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Comparative analysis of selected physiological variables among college men kabaddi and kho-kho players

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Abstract

The purpose of the study was to find out the significant differences on selected physiological variables among college men kabaddi and kho kho players. To achieve this purpose of the study, fifteen kabaddi players and fifteen kho kho players were selected as subjects. The selected subjects were tested on selected criterion variables such as resting pulse rate, breath holding time and Vo₂ max. They were tested by sit-ups, one minute counted test and Cooper test formula Vo₂ max respectively. The collected data were analysed statistically by using t-ratio to find out the significant differences if any.

Keywords: Resting pulse rate, breath holding time, Vo₂ max, kho-kho, kabaddi

1.1 Introduction

Physical exercise is any bodily activity that improves or maintains physical fitness and overall health and wellness. Regular exercise makes the heart stronger and the lungs fitter, enabling the cardiovascular system to deliver more oxygen to the body with every heartbeat and the pulmonary system to increase the maximum amount of oxygen that the lungs can take in. A sports physiologist examines the acute responses and chronic adaptations to athletic performance in a variety of environments. Physiology is the branch of biology dealing with the functions and activities of living organisms and their part, including all physical and chemical processes. Exercise Physiology is the study of how exercise changes the function and structure of the body. Exercise Physiology is what happens to the body as it exercises a single time, how these changes are brought about, what changes in function occur after repeated sessions of exercise and how these changes come to pass, and finally, what can be done to improve the body's response to exercise and its adaptation to training. It is the identification of physiological mechanisms underlying physical activity, the comprehensive delivery of treatment services concerned with the analysis, improvement, and maintenance of health and fitness, rehabilitation of heart disease and other chronic diseases and/or disabilities, and the professional guidance and counsel of athletes and others interested in athletics, sports training and human adaptability to acute and chronic exercise.

1.2 Objectives

The present research study focuses the following objectives regarding physiological variables among college men kabaddi and Kho-Kho players are:

1. To identify the physiological capacities of kabaddi and Kho-Kho players.
2. To find out which players may be better in the selected physiological variables.
3. The study will give an additional knowledge to the area of study.
4. To find out the significant differences on such resting pulse rate between college men kabaddi and kho kho players.
5. To find out the significant differences on selected physiological parameters such as breathe holding time between college men kabaddi and kho-kho players.
6. To find out the significant differences, if any the independent 't' ratio will be used.
7. To find out Aerobic endurance among college men kabaddi and Kho-Kho players.

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1.3 Statement of the problem

The purpose of the study was to comparative analysis of selected physiological variables among college men kabaddi and kho-kho players.

1.4 Delimitations

1. The subject for this study each 15 college men kabaddi and kho kho players were selected as subjects between the age group of 18 to 25 years.
2. The physiological variables selected for the present study the resting pulse rate, breath holding time and Vo2 max.
3. Years of experience in the play court regular activities pertaining to their day today activities were not considered.
4. The tests were conducted randomly in the college premises.

1.5 Hypotheses

1. It was hypothesised that kho kho players may have the better in Vo2 max than the kabaddi players.
2. It was hypothesised that kabaddi players may have the better breath holding time than the kho kho player.
3. There was no significant difference among kabaddi and kho kho players on resting pulse rate.

1.6 Significance of the study

1. The result of the study may help in identifying the physiological capacities of kabaddi and kho kho players.
2. This research may helpful to suggest ways and means for improving better fitness through special type of physical exercises.
3. The results of the study may help the teacher and physical educator to find out which players may be better in the selected physiological variables.
4. The study gives an additional knowledge to the area of research.

1.7 Selection of subjects

The purpose of the study was to compare the selected physiological variables among college men kabaddi and kho-kho players. To achieve the purpose of the study 15 college men kabaddi and kho- kho players were selected as subjects age ranged between 18-25 years.

1.8 Selection of variables

In the present study, the investigator selected the following variables.

1. Resting pulse rate
2. Breath holding time
3. Vo2 max

2. Selection of tests

The present study was undertaken to find out the significant difference, if any, between university volleyball and kabaddi players winners of south zone inter University tournament on selected physiological variables such as resting pulse rate, breath holding time and Vo2 max. The investigator analysed various literatures, and consulted the experts in physical education and selected the following test items which were standardized and almost suitable for the purpose of this study and they are presented in Table 1.

Table 1: Selection of test

Sr. No.	Variables	Tests
1.	Resting pulse rate	One minute counted
2.	Breath holding time	Hold the nostrils
3.	Vo2 max	Cooper test formula Vo2 max

The investigator has learnt the procedure and method of administering the tests and had a number of practice session in order to familiarize the testing procedure.

3. Test administration

1) Resting pulse rate

Purpose: To measure the heart-beat per minute.

Equipments and materials: Stopwatch, score sheet and whistle.

Procedure: The resting pulse rate was calculated by the number of heart beats in one minute when a player was in the resting condition. A calibrated stopwatch and a stethoscope were used for checking the pulse rate for one minute. Ten minutes before taking the pulse rate the subjects were asked to lie down and rest themselves the test was administered when the subjects were at rest.

