

International Journal of Physiology, Health and Physical Education



ISSN Print: 2664-7265
ISSN Online: 2664-7273
Impact Factor: RJIF 8
IJPHE 2024; 6(1): 84-86
www.physiologyjournals.com
Received: 02-01-2024
Accepted: 05-02-2024

Dr. P Anbalagan
Professor, Department of
Physical Education,
Bharathiar University,
Coimbatore, Tamil Nadu,
India

N Mekala
Research Scholar, Bharathiar
University, Coimbatore,
Tamil Nadu, India

Developing standards for specific physiological measures among female kho-kho players

Dr. P Anbalagan and N Mekala

DOI: <https://doi.org/10.33545/26647265.2024.v6.i1b.59>

Abstract

The purpose of the study was to construct norms for girls Kho-Kho players on selected physiological variables. The subjects were under 14 year kho-kho girls selected from the schools of Erode District Tamil Nadu, India, were randomly selected as participants. The variables selected for the study were resting pulse rate and vo2 max which are the most important factors needed for the Kho-Kho players. The test items selected were radial artery and Queen's College Step Test accordingly. Percentile scale was used to construct the norms on selected Physical fitness variables.

Keywords: Physiological measures, female kho-kho players, physical fitness

Introduction

Kho-Kho, a traditional Indian sport, holds a significant place in school sports culture, fostering teamwork, agility, and strategic thinking among students. Played between two teams, each comprising twelve players, Kho-Kho requires participants to demonstrate lightning-fast reflexes and clever tactics. The game's essence lies in its simplicity: one team attempts to tag opponents while the other strives to evade capture by leaping and dodging within a designated area. With its emphasis on physical fitness and mental acumen, Kho-Kho not only promotes healthy competition but also instills discipline and camaraderie among schoolchildren, making it a cherished aspect of school sports programs nationwide.

In the realm of sports science, understanding physiological variables is crucial for optimizing performance and minimizing injury risk, and Kho-Kho is no exception. This traditional Indian game demands a blend of physical endurance, speed, agility, and mental acuity from its players. Physiological variables such as cardiovascular fitness, muscular strength, and flexibility play pivotal roles in determining an athlete's proficiency in Kho-Kho. The rapid movements, sudden changes in direction, and bursts of acceleration characteristic of the game place significant demands on the cardiovascular system, requiring players to maintain high levels of aerobic endurance. Moreover, muscular strength, particularly in the lower body and core muscles, is essential for executing swift maneuvers and maintaining balance during quick turns and dodges. Additionally, flexibility is paramount for preventing injuries and enabling fluid movements on the field. By comprehensively understanding and addressing these physiological variables, athletes can enhance their performance and resilience in the dynamic and fast-paced environment of Kho-Kho.

Statement of the Problem

The aim of this study was to establish the standards for specific physiological factors among girls under the age of 14 participating in Kho-Kho.

Delimitations

- The study was delimited to purposively 500 kho-kho girls (under 14 years)
- The study was delimited to selected physiological variables were resting pulse rate and vo2 max

Corresponding Author:
Dr. P Anbalagan
Professor, Department of
Physical Education,
Bharathiar University,
Coimbatore, Tamil Nadu,
India

Significance of the Study

1. This study may help to select the talented Kho-Kho players for the school teams.
2. This study may help the coaches to judge the teams.
3. This study may motivate further research study on norm construction related variables.

Review of Literature

Mahendrasinh K Mandora (2016) [4] conducted a study on Construction of Physical Fitness Norms for College Students of Gujarat State. The purpose of the study was to construct physical fitness norms for college students of Gujarat state. For this study different colleges of Gujarat state were selected and only male college students are selected, 250 from each group i.e. 18-19, 20-21, 22-23, and 24-25 years are selected. For the purpose of study the variable selected was Explosive leg strength. Discriptive Statistics will be used. To construct physical fitness norms for college students of Gujarat State, Percentile scale and Hull Scale will be used. To compare physical fitness variables among the students of four different age groups of college students of Gujarat State, Analysis of Variance (ANOVA) will be used at 0.05 level of significance. It can be seen that in the age group of 18 to 19 years the highest performance of the students is 55, which comes in the frequency 268 to 278. In the age group of 20-21 years the highest performance of the students is 66, which comes in the frequency 97 to 109, and lowest performance is 0, which comes in the frequency 266 to 278. In the age group of 24 to 25 years the highest performance of the students is 69, which comes in the frequency 97 to 109, and lowest performance is 0, which comes in the frequency 266 to 278. So, the researcher concluded that the performance of the student is best in the frequency 97 to 109, which is 265, and the lowest performance is 2 which come in the frequency 266 to 278.

Methodology

To achieve the purpose, kho-kho girls from erode district

were selected as subject for this study. The age group of the subject was between 11 to 14 years. The scholar in this study selected certain physiological variables for the selection of the students for the school team. The selected variables were resting pulse rate and vo2 max. Administration of test and method of collection of data are explained here

Statistical Analysis

The data collected by administering tests was statistically treated to form norms for under 14 year kho-kho girls. In order to construct the norms on the selected variables, Hull Scale was used. To analysis the data, mean and standard deviation were used.

Analysis of data and results of the study

The calculated mean and standard deviation of resting pulse rate were 5.9876 and 0.09537 respectively. The percentile scale was constructed for radial artery for 14 year girls has presented in Table – 1

Table 1: The percentile scale was constructed for radial artery for 14 year girls has presented

Percentile	10	20	25	30	40	50	60	70	75	80	90
	5.89	5.83	5.80	5.78	5.74	5.71	5.69	5.68	6.68	6.67	6.65

On the basis of the above constructed table the subjects were given qualitative grading as shown in Table –2

Table 2: On the basis of the above constructed table the subjects were given qualitative grading

Score	Qualitative Grading	Number of Subject in Each Case
25 and below	Failing	110
26 to 35	Below Average	50
36 to 50	Average	86
51 to 65	Above Average	75
66 to 75	Good	55
76 and above	Outstanding	124

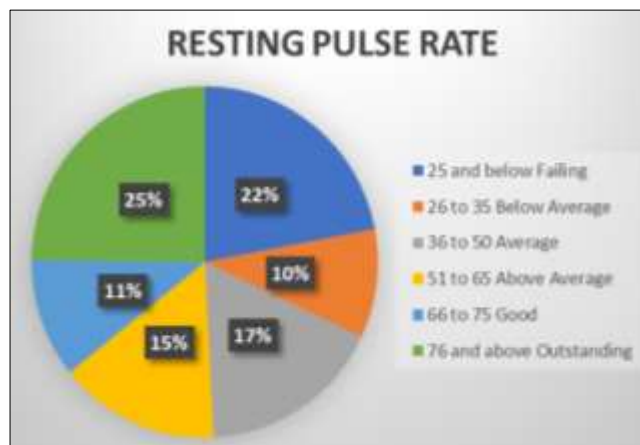


Fig. 1: The performance of radial artery (resting pulse rate) for under 14 Kho-Kho girls

The calculated mean and standard deviation of Vo2 max were 18.8589 and 0.11423 respectively. The percentile scale

was constructed for Vo2 max for under 14 year kho-kho girls has presented in Table – 3

Table 3: The percentile scale was constructed for Vo2 max for under 14 year kho-kho girls has presented

Percentile	10	20	25	30	40	50	60	70	75	80	90
	18.90	18.87	18.85	18.83	18.79	18.74	18.73	18.69	18.68	18.65	18.62

On the basis of the above constructed table the subjects were given qualitative grading as shown in Table – 4

Table 4: On the basis of the above constructed table the subjects were given qualitative grading

Score	Qualitative Grading	Number of Subject in Each Case
25 and below	Failing	130
26 to 35	Below Average	60
36 to 50	Average	55
51 to 65	Above Average	70
66 to 75	Good	60
76 and above	Outstanding	125

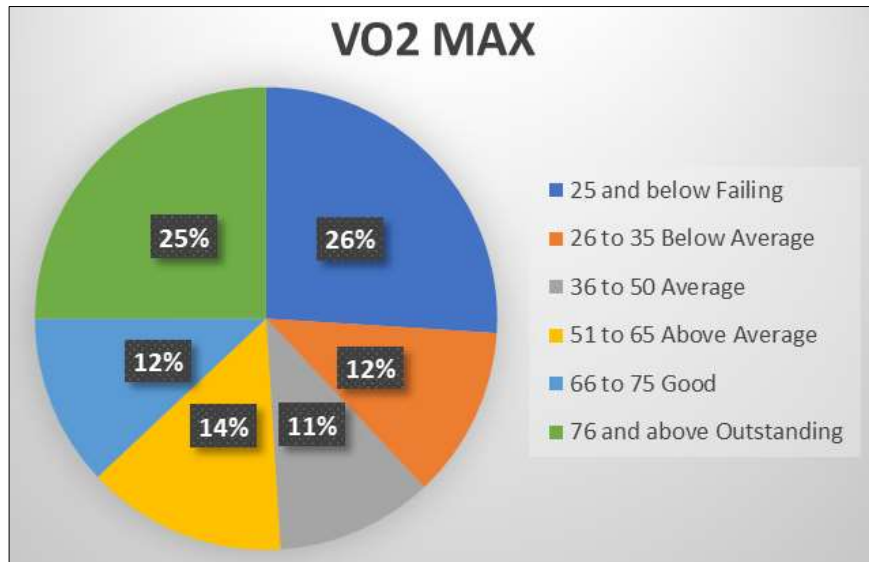


Fig 2: The performance of vo2 max for under 14 kho-kho boys

Conclusions

On the basis of the percentile norms in the performance of radial artery and Vo2 max for under 14 year kho-kho girls.

- As per qualitative grading it was found that out of 500 subjects in resting pulse rate 110 subjects (22%) were in the failed category, 50 subjects (10%) were in the below average category, 86 subjects (17%) were in the average category, 75 subjects (15%) were in the above average, 55 subjects (11%) were in the good category and 124 subjects (25%) were in the outstanding category.
- In 6x10m Shuttle run test, 130 subjects (26%) were in the failed category, 60 subjects (12%) were in the below average category, 70 subjects (11%) were in the average category, 70 subjects (14%) were in the above average, 60 subjects (12%) were in the good category and 125 subjects (25%) were in the outstanding category.

Recommendations

- A similar study may be conducted to construct norms for the different age level boys and girls at school college level.
- A similar study may be conducted to construct norms for Physiological, Psychological and remaining related physical fitness of Kho-Kho players.
- A similar study may be conducted to construct norms for the performance variables of different major games.

References

- Verma K. Text book of KHO-KHO. Indore, India: International E-Publication; c2015.

- Beniwal S. Introduction to Physical Education & Sports. Jaipur: Sports/Lakshay Publication; c2013.
- Bosco JS, Gustatson WF. Measurement and Evaluation in Physical Education, Fitness and Sports. Englewood Cliffs, N.J.: Prentice Inc.; c1983.
- Mahendrasinh K Mandora. Associate Professor Department of Physical Education. Construction of Physical Fitness Norms for College Students of Gujarat State, International Journal of Multidisciplinary Allied Research Review and Practices, IJMARRