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Experimenting the Speed and Flexibility of Female Kho-Kho Players

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Abstract – In the 21st century, sport and physical movement have earned an incredible significance in society. With this upgraded mindfulness, physical, specialized and mental enhancements have moved toward becoming priority in game groups with the aim of benefitting as much as possible from the competitor's possibility. In such manner, the referred to wear sciences, for example, physiology, biochemistry, medicine, biomechanics, anthropometry, humanism and brain science have been enhanced, inquired about and connected in focused game. Kho-Kho positions as a standout amongst the most well-known traditional sports in India. Kho is an amazingly complicated and strategic game. The Mallakhamb is an art. Mallakhamb is a game that limits different exercise that enhance flexibility, strength, coordination and agility. Alongside neuromuscular development, zone of individual character, control and self-motivation will be unequivocally improved. The length of the staff is generally 1.68 meters (five and a half feet). Size of the staff is identified with the stature of the silambam player. The purpose of study was to research the impact of mallakhamb practices and Silambam practices on speed and flexibility among u-19 female Kho-Kho players so as to accomplish the purpose of the study 45 female region level Kho-Kho players were chosen randomly and they were similarly isolated in to three groups of 15 each as experimental group-I, experimental group-II and control group

Keywords: Kho-Kho, Mallakhamb, Silambam, Flexibility, Speed, Female, Player, Physical, Fitness.

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1. INTRODUCTION

Physical fitness is the ability to do delayed diligent work and recuperate to a similar condition of health in brief span of time this is the aftereffect of the level of strength, speed, power, endurance, agility and flexibility one assesses their element of physical fitness are valuable for various games and sports. Physical fitness relies upon a few factors, for example, heredity, sterile living nourishment and body move of a person. Among these body moves ever play exercises, in an unexpected way. Kabaddi and Kho-Kho player are similarly conductive to building up these aptitudes among players Kabaddi (some of the time Kabaddi or Kabadi) is a physical game that started in Ancient India. The title Kabaddi is a nonexclusive term used to portray the accompanying: - National Kabaddi perceived by the Amateur Kabaddi Federation of India: National style (which looks like the Sanjeevani style), Circle style (the Punjab style), Indoor and national games, Beach Kabaddi and National expert group Kho-Kho positions as a standout amongst the most well-known customary games in India

Presently a day, an ever-increasing number of people particularly young men and young ladies are influenced by games exercises and expanding the number that are speaking to in the games zone. As preventive and remedial health measures, it has turned out to be progressively effective all through the world and, a huge number of young people ought to have shot of getting a charge out of games. Game is the manner in which we utilize our physical abilities to play. Sports is an imperative in different ways, when one's body works better his mind works better, his cerebrum and his body are interrelated. Sports enables you to blow of strain, to overlook your problems for some time and to go out and have a decent time regardless of what different pressures one might be under in his life. Kho-Kho is a pursuit and label game where a chaser chases the sprinter to expel him/her from the game. The game is called Kho-Kho because it is required with respect to the dynamic chaser to absolute 'kho' behind a situated chaser to hand over pursue to the situated chaser for the progress of the game, failure in its, is a foul

1.1 kho-kho

The game of Kho-Kho can comprehensively be trailed by resolving the fundamental aptitudes and techniques of pursue and abilities and techniques of fleeing and avoiding the chasers and not permitting any of the chasing rivals contact your individual or the apparels worn by the sprinter (2). The pursuit could be effectively finished up by jumping at the sprinter and contacting his impact point of the rear foot while

running (3). This is the most beyond any doubt and safe strategy to score a sprinter. Running was supported in three fundamental strategies. Running crisscross in the mid-line in single, twofold or triple chain is a conventional method (1)

The game of Kho-Kho a sensible is the most prominent game other than Kabaddi in rural India having extensively long convention. At present it is most mainstream among all the indigenous group games of India. Rivalries are held from school level to national dimension. Occasionally endeavors are being made to put this game on the dimension of international challenge. The national enthusiasm for raising the standard of these games keeps on being high. The cause of Kho-Kho is hard to follow, yet numerous students of history trust, that it is an altered type of 'Run Chase', which in its simplest structure includes chasing and contacting an individual. With its roots in Maharashtra, Kho-Kho in ancient times, was played on 'raths' or chariots, and was known as Rathera.

1.2 Fitness Variables of Kho-Kho

Physical fitness is a characteristic required for administration in practically all military powers. Physical fitness includes two related ideas: general fitness (a condition of health and prosperity) and explicit fitness (an undertaking focused definition dependent on the ability to perform explicit parts of games or occupations). Physical fitness is by and large accomplished through exercise, right sustenance and enough rest. It is a critical part of life. In earlier years, fitness was regularly characterized as the ability to mechanization expanded recreation time, changes in ways of life following the industrial upheaval rendered this definition insufficient

Distinctive games gave to do the body activities, in an unexpected way. Kho-Kho players are similarly conductive to building up these abilities amongst players. The hypothesis of Physical capacities is however it is quickly getting acknowledgment in the realm of 10 sports. In any case, there is no broad agreement with respect to the quantity of coordinative capacities required for sport.

► **Speed**

Speed is the ability to travel or move very rapidly. Like all biomotor capacities speed can be separated into various kinds. It might mean the entire body moving at maximal running speed, as in the sprinter. It might include ideal speed, for example, the controlled speed in the methodology keep running of the hopping occasions. Or on the other hand, it might incorporate the speed of a limb, for example, the tossing arm in the shot or disk, or the take-off leg in the jumps. Speed preparing includes development of an ability with the goal that the strategy is performed at a quicker rate. To create speed the expertise must be rehearsed all the time at a maximum or near maximum rate of movement. Maximal running speed, for instance, is produced by keeps running over short separations at maximum exertion. The aptitude of moving at speed should, similar to all abilities, be polished before the competitor winds up fatigued. Thus, recuperation times among redundancies and sets ought to be sufficiently long to recoup from any fatigue.

► **Flexibility**

Flexibility is characterized as the static maximum range of movement (ROM) accessible about a joint. The biggest constraining component 14 of static ROM is simply the structure of the joint. In this way, even after unending stretching exercise, there will be a limit about how much movement is accessible. Also, joint structures can fluctuate among individuals, and this must be perceived while evaluating flexibility models in competitors. The majority of the variability in static ROM is because of the elastic properties of the muscle and It is these elastic properties that are adjusted subsequent to stretching works out. At the point when a muscle is held for quite a while under strain in a static stretch, the latent pressure in the muscle declines, for example the external force required to extend the casual muscle. Clearly, the less external force required, the more flexible the muscle. This expanded pliability is kept up for as long as a hour and a half after the stretch.

1.3 Mallakhamb

The Mallakhamb is an art. Mallakhamb is a standout amongst the most ancient art in the field of physical culture self-control or strength with in related with immaculate physical fitness makes a man increasingly roused in thriving for his earthly mission, and it makes the great health. It is a logical and methodical system in getting a sound body and psyche. This well-known fact of healthy body and psyche was completely understanding and acknowledged by our predecessor's directly from the assessment of humankind and they were rehearsing. One of the principle explanations behind connecting each one of those characteristics and excellencies can be credited to the enchantment Mallakhamb culture, the in detachable one ness of monkey.

The word Mallakhamb is included Mallakhamb – MallarKhambam – Malla – Mallar signifies – man of strength (power) – veeran – Gymnast. Khamb which is indicates in wooden post. In this way, deciphered as an acrobat post. Mallakhamb as the name suggests is a shaft utilized by wrestler for rehearsing their skills in the game KUSTI. However, at this point a day the pattern has changed, and it has an uncommon character. Mallakhamb needs concentration. speed and flexibility. It is the main game which played against gravity.

1.4 Silambam

Silambam or Silambattam or Chilambam, is a conventional Dravidian martial art dependent on stick battling. This style evidently begins from the Kurinji Hills in present day Tamilnadu 5,000 years back, where locals utilized bamboo fights to safeguard themselves against wild animals. According to Sangam writing, the Kurinji Hills was one of the five physiographic divisions inside Tamilakam, which ended up known as Keralam after the entry of Brahmins. The kuravar of the Kurinji Hills utilized a staff called Chilambamboo as a weapon to shield themselves against wild animals, and to display their ability amid their religious celebrations. The Hindu researchers and yogies who went to the Kurinji mountains to reflect got pulled in by the display of this exceedingly gifted turning Chilambamboo Silambam is a fundamentally a type of stick or strolling staff battling. The length of the staff is generally 1.68 meters (five and a half feet). Size of the staff is identified with the stature of the silambam player. It should simply contact the brow around three fingers from the head, albeit distinctive lengths were utilized in various circumstances. The 3 feet stick called "sedikutchi" can be conveyed clandestinely. Separate practice is required for fights of various lengths. The standard position incorporates holding the staff toward one side, right hand near the back, left hand around 40 centimeters (16 inches) away. This position permits a wide cluster of stick-andbody movements, including complex assaults and squares. Unarmed silambam uses a few routines dependent on the movements of animals, primarily snake and eagle forms.

