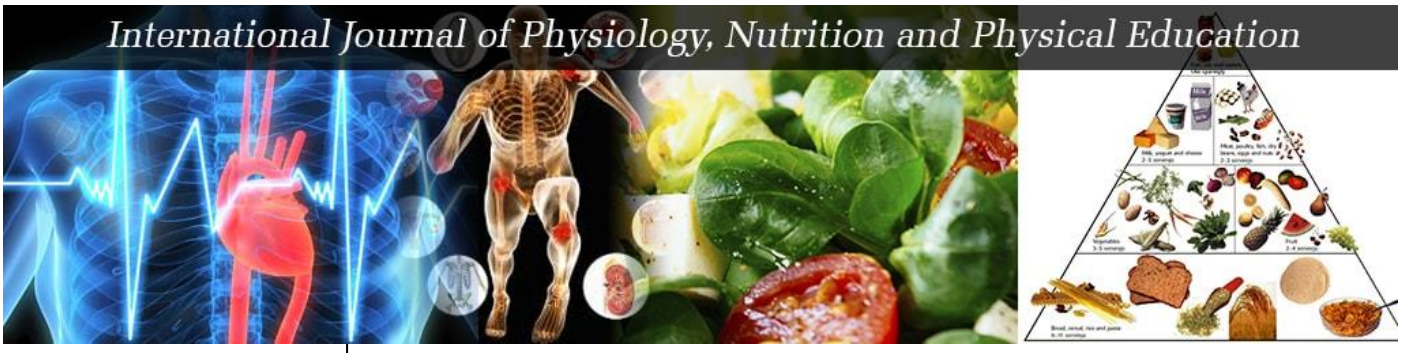

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A comparative study of selected physiological fitness variable between kabaddi and kho-kho inter university female players of Bijnor

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Abstract
The present study was undertaken to determine the comparison physiological variables between kabaddi and kho-kho inter university female players of Bijnor. For the study age group of the subjects was between 18 to 25 years. Physiological variables selected for the study were SpO2, respiratory rate, heart rate, blood pressure and haemoglobin. For the analysis of the data mean and SD were calculated and to examine the significant difference between the group mean of different physiological variables, independent samples 't' test was applied and level of confidence was set at 0.05 level. The result indicated that there was significant difference between kabaddi and kho-kho players in SpO2. Whereas no significant difference was found in heart rate, respiratory rate, blood pressure and haemoglobin. Result found that kabaddi players have shown they are superiority in SpO2 compare to kho-kho players.

Keywords: kabaddi, kho-kho, SpO2, respiratory rate, heart rate, blood pressure and haemoglobin

Introduction
Sports is a great way for anyone to stay fit. Every sports requires a special set of workout to grow endurance and ability of players. Kho-kho player needs to focus building strength of their abdomen, legs, hands and thighs, running speed, reaction time and endurance. Playing kabaddi sharpens the reflexes and helps in overall development of the body. Kabaddi is a contact sport and to excel at it, player rely heavily on training to build on speed, strength and stamina. A well rounded fitness regime includes strength training, cardio and stretching exercises. Increasing the duration of cardio exercises day by day help in increasing the stamina.
Physiological fitness is concerned with how efficiently the various systems of the body needed for exercise (like cardio-respiratory fitness, muscular strength, cardio-vascular health etc.) work together to support the various activities performed by the athletes. Physiological variables investigates the effect of the body. An athlete's performance is measured by a sports physiologist with the help of special tests and specifically designed technology.

Purpose of the study
The main purpose of the study was to compare the selected physiological fitness variables of Kabaddi and Kho-Kho inter university female players of Bijnor.

Methodology
Selection of subjects
To achieve the purpose of the study 60 subjects (n-60) out of thirty players from Kabaddi and thirty players from Kho-Kho discipline who were representing Rohilkhand University, Barielly in Inter University and belonging to Bijnor were selected. The purposive simple random technique was used for selection of subjects. The age of the subject chosen for this study were ranging from 18 to 25 years.

