

ISSN:0976-0822



Kalyan Bharati

Vol: 36, No: (IX), 2021

Kalyan Kumar Dasgupta Memorial Committee
Kolkata, West Bengal

CONTENTS

Sr. No.	Name of Topic	Name of Author	Page No.
1	IMPACT OF COVID-19 ON THE SOCIETY	Prof. Dr. Gautam Shahuraje Jadhav	1-4
2	COVID-19'S IMPACT ON SPORT, PHYSICAL ACTIVITY, AND WELL-BEING, AND ITS IMPACTS FOR SOCIAL DEVELOPMENT	Yashodhan K. Kharade	5-9
3	RELEVANCE OF YOGA PRACTICES IN ONGOING CORONAVIRUS -19 DISEASES	Dr. Pushpanjali Kamble	10-12
4	IMPACT OF COVID-19 INDUCED LOCKDOWN ON PHYSICAL AND MENTAL FITNESS OF VOLLEYBALL PLAYERS	Dr. Rahul Madhukarrao Rode	13-17
5	INFLUENCE OF SMALLSIDED GAMES ON PHYSICAL FITNESS AND SKILL RELATED VARIABLES AMONG YOUNG FOOT BALL PLAYERS AT WARANGAL DISTRICT	Dr. Srinivas Nallella	18-22
6	ANTHROPOMETRIC AND MOTOR FITNESS PROFILE OF BATSMAN IN CRICKET	Toijom Bikenson Singh Tushar Verma Sandipraj S. Autade	23-25
7	COMPARATIVE STUDY OF LEVEL OF PERCEPTION OF VARIOUS LEVELS OF ARCHERS	Prof. Shyam B. Korde	26-28
8	COVID-19 OUTBREAKS: ROLE OF SPORTS AND ACTIVE LIVING DURING PANDEMIC	Dr. Mohammed Ajaz Sheikh	29-32
9	COMPARISON OF PHYSIOLOGICAL PROFILE OF ELITE AND NON ELITE KHO-KHO PLAYERS OF NAGPUR	Dr. Sanjay R. Choudhari	33-36
10	INVESTIGATION OF ANXIETY AND AGGRESSION AMONG KABADDI PLAYERS BELONGING TO VARIOUS UNIVERSITIES OF UTTAR PRADESH	Dr. Yogesh Kumar	37-47

COMPARISON OF PHYSIOLOGICAL PROFILE OF ELITE AND NON ELITE KHO-KHO PLAYERS OF NAGPUR

Dr. Sanjay R. Choudhari
Shri Binzani City College, Nagpur.

Abstract

It is no secret that strong and fit body is an ultimate asset in the field of sports and Kho-Kho is not an exception. The determination of physiological profile of the players often helps the sports coaches to formulate training schedules so that more and more players can perform at higher levels. In view of the above, this investigation was carried out to compare the physiological profiles of the elite and non-elite Kho-Kho players. For this study Kho-Kho players from colleges affiliated to Rashtrasant Tukadoji Maharaj Nagpur University were selected for data collection. The data was collected for heart rate, resting respiration rate, lung capacity and blood pressure. The study results showed that there was significant difference in the resting heart rate, resting respiration rate and lung capacity of elite and non elite Kho-Kho players. However, there was no significant difference in the blood pressure (systolic as well as diastolic) of elite and non elite Kho-Kho players.

Keywords: Physiological profile, Kho-Kho players, training schedules, heart rate, respiration rate, lung capacity, blood pressure.

Introduction

In the twenty first century, sport and physical activity have earned a great importance in society and the people's perception of sportspersons has also changed significantly. With this enhanced awareness, physical, technical and psychological improvements have become priority in sport teams with the intent of making the most of the athlete's potentiality be it an Indian game or a foreign game. In view of this many branches of science like, physiology, biochemistry, medicine, biomechanics, anthropometry and psychology have received wide attention (Weingerg and Gould, 2007). Moreover, success in sports has been associated with conditioning of players and their physical appearance, which can be assessed by using the method of somatotyping (Heath and Carter, 1990). To achieve success in certain sporting event (like Kho-Kho in this study) some specific anthropometric characteristics are required. It has been known that Kho-Kho players are needed to be ectomorphic, however, their physiological conditioning is also equally important (Mathur and Salokum, 1985).

