



Physiological profile of traditional games

¹ Shrinivasa S, ² Ravindra Gouda SM, ³ ND Virupaksha

¹ Physical Education Teacher, Government high school, Singrihalli, Davanagere, Karnataka, India

² Assistant Director of Physical Education, Kuvempu University, Karnataka, India

³ Deputy Director, Department of physical education, Kuvempu University, Karnataka, India

Abstract

Competition plays a vital role in today's modern era where records are being practically rewritten and are being excelled mostly in every successive competition. To achieve something in the high level competition one must undergo continuous and systematic plan of training right from childhood.

Kho-Kho and Atya-Patya is basically an outdoor team game played in the tropical countries of Asia. These indigenous game of India were adopted by other countries in Asia viz, Pakistan, Nepal, Bhutan, Bangladesh, srilanka, Maldives, Malaysia and many more.

The main purpose of this study was to compare the physiological profiles such as Breath holding, Blood pressure and Vital capacity of national level Kho-Kho and Atya-Patya male players. To achieve the purpose of the study data was collected from one hundred and twenty players, sixty from each game, who have represented Karnataka state in Kho-kho and Atya-Patya game. The age of the subjects were ranging from 18-25 years. The data collected was treated with the statistical technique 't' and found there is a significant difference in the selected physiological aspects between Kho-Kho and Atya-Patya male players.

Keywords: physiology, kho-kho, atya-patya, blood pressure, breath holding, vital capacity

Introduction

People have been playing sporting games in one form or another since antiquity. Sporting events appears in earliest mythology and athletes were major celebrities in ancient Greece. Over the centuries, crowds have gathered to watch sporting competition with sometimes violent and nationalistic outcomes.

Today, at all levels faces intense criticism and sports and games is no exception. In 21st century the physical education should strive to enhance the development of positive feelings towards lifelong activity by helping the players set realistic goals of achievement regardless of their ability. It should fulfill the needs of every player at varying levels of skill development through a series of progressively more challenging tasks.

Aspirations and expectations of the people pertaining to the performance of sportsmen all over the world are going higher and higher. High level of performance by sportsmen and require a highly scientific approach and it should be done right from the level of identifying talents.

The physiological variables play an important role for the attainment of high level sports performance. Physiological variables may be defined as those variables, which are directly linked with various physiological systems like heart rate, blood pressure, vital capacity, respiratory rate and hemoglobin. Physiological variables like cardiovascular efficiency, percentage of fat, reaction time, vital capacity and other should be taken into consideration. Cardio-respiratory endurance denoted capacity of individual to work effectively with the help of oxygen which is collected, transported and

utilized by lungs, blood and muscles respectively. Any work as daily task or form of physical activity is directly related to energy supplying system which in turn is the cardio-respiratory endurance. The high intensity bouts of exercise, coupled with the total duration of the match, requires players to have well-developed aerobic and anaerobic a lactic (ATP-CP) energy systems.

Records and outstanding sporting achievement requires the highest standard of performance and maximum will power to achieve that standard. The limits of physiological performance are being consistently advanced through training and competition. Evaluation and analysis of world championships, Olympic games etc., indicate that only those athletes will achieve impressive performance who are suited for the sports in question, who possess the necessary moral characteristics, who have an outstanding physiological potential who have perfect command of the techniques and tactics of their sports and who have proved themselves over a number of years of competition.

Kho-Kho and Atya-Patya is an indigenous game of India. It is the most popular Indian game Marathwada region of Maharashtra. The Indian games are simple in nature, easy to organize and less expensive. Hence Kho-Kho and Atya-Patya reach to common people and both sex.

Purpose of the study

The main purpose of this study was to compare the physiological profiles such as Breath holding, Blood pressure and Vital capacity of national level Kho-Kho and Atya-Patya male players.

Methodology

To achieve the purpose of the study data was collected from one hundred and twenty players, sixty each from Atya- Patya and Kho - Kho game, who have represented Karnataka state in Kho-Kho and Atya-Patya game. Subjects were randomly selected during tournaments. The age of the subjects were ranging from 18-25 years.

Statistical technique

The collected data was analyzed by using statistical technique ‘t’ test with the help of 19th version of SPSS.