Scoring: The resting pulse rate was determined by the number of heart beats recorded in one minute.

2) Breath holding time

Equipments: Stopwatch and score sheet.

Procedure: The subjects stands at ease and inhales deeply after which holds breath for a length of time possible. The index finger of the respondent serves as an indicator to the researcher to make them know the start and end of the recording time. The thumb and centre finger were used to hold the nostrils and also the co-operation of the subjects by not letting the air opening the mouth apparently was considered while recording the breath holding time.

Scoring: The time of holding breath till the movements subjects lets the air out was clocked by using the stopwatch to the nearest 1/10th of a second as breath holding time.

3) VO2 max

Purpose: To measure the VO2 max (cardio respiratory endurance).

Equipment: Whistle, stopwatch, 400 meters track.

Description: Subjects assembled behind the starting line at the starting signal, they, run or walk as far as possible with in the 12 minutes time limit. An experienced pacer should accompany performers around the running area during the actual test. At the signal to stop performers should remain where they finished long enough for test administrators to record the distance covered. Ample time should be given for stretching and warm-up as well as cool down.

Scoring: The distance in meters covered in 12 minutes The Vo2 max in ml/min/kg was calculated based on the formula suggested by Cooper (1960). Where, d12 is the distance (in meters) covered in 12 minutes.

4. Statistical procedure

The purpose of the study was to find out the significant difference, if any, between college men kabaddi and kho-kho players on selected criterion variables such as resting pulse rate, breath holding time and Vo2 max. The subjects were tested on selected criterion variables and they were analysed statistically by using t-ratio to find out the significant difference. In all cases.05 level of confidence was fixed to be the significance which was considered as appropriate

5. Analysis of the data

The analysis of the data for physical and physiological variable among college men kabaddi and kho kho players have been analysed and presented separately.

5.1 Resting pulse rate

The data collected on resting pulse rate were analysed and presented in Table 2.

Table 2: The mean, standard deviation, and ‘t’ ratio value of college men kabaddi and kho kho players on resting pulse rate

Group	Mean	Standard deviation	t-ratio
Kabaddi Players	70.13	0.91	1.51
Kho kho Players	70.60	0.82	

*Significant at 0.05 level of confidence. (The table value required for significance at 0.05 level with df 1, 28 was at 2.02).

Table 2 indicated that the mean values of college men kabaddi and kho kho players on resting pulse rate were 70.13 and 70.60 respectively. The obtained t ratio value of 1.51 was less than required table value 2.02 for significance at 0.05 level of confidence with df 1, 28. The results of the study show that there was no significant difference that exist among college men kabaddi and kho kho players on resting pulse rate.

The mean value of college men kabaddi and kho kho players on resting pulse rate were graphically represented in Figure 1.

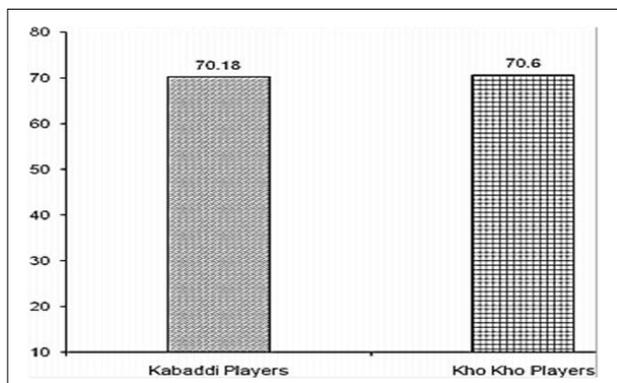


Fig 1: The mean value of college men kabaddi and kho kho players on resting pulse rate

5.2 Breath holding time

The data collected on breath holding time were analysed and presented in Table 3.

Table 3: The mean, standard deviation, and ‘t’ ratio value of college men kabaddi and kho kho players on breath holding time

Group	Mean	Standard deviation	t-ratio
Kabaddi Players	48.66	0.89	19.76*
Kho kho Players	42.73	0.79	

*Significant at 0.05 level of confidence. (The Table value required for significance at 0.05 level with df 1, 28 was at 2.02).

Table 3 indicated that the mean values of college men kabaddi and kho kho players on breath holding time were 48.66 and 42.73 respectively. The obtained t-ratio value of 19.76 was greater than required table value 2.02 for significance at 0.05 level of confidence with df 1,28. The results of the study shows that there was a significant difference that exist among college men kabaddi and kho kho players on breath holding time. The mean value of college men kabaddi and kho kho players on breath holding time were graphically represented in Figure 2.