2. REVIEW OF LITERATURE

Biddle & Mohan (2012) directed a study on the point of "A Comparative Study of Speed among Kabaddi and Kho-kho Players of Osmania University." The study planned to draw out the dimension of speed among male kabaddi and male kho-kho players of Hydrabad. The example for the study was male 20 kabaddi and male 20 kho-kho players from different schools of Osmania University. The subjects of the study were between the age group of 19 years to 22 years. The information were gathered independently from kabaddi and kho-kho players. The subjects were tried in 50 mtrs. for speed.

Amandeep Singh (2014) - The purpose of this study was to look at respiratory files among male Indigenous game players. The present study was directed on an example of forty-five (N=45) male Indigenous game players of age going from 18-25 years, which incorporates fifteen each kho-kho, kabaddi and mallakhamb players, who participated in between school rivalries of Guru Nanak Dev University, Amritsar, India. Every one of the participants were educated about targets and approach of the study and they consented to participate in this study. Respiratory records for example vital limit forced vital limit and inspiratory limit were estimated with "MedSpiror" an automated spirometer. Single direction Analysis of Variance (ANOVA) was connected to discover the significant of contrasts with respect to chosen respiratory lists among Indigenous games for example kho-kho, kabaddi and mallakhamb players. Scheffe's post-hoc test (SPHT) was connected to see the bearing and essentialness of contrasts where 'F'value found factually huge. The dimension of centrality was set at 0.05. Results uncovered critical contrasts among between school level male Indigenous game (kho-kho, kabaddi, mallakhamb) players as to vital limit (p? 0.05), forced vital limit (p? 0.05) and inspiratory limit (p? 0.05). While contrasting the methods, it uncovered that kho-kho players would be advised to vital limit, forced vital limit and inspiratory limit than their counterparts; kabaddi and mallakhamb players.

Rinku Tiwari (2015) - The purpose of the present study was to create Reaction ability test for female Kho-Kho players. 60 female Kho-Kho players who participated in National dimension tournament from various schools were chosen as subjects for the present study. The age of the subjects ranged from 18 to multi year. The response ability of the players was estimated as far as least time taken to finish the test. The Playing ability was surveyed with apanel of three specialists, who were actually fit the bill for the Kho-Kho game. The master surveyed the players on 10 points. The examination of information was finished with assistance of SPSS. Dimension of essentialness picked was at 0.05 dimension. Relationship coefficient between playing ability and Reaction ability test was observed to be 0.90, reliability was observed to be 0.91. End: It was reasoned that the test built to evaluate response ability is substantial and dependable for Female Kho-Kho players.

Vishwajit Thakare (2015) - The purpose of this study was to examine the Teffect of Mallakhamb on Vital limit and Cardiovascular capacity of High School Students. For this study 40 subject were chosen randomly from J.S.P.M.High School Itawa ward Pusad Dist.Yavatmal.(M.S.). The subject was classified in to two equivalent groups, one experimental (Group A n1 = 20) and one control group (Bn2=20). It was likewise guaranteed that all them were medicinally fit and was intrigued to do the Mallakhamb to experience the preparation for research venture. Group A got Mallakhamb practice while group B was treated as control. The structure of the experiment has been arranged in three stages. All the subject of experimental group was presented to a multi month (multi week) preparing of mallakhamb practice one-hour day by day at night. The variable Vital limit estimated by wet Spiro meter and cardiovascular effectiveness estimated by cooper's 12 minutes run and walk test. The preparation of mallakhamb delighted that there was critical improvement in vital limit and cardiovascular productivity. Mallakhamb, vital limit.

Ashok Kumar (2016) - The purpose of the study was to research the relationship of chose physical fitness segments with the playing ability of male kho-kho players. System: Twenty male kho-kho players were chosen from P.G.Govt. School, Sector-11, Chandigarh, studying in B.P.Ed. third year and age ranged from 17 to 23 years. With the end goal of the present study there were four physical fitness parts (Endurance Ability, Flexibility, Speed Ability and Agility). Kho-kho performance was assessed dependent on some particular criteria and all out performance was set at 50. For relating the engine fitness parts with the khothe dimension of hugeness was set at 0.05. Results: The discoveries demonstrated that Endurance Ability, flexibility, Speed Ability and Agility had a critical relationship with the playing ability of kho-kho Conclusions: Based on the results it was presumed that Endurance Ability, Speed Ability and Agility played a vital job for good performance in kho-kho.