In India, Kho-Kho is one of the greatest admired indigenous sports, which is an extremely complicated and tactical sport in which performance depends upon many factors such as fitness, training, technique, skill, tactic etc. It is well known that there is a growing interest in improving the performance of athletes (Popovic et al., 2012) and for this their physical status needs to be assessed frequently. However, in many places without taking into consideration the assessment of the nutritional status and body composition of athletes, much more time is spent on increasing the physical fitness of athletes (Triki et al., 2012). Therefore, understanding the physiological status of elite players, and their counterpart i.e. non-elite players is very important for improving physiological condition of all the players. In view of the above, a comparative study was carried out to determine the physiological status of elite and non-elite Kho-Kho players of the Nagpur city.

Research Methodology

1. Selection of samples

For this study, 100 Kho-Kho players from colleges affiliated to Rashtrasant Tukadoji Maharaj Nagpur University were selected. For the purpose of this study, 50 elite and 50 non-elite Kho-Kho players were selected for testing. Elite players were selected from the four teams that reached the semi-finals of the Inter-College Kho-Kho competition of the university. And the non-elite players were selected from the players of the four losing teams in the first phase of this competition. The age of players was between 18 and 25 years.

2. Study Design

The study design was selected as random group design for the above study.

3. Criterion Measures

- **Resting Heart Rate:** To measure the heart rate, the pulse rate was determined by touching the radial artery on the player's wrist with his fingers.
- **Resting Respiratory Rate:** The players resting respiration rate was measured by finding the movement of the stomach up and down by placing their hands on the front table.
- **Lung Capacity:** The pulmonary capacity of the players was measured through Peak Flow Meter.
- **Blood Pressure:** The high and low blood pressure of the players was measured through sphygmomanometer.

4. Reliability of the Data

The reliability of data was checked by establishing the subject's reliability, instrument's reliability, the tester competency and reliability of tests. All the standard methods as well as instruments were used for data collection in this study.

5. Statistical Analysis of the data

The data characteristic (descriptive statistics) such as Mean, Standard deviation, etc. was evaluated and 't' test was used for comparative assessment of the physiological profile of elite and non-elite Kho-Kho players. All the data was analyzed using SPSS 18.0 Software and the significance level was chosen to be 0.05.

Results and Discussion

1. Resting Heart Rate of the players

Table 1: Comparison of resting heart rate of elite and non elite players

Level of Kho-Kho players	Mean	SD	MD	't' ratio	p
Elite players	72.3	± 4.2	5.4	4.15	<0.05
Non Elite players	77.7	± 5.1			

SD: Standard deviation; MD: Mean Difference; p: Probability

Above **Table 1** presents results of assessment of resting heart rate of elite and non elite Kho-Kho players of study region. It is observed that mean resting heart rate of elite Kho-Kho players was 72.3 ± 4.2 , while that of non-elite Kho-Kho players was 77.7 ± 5.1 .

2. Resting Respiration Rate of the players

Table 2: Comparison of resting respiration rate of elite and non elite players

Level of Kho-Kho players	Mean	SD	MD	't' ratio	p
Elite players	17.2	± 2.2	2.2	3.55	<0.05

Non Elite players	19.4	± 1.8			
-------------------	------	-------	--	--	--

SD: Standard deviation; MD: Mean Difference; p: Probability

Above Table 2 presents results of assessment of resting respiration rate of elite and non elite Kho-Kho players of study region. It is observed that mean resting respiration rate of elite Kho-Kho players was 17.2 ± 2.2 , while that of non-elite Kho-Kho players was 19.4 ± 1.8 .

3. Lung Capacity of the players

Table 3: Comparison of lung capacity of elite and non elite players

Level of Kho-Kho players	Mean	SD	MD	't' ratio	p
Elite players	568	± 48	55	6.07	<0.05
Non Elite players	513	± 53			

SD: Standard deviation; MD: Mean Difference; p: Probability

Above Table 3 presents results of assessment of lung capacity of elite and non elite Kho-Kho players of study region. It is observed that mean lung capacity of elite Kho-Kho players was 568 ± 48 , while that of non-elite Kho-Kho players was 513 ± 53 .

4. Systolic Blood Pressure of the players

Table 4.4: Comparison of systolic blood pressure of elite and non elite players

Level of Kho-Kho players	Mean	SD	MD	't' ratio	p
Elite players	120	±24	4	1.37	NS
Non Elite players	124	±18			

SD: Standard deviation; MD: Mean Difference; p: Probability; NS: Not Significant

Above Table 4 presents results of assessment of systolic blood pressure of elite and non elite Kho-Kho players of study region. It is observed that mean systolic blood pressure of elite Kho-Kho players was 120 ± 24 , while that of non-elite Kho-Kho players was 124 ± 18 .