Results

To achieve the purpose of the study that data collected were put to statistical treatment and results are presented in the following tables.

Table 1: Shows Mean, standard deviation, ‘t’ value of breath holding between Kho-Kho and Atya-Patya male players

Sl. No	Game	N	Mean	Standard deviation	‘t’ value
1	Atya-Patya	60	69.07	6.94	5.97*
2	Kho-Kho	60	71.25	7.88	

*significant at 0.05 level.

The above table shows the calculated t value 5.97 which is significant at 0.05 level, since this value is higher than the

table value. In breath holding Kho-Kho players were found significant than the Atya-Patya male players.

Table 2a: Mean, standard deviation and ‘t’ value of systolic blood pressure between Atya-Patya and Kho-Kho players

Sl. No.	Players	Sample Size	Mean value	Standard deviation	‘t’ value
1.	Atya-Patya	60	119.13	5.20	0.47
2.	Kho-Kho	60	118.75	3.65	

*significant at 0.05 level.

The data obtained from the table reveals that, there was no significant difference in systolic blood pressure between Atya-

Patya and Kho-Kho players. Because, the calculated ‘t’ value 0.47 and which is lesser than the table value 1.96.

Table 2b: Mean, standard deviation and ‘t’ value of diastolic blood pressure Atya-Patya and Kho-Kho players

Sl. No.	Players	Sample Size	Mean value	Standard deviation	‘t’ value
1.	Atya-Patya	60	78.58	4.99	0.43
2.	Kho-Kho	60	78.23	3.90	

*significant at 0.05 level.

The data presented in the table shows that there was no significant difference in diastolic blood pressure between

Atya-Patya and Kho-Kho players. Both the players are having similar mean values in this component.

Table 3: Mean, standard deviation and ‘t’ value of vital capacity between Atya-Patya and Kho-Kho players

Sl. No.	Players	Sample Size	Mean value	Standard deviation	‘t’ value
1.	Atya-Patya	60	3.63	0.50	3.19*
2.	Kho-Kho	60	3.97	0.46	

*significant at 0.05 level.

The above table depicts the mean value, standard deviation and ‘t’ value of vital capacity. There was significant difference in vital capacity between Atya-Patya and Kho-Kho players. Kho-Kho players are having good vital capacity than Atya-Patya players.

players. Because, the calculated ‘t’ values which is lesser than the table value 1.96. But when mean values are compared Kho-Kho players are having less systolic & diastolic blood pressure than Atya Patya players. Hence, it is not significant at 0.05 level. So null hypothesis was accepted.

Findings

The above result shows that there is a significant difference in the selected physiological aspects such as breath holding, blood pressure and vital capacity respectively. In breath holding, Kho-Kho male players have shown better breath holding capacity than Atya-Patya players. In blood pressure (systolic & diastolic), The data obtained from the table reveals that, there was no significant difference in systolic blood pressure between Atya-Patya and Kho-Kho

There was significant difference in vital capacity between Atya-Patya and Kho-Kho players. Kho-Kho players are having good vital capacity than Atya-Patya players.

References

1. Mathew Donald K, Fox EL. The Physiological Basis of Physical Education and Athletics, Philadelphia: W.B. Saunders Co., 1976.
2. Parvinder Singh. Comparative study of selected physiological and anthropometrical variables of Kabaddi

- and Kho-Kho players of Haryana. PhD, Thesis, Maharshi Dayanand University, Rohtak, 2012.
3. Ross JS, Wilson KS. Foundation of Anatomy and Physiology, Edinburgh: The English Book Society Churchill Living Stone, 1973.
 4. Shaver Larry G. Essentials of Exercise Physiology, Delhi: Surjeet Publication, 1981.
 5. Singh. Psychological Characteristics of Top Level of Indian Sportsmen, cited by Sidhu *et al.*, Sports Sciences Health, Fitness and Performance.
 6. Vishan Singh Rathore, Arvind Bahadur Singh. Analysis of physical and physiological parameters of Kabaddi and Kho-Kho inter-varsity players. American Journal of Sports Science and Medicine. 2014; 2(5A):13-16.