3. OBJECTIVES OF THE STUDY

1. To explain the concept of Mallakhamb, silambam, and kho kho sports
2. To investigate the impact of Mallakhamb, silambam on speed and flexibility of the female under 19 years.
3. To analyze the impact on female students related with speed and flexibility before and after the training period
4. To experiment the covariance and Scheffe's post hoc test on the data obtained on speed, flexibility of experimental and control groups
5. To find a significance improvement on speed and flexibility due to mallakhamb practices and Silambam practices

4. RESEARCH METHODOLOGY

4.1 Research purpose

The purpose of study was to examine the impact of mallakhamb practices and Silambam practices on speed and flexibility among u-19 female Kho-Kho players. The experimental groups and control group experienced typical routine Kho-Kho practices and likewise the experimental group-I experienced Mallakhamb practices and experimental group-II experienced Silambam practices for one hour toward the beginning of the prior day starting the routine Kho-Kho practices. The control group was not given any exceptional training. The time of training was two months in a timetable of week by week 3 days for interchange days.

4.2 Sample size

To accomplish the purpose of the study 45 female district level Kho-Kho players were chosen randomly and they were similarly separated in to three groups of 15 each as experimental group-I, experimental group-II and control group.

4.3 Sources of the Data collection

The sources of the data for the present study were Kho-Kho female players. The Kho-Kho players who had participated at any rate at school state dimension of Haryana were chosen as sources of the data.

The data was collected on the variables of speed and flexibility when the training period.

4.4 Data analysis

The finding of different parameters is talked about as under: Speed and flexibility. The subtleties for comparative mean value and SD values of Kho-Kho players were arranged and values of F proportion with different steps value were likewise displayed from below Table and graphs

4.5 Statistical Techniques used in this study

The gathered the data were statistically analyzed by utilizing Analysis of Covariance (ANCOVA) and Scheffe's post hoc test. To test the hugeness .05 level of certainty was fixed.

5. DATA ANALYSIS AND RESULT

The analysis of covariance and Scheffe's post hoc test on the data acquired on speed, flexibility of experimental and control groups has been analyzed and organized in Table-2, Table-3, Table-4 and Table-5.

Table 1 Variables

Variables	Test	Measurers in Unit
Speed	50mts Run	Seconds
Flexibility	Sit and Reach	Centimeters

Table 2 Analysis of Covariance for Pre and Post Tests Data (Speed)

	Control Group	Mallakhamb practice	Silambam practice	Source of Variance	Sum of Squares	Df	Mean Squares	'F' Ratio
Pretest	7.95	7.82	7.79	Between	0.60	2	0.15	0.81
				Within	15.92	42	0.37	
Post test	7.91	7.51	7.49	Between	3.42	2	1.71	5.89*
				Within	12.35	42	0.29	
Adjusted Post test	7.87	7.53	7.51	Between	0.89	2	0.45	7.50*
				Within	2.36	41	0.06	

*Significance at 0.05 level, df 2 and 42= 3.22, 2 and 41=3.23

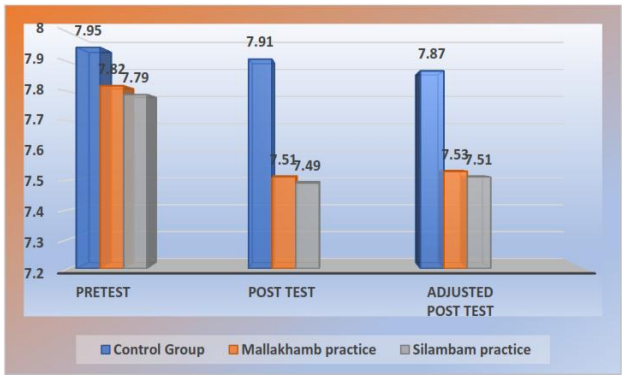

Figure 1 Analysis of Covariance for Pre and Post Tests Data (Speed)

Table 2 demonstrates that the pretest implies on speed of control, Mallakhamb practice and Silambam practice groups are 7.95, 7.82 and 7.79 respectively. The acquired 'F' proportion value of 0.81 for pretest mean is not exactly the required table value of 3.22 for essentialness at 0.05 level. Consequently, it isn't significant the post-test mean on speed of control, Mallakhamb practice and Silambam practice groups are 7.91, 7.51 and 7.49 respectively. The got 'F' proportion value of 5.89 for post-test data is more noteworthy than the required table value of 3.22 for significant at 0.05 level. The balanced post-test mean on speed of control, Mallakhamb practice and Silambam practice groups are 7.87, 7.53 and 7.51 respectively. The got 'F' proportion value of 7.50 for balanced post-test data is more prominent than the required table value of 3.23 for hugeness at 0.05 level. It uncovers that there is a significant difference among the groups on speed because of Mallakhamb practice and Silambam practice. The post-hoc test was connected to discover the significant paired mean difference.

Table 3 Ordered Scheffe's Post Hoc Test for Mean Difference between Groups on Speed

Mean values			Mean Difference	L S
Control	Mallakhamb practice	Silambam practice		
7.87	7.53	-	0.34	0.05
7.87	-	7.51	0.36	0.05
-	7.53	7.51	0.02	NS

L S = Level of Significance, C I = Confidence Interval. at 0.05 level: 0.26

Table 3 demonstrates that the ordered weighted mean difference of Scheffe's post-hoc test values on speed of the control group, Mallakhamb practice and Silambam practice group. The mean difference of speed is significant at 0.05 level of certainty. The difference in methods between control group and Mallakhamb practices didn't contrast significantly and control group and Silambam practice group on speed. Rest of the paired methods didn't contrast significantly.

Table 4 Analysis of Covariance for Pre and Post Tests Data (Flexibility)

	Control Group	Mallakhamb practice	Silambam practice	Source of Variance	Sum of Squares	df	Mean Squares	'F' Ratio
Pretest	29.37	29.52	29.57	Between	2.91	2	0.97	0.14
				Within	427.88	42	10.16	
Post test	30.60	32.07	32.77	Between	78.97	2	39.49	3.77*
				Within	439.27	42	10.45	
Adjusted Post test	30.77	32.11	32.76	Between	69.60	2	34.80	6.48*
				Within	220.45	41	5.37	

*Significance at 0.05 level, df 2 and 42= 3.22, 2 and 41=3.23

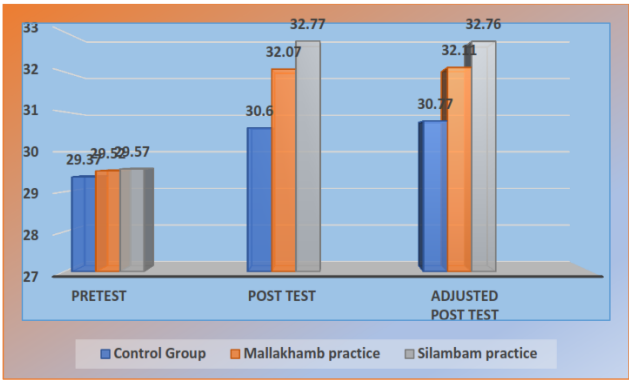

Figure 2 Analysis of Covariance for Pre and Post Tests Data (Flexibility)

Table 4 demonstrates that the pretest implies on flexibility of control, Mallakhamb practice and Silambam practice training groups are 29.37, 29.52 and 29.57 respectively. The acquired 'F' proportion value of 0.14 for pretest mean is not exactly the required table value of 3.22 for essentialness at 0.05 level. Thus, it isn't significant

The post-test mean on flexibility of control, Mallakhamb practice and Silambam practice groups are 30.60, 32.07 and 32.77 respectively. The acquired 'F' proportion value of 3.77 for post-test data is more prominent than the required table value of 3.22 for significant at 0.05 level. The balanced post-test mean on flexibility control, Mallakhamb practice and Silambam practice groups are 30.77, 32.11 and 32.76 respectively. The acquired 'F' proportion value of 6.48 for balanced post-test data is more prominent than the required table value of 3.23 for importance at 0.05 level. It uncovers that there is significant difference among the groups on flexibility because of Mallakhamb practice and Silambam practice. The post-hoc test was connected to discover the significant paired mean difference.