5. Diastolic Blood Pressure of the players

Table 4.5: Comparison of Diastolic blood pressure of elite and non elite players

Level of Kho-Kho players	Mean	SD	MD	't' ratio	p
Elite players	74.9	±8	1.5	1.01	NS
Non Elite players	76.4	±12			

SD: Standard deviation; MD: Mean Difference; p: Probability; NS: Not Significant

Above Table 5 presents results of assessment of diastolic blood pressure of elite and non elite Kho-Kho players of study region. It is observed that mean diastolic blood pressure of elite Kho-Kho players was 74.9 ± 8 , while that of non-elite Kho-Kho players was 76.4 ± 12 .

Conclusions

1. Resting Heart Rate of the players

- The comparative assessment showed that there was a significant ($p < 0.05$) difference in the resting heart rate of elite and non elite Kho-Kho players. Specifically, the resting heart rate of elite was lower than that of non elite Kho-Kho players.

2. Resting Respiration Rate of the players

- The comparative assessment showed that there was a significant ($p < 0.05$) difference in the resting respiration rate of elite and non elite Kho-Kho players. Specifically, the resting respiration rate of elite was lower than that of non elite Kho-Kho players.

3. Lung Capacity of the players

- The comparative assessment showed that there was a significant ($p < 0.05$) difference in the lung capacity of elite and non elite Kho-Kho players. Specifically, the lung capacity of elite was higher than that of non elite Kho-Kho players.

4. Systolic Blood Pressure of the players

- The comparative assessment showed that there was no significant difference in the systolic blood pressure of elite and non elite Kho-Kho players.

5. Diastolic Blood Pressure of the players

- The comparative assessment showed that there was no significant difference in the diastolic blood pressure of elite and non elite Kho-Kho players.

Bibliography

- Das, M and Chatterjee, K. (2019). A Study On Effect of Six Weeks High And Moderate Intensity Interval Training On Anaerobic Capacity Of Kho-Kho Players, *Compliance Engineering Journal*, 10(12), pp. 189-198.
- Gill, M., Deol, N and Kaur, R. (2010). Comparative study of physical fitness components of rural and urban female students of Punjabi University, Patiala, *Anthropologist*, 12(1), pp.17-21.
- Heath, B. H and Carter, J.E.L. (1990). *Somatotyping development and application*. Cambridge University press, New York.
- Jesuodoss, J. S. (2019). Analysis of physical fitness variables of kho-kho and kabaddi players, *International Journal of Physiology, Nutrition and Physical Education*, 4(1), pp.1250-1251.
- Mathur, D. N and Salokun, S. O. (1985). Body composition of successful Nigerian female athletes, *J Sports Med*, 25, pp. 21-27.
- Paul, S and Das, S. (2016). Physiological performance structure of male kho-kho players, *International Journal of Physical Education, Sports and Health*, 3(3), pp.98-100.
- Popovic, S., Bjelica, D., Petkovic, J and Muratovic, A. (2012). Comparative Study of Anthropometric Measurement and Body Composition between Elite Soccer and Handball Players. In: *4th International Scientific Conference "Contemporary Kinesiology"*. Split: Faculty of Kinesiology, University of Split, pp.102-108.
- Triki, M., Rebai, H., Abroug, T., Masmoudi, K., Fellmann, N., Zouari, M and Tabka, Z.(2012). Comparative study of body composition and anaerobic performance between football and judo groups, *Science and Sports*, 27(5), pp.293- 299.
- Weinberg R.S. and Gould D. (2007). *Foundations of sport and exercise psychology* (4th ed.) Champaign, IL: Human Kinetics.
- Wilmore, J. H. (1982). Body composition and athletic performance. In W. Haskell; J. Scala and J. Whittam (Eds.), *Nutrition and Athletic Performance*, California, USA, Bull Publishing, pp.158-175.
- Yadav, S. (2018). An Evaluation of Selected Physiological Fitness Variables of Kabaddi and KhoKho Players at University Level, 3(9), pp. 50-53.



Kalyan Bharati

Journal on Indian History & Culture

CERTIFICATE OF PUBLICATION

This is to certify that the article entitled

COMPARISON OF PHYSIOLOGICAL PROFILE OF ELITE AND NON ELITE KHO-KHO PLAYERS OF NAGPUR

Authored By

Dr. Sanjay R. Choudhari

Shri Birzani City College, Nagpur.



UGC

UNIVERSITY GRANTS COMMISSION

Published in Vol. 36, No.(IX) : 2021
Kalyan Bharati with ISSN : 0976-0822
UGC-CARE List Group I
Impact Factor 5.90



UNIVERSITY GRANTS COMMISSION