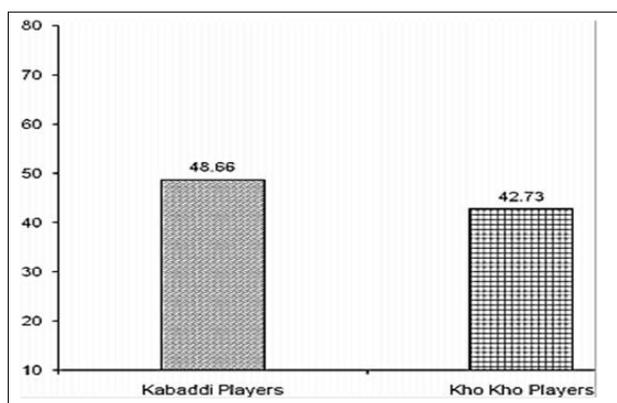


Fig 2: The mean value of college men kabaddi and kho kho players on breath holding time

5.3 VO2 max

The data collected on vo2 max were analysed and presented

in Table 4.

Table 4: The mean, standard deviation, and ‘t’ ratio value of college men kabaddi and kho kho players on vo2 max

Group	Mean	Standard deviation	t-ratio
Kabaddi players	43.68	3.24	5. 4.73*
Kho kho players	49.51	3.55	

*Significant at 0.05 level of confidence. (The table value required for significance at 0.05 level with df1, 28 was at 2.02).

Table 4 indicated that the mean values of college men kabaddi and kho kho players on vo2 max were 43.68 and 49.51 respectively. The obtained t-ratio value of 4.73 was greater than required table value 2.02 for significance at 0.05 level of confidence with df1, 28. The results of the study shows that there was a significant difference that exist among college men kabaddi and kho kho players on vo2 max. The mean value of college men kabaddi and kho kho players on vo2 max were graphically represented in Figure 3.

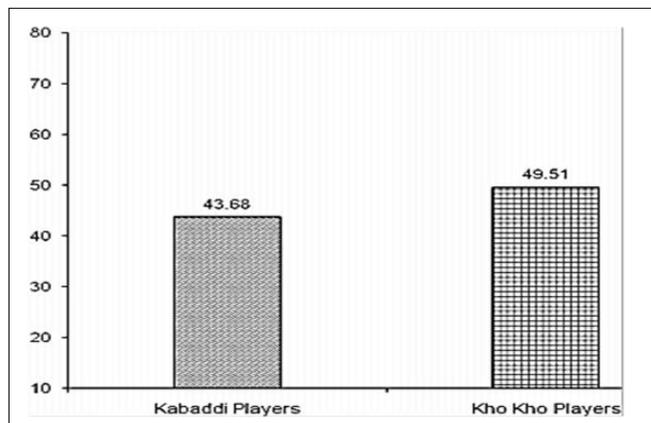


Fig 3: The mean value of college men kabaddi and kho kho players on vo2 max

6. Discussion of findings

The result of the study shows that there was a significant difference that exist among college men kabaddi and kho kho players on selected physiological variables such as breath holding time and vo2 max. There was no significant difference existing among college men kabaddi and kho kho players on resting pulse rate. It may be due to the nature and area of the game selected for this study.

7. Discussion of hypothesis

There was a significant difference that exists among college men kabaddi and kho kho player on breath holding time. Kabaddi players have better performance than the kho kho players on breath holding time. Thus the hypothesis was accepted.

There was a significant difference that exists among college men kabaddi and kho kho player on vo2 max. Kabaddi players have better performance than the kho kho players on vo2 max. Thus the hypothesis was accepted.

There was no significant difference existing among college men kabaddi and kho kho players on resting pulse rate. Thus the hypothesis was rejected.

8. References

1. Arvind Rami C, Neeraj Silawat. "A Study of the Psychological Factors Anthropometric Measurement and Physical Fitness of Selected University Players in Gujarat", Shodh, Samikshaaur Mulyankan, International Research Journal 2009;2(6):853–854.
2. Baumgarthar J, Andrews Jackson. Measurement for Evaluation in Physical Education and Exercise Science, Duhugue: WmC Brown Publishers 1991.
3. Bob Davic *et al.* Physical Education and the study of sports, Havcourt publishers 2001, 121.
4. Bose, "Prediction of Kabaddi Playing Ability from Selected Anthropometric, Physical and Physiological Variables", Unpublished Ph.D., Thesis, Kerala University, Trivendram 1997.

5. Chandra Sekaran. "A Comparative Study of Physical Fitness of Girl Kabaddi Players and Basketball Players", Unpublished Master's Thesis, Bharathiyar University 1986.
6. Dale Nelson O. "Effect of Swimming and Basketball on Various Test of Explosive Power "Research Quarterly 1962;33:381.
7. Dev PK, Dasgupta Panda BK, Bhattacharya AK. "Physical Efficiency Tests on Indian Male "Kabaddi" Indian University Players", British Journal of Sports Medicine 1982;16(1):33–36.
8. Dey Khanna GL, Batra M. "Morphological and Physiological Studies on Indian National Kabaddi Players", British Journal of Sports Medicine 1993;27(4):237–242.
9. Dhondge SR. "Correlation of Kho-kho Playing Ability with Health Fitness and Motor Fitness of Boys", Golden Research Thoughts 2011;1(1):1–4.
10. Dom Kirkandall R *et al.* Measurement and Evaluation for Physical Educators, Illinois: Human Kinetics Inc 1987, P150.