Table 5 Ordered Scheffe's Post Hoc Test for Mean Difference between Groups on flexibility

Mean values			Mean Difference	L S
Control	Mallakhamb Practice	Silambam practice		
30.77	32.76	-	1.99	0.05
30.77	-	32.11	0.95	0.05
-	32.76	32.11	0.65	NS

L S = Level of Significance, C I = Confidence Interval. at 0.05 level: 0.89.

Table 5 demonstrates that the ordered weighted mean difference of Scheffe's post-hoc test values on flexibility of the control group, Mallakhamb practices and Silambam practices group. The mean difference of flexibility is significant at 0.05 level of certainty. The difference in methods between control group and Mallakhamb practice, control group and Silambam practice group on flexibility. Rest of the paired methods didn't vary significantly.

In the dislike times Mallakhamb practices and Silambam practices is offered as a superior technique for creating speed and flexibility. The results and talks of the present investigations demonstrated that the Silambam training procedure was helpful for enhancing the significant increment in cardio vascular endurance and a significant decrease in body weight, BMI, fit weight, and percent muscle to fat ratio among college girls and it is discovered that 24 weeks there was significant enhanced in cardio vascular endurance, and a significant decrease in body weight, BMI, fit weight, and percent muscle to fat ratio among 40 sedentary college girls because of the influence of Silambam training From the results of the study and discussion the following conclusions were drawn.

1. There is a significant difference on speed and flexibility between all the groups.

2. There is a significance improvement on speed and flexibility due to mallakhamb practices and Silambam practices.

6. CONCLUSION

There is a similarly critical need to raise societal awareness of the broad range of health, social and financial benefits of physical movement, socioeconomical status and all-around structured game projects. Disseminating data to policy-makers and leaders in the health, education, social and game parts is significant. Cultivating cross-sectoral banters on this issue can improve aggregate awareness and encourage policy support. This requires a progressing, coordinated exertion to create, refresh and disseminate knowledge about the benefits of physical movement and game, and best practices. In view of the results it was reasoned that Endurance Ability, Flexibility, Speed Ability and Agility played a vital job for good performance in kho-kho implies all the chose physical fitness parts ought to be produced by the mentors by the logical training techniques. The games policy of the Government ought to urge the players to participate in these games. There ought to be economical help to the players who are participating in the, Kho-kho, games which can played on any ground.

REFERENCES

1. Heyward VH (2006). Advanced Fitness Assessment and Exercise Prescription, Human Kinetics publication, Champaign.

2. Biddle, S. K., & Mohan S. J. (2012). A Comparative study of Speed among Kabaddi and Kho-Kho Players of Osmania University. International Journal of Health, Physical Education and Computer Science in Sports, Volume No. 6, No.1, pp. 70-71.

3. Baljinder Singh Bal, Parminder Jeet Kaur, Davinder Singh (2012). Effects of 6-week rope mallakhamb training on speed of movement, vital capacity and peak expiratory flow rate, Brazilian Journal of Biomotricity, 2012; 6(1): pp. 25-32.

4. Mohanavalli P, Sreedhar K, Jothy (2013). Effect of silambam practice on body composition, and cardiovascular endurance among college girls, International Journal of Physical Education, Fitness and Sports. 2(4), ISSN 2277-5447

5. Singh Raspal, Hoshiyar Singh (2012). An evaluation of selected physical fitness variables of kabaddi, kho-kho& wrestling players from Haryana and Punjab, India, Research journal of physical education sciences.1(2): pp. 1-4

6. Amandeep Singh (2014). "Study of Selected Respiratory Indices Among Indigenous Game Players", Golden Research Thoughts ISSN 2231-5063 Impact Factor : 2.2052(UIF) Volume-4 | Issue-4 | Oct-2014

7. Singh, B. and Saini, S. (2014). Biomotor abilities between runner and chaser of kho-kho: a comparative study. Research journal of physical education sciences. 2(9): pp. 5-8.

8. Rinku Tiwari (2015). "Reaction ability test for female Kho-Kho players", International Journal of Physical Education, Sports and Health 2015; 2(1): pp. 177-179

9. Vishwajit Thakare (2015). "Effect of Mallakhamb on Vital Capacity and Cardiovascular Efficiency of High School Students", Indian Streams Research Journal

Impact Factor: 3.1560(UIF) ISSN 2230-7850 Volume - 5 | Issue - 7 | Aug – 2015

10. Ashok Kumar (2016). “Relationship of Selected Physical Fitness Components with the Playing Ability of Kho-Kho Players”, Innovations in Physical Education and Sports Volume 1, Issue 1, January-June 2016.

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