Academy of Pediatrics. 2006-2008;93(9):738-744.
10. Idowu Senbanjo, Kazeem Oshikoya A, Olanike Olutekunbi, Olisamedua Njokanma F. Body fat distribution of children and adolescents in Abeokuta, Southwest Nigeria. American Journal of Physical Anthropology, 2013. (Impact Factor: 2.51). 02/2013. DOI: 10.1002/ajpa.22241.
11. Dilp Dureha K, Akhil Mehrotra. Teaching And Coaching Hockey Harban's Singh Hockey Test: First Edition; c2003. p. 174.
12. Amit Abraham. “Development and Construction of Field Hockey Skill Test Battery; c1994-95.
13. Anurag Hardia. Thesis “Construction of Specific Skill Tests in Hockey; c2010.
14. Amit Abraham. Development and Construction of Field Hockey Skill Test Battery; c1994-95.