Test Administration
The selected physiological parameters and their tests to be administered were following:

- SpO2 – Subjects were asked to sit on a chair in relax position. Than oximeter was placed in the index finger and was observed for one minute and the reading was recorded in percentage.
- Heart Rate – Resting heart rate was recorded while the subject was in supine position in the morning. The subject after reporting was instructed to be in supine position for 45 mintues. Than finger tips were put on the carotid artery in the neck and the heart beats were counted for 60 seconds.
- Blood Pressure – A dial type of sphygmomanometer and a stethoscope were used for measuring the systolic and diastolic blood pressure. Before the measurements were taken each subject was given ten minutes to relax in an easy chair it was ensured that each subject was placed in a comfortable position while taking blood pressure the subjects left arm was completely bared to make sure that the clothing did not constrict the blood vessels. The blood pressure measurement was taken with the subject in a sitting position her forearm was supported on the handle of the chair. The cuff was wrapped around the arm evenly, with the lower edge approximately one inch above the anticubital space. The stethoscope receiver was placed gently over the artery in anticubital space. It was made sure that stethoscope was free from contact with the cuff. The cuff was in flatted until the artery was fully pressed to the extend that no pulse beat could be heard pressure was then slowly released as the investigator watched the dial when the first sound of the pulse became audible the reading in millimetre of mercury (mm Hg) instant was recorded as the systolic blood pressure. The pressure was further released gradually, as the sound of the pulse changed in intensity and quality. The index of diastolic blood pressure was noted in mmHg. When the heart sound completely ceased.
- Haemoglobin – The subjects blood sample was collected in the lab and the HB report was obtained by the lab technician and measured in gm/dl.
- Resting Heart Rate was recorded while the subject was in supine position in the morning. The subject after reporting was instructed to be in supine position for 30 mintues. Number of breaths per minute were counted by observing movement of stomach of the subject.

Analysis of the data

The obtained data were statistically analyzed by using 't' test to compare the selected physiological variables of Kabaddi and Kho-Kho female players.

Results of the study

The data was analyzed by 't' test. The significance of mean difference found between score obtains on physiological variables of Kabaddi and Kho-Kho Inter University female players of Bijnor.

Table 1: Comparison of mean of selected physiological variable (%SpO2) of Kabaddi and Kho-Kho inter university female players.

Variable	Players	Numbers	Mean	S.D.	t – Test
% SpO 2	Kabaddi	30	96.33	1.03	3.32
	Kho-kho	30	95.60	0.67	

*significant at 0.05 level (58 = 2.000)

Above table shows that the comparison of mean of selected physiological variable (SpO 2) of Kabaddi and Kho-Kho players mean value of Kabaddi players is 96.33 and Kho-Kho players is 95.60. The data reveals that there was significant difference between kabaddi and kho kho players in relation to SpO 2. Since the obtained value of 't' 3.32 was upper than tabulated value 2.000.

Table 2: Comparison of means of selected physiological variable (respiratory rate breath per minute) of Kabaddi and Kho-Kho inter university female players.

Variable	Players	Numbers	Mean	S.D.	t – Test
Respiratory rate	Kabaddi	30	14.83	1.53	0.48
	Kho-kho	30	14.63	1.67	

*significant at 0.05 level (58 = 2.000)

Above table shows that the comparison of mean of selected physiological variable (respiratory rate) of Kabaddi and Kho-Kho players mean value of Kabaddi players is 14.83 and Kho-Kho players is 14.63. The data reveals that there was no significant difference between kabaddi and kho kho players in relation to respiratory rate. Since the obtained value of 't' 0.48 was lower than tabulated value 2.000.

Table 3: Comparison of means of selected physiological variable (heart rate beats per minute) of Kabaddi and Kho-Kho inter university female players.

Component	Players	Numbers	Mean	S.D.	t – Test
Heart rate	Kabaddi	30	85.33	10.22	1.26
	Kho-kho	30	81.37	13.77	

*significant at 0.05 level (58 = 2.000)

Above table shows that the comparison of means of selected physiological fitness variable (heart rate beats per minute) of Kabaddi and Kho-Kho players mean value of Kabaddi players is 83.33 and Kho-Kho players is 81.37. The data reveals that there was no significant difference between kabaddi and kho kho players in relation to heart rate. Since the obtained value of 't' 1.26 was lower than tabulated value 2.000.

Table 4: Comparison of means of selected physiological variable (Blood Pressure mm Hg) of Kabaddi and Kho-Kho inter university female players.

Variable	Players	Numbers	Mean	S.D.	t – Test
Systolic pressure	Kabaddi	30	110	8.71	0.82
	Kho-kho	30	108.33	6.99	
Diastolic pressure	Kabaddi	30	77.50	7.66	1.80
	Kho- kho	30	73.93	7.66	

*significant at 0.05 level (58 = 2.000)

Above table shows that the comparison of mean of selected physiological variable systolic blood pressure of Kabaddi and Kho-Kho players mean value of Kabaddi players is 110 mm hg and Kho-Kho players is 108.33mm hg. Diastolic blood pressure mean value of kabaddi players is 77.50 mm hg and kho-kho players is 73.93 mm hg. The data reveals that there was no significant difference between kabaddi and kho kho players in relation to systolic and diastolic blood pressure. Since the obtained value of 't' 0.82(systolic blood pressure) and 1.80 (diastolic blood pressure) was lower than tabulated value 2.000.

Table 5: Comparison of mean of selected physiological variable haemoglobin (Hb) in gm/dl of Kabaddi and Kho-Kho Inter University female players.

Component	Players	Numbers	Mean	S.D.	t – Test
Haemoglobin (Hb) in gm/dl	Kabaddi	30	10.58	1.08	0.86
	Kho-kho	30	10.83	1.18	

*significant at 0.05 level (58 = 2.000)

Above table shows that the comparison of means of selected physiological variable haemoglobin (Hb) of Kabaddi and Kho-Kho players mean value of Kabaddi players is 10.58 and Kho-Kho players is 10.83. The data reveals that there was no significant difference between kabaddi and kho kho players in relation to haemoglobin. Since the obtained value of 't' 0.83 was lower than tabulated value 2.000.

Conclusion

Within the limitations of the study the following conclusions may be drawn:

1. There was significant difference found between kabaddi and kho-kho female players in relation to SpO 2.
2. The results revealed that no significant difference was obtained in respiratory rate between kabaddi and kho-kho female players.
3. The above findings revealed no significant relationship of systolic and diastolic blood pressure between kabaddi and kho-kho players.
4. The significant difference was not found in haemoglobin between kabaddi and kho-kho female players.
5. The above results also depict no significant difference in heart rate between kabaddi and kho-kho female players.

References

1. Bemergee AR. Applied exercise physiological, Philadelphia: La and Fibiger Publication, 1982, 210.
2. Johnson BL, Nelson JK. Practical Measurements for Evaluation in Physical Education 3rd ed. (Delhi: Surjeet publication, 1982.
3. Clark HH, Clark DH. Research process in physical education. Englewood cliffs, New jersey: Prentice Hall, Inc, 1975.
4. Verma JP. A textbook on sports statistics. Gwalior: Venus Publication, 2000.
5. Ravanes RS. 'Foundation of Physical Education', Houghton Millin Co. Boston USA. 1978.
6. Barrow Harold M. 'Man and movement principles of Physical Education, 1978.
7. ACSM's Guidelines for Exercise Testing and Prescription American College of Sports Medicine, New York, U.S.A, 2001,
8. Horine, Larry. Administration of Physical Education and Sport programs. WM-C Brown Publishers Dubuque (US), 1991.
9. Washington DC. Author's guide: Research Methods applied to Health Physical and Recreation, 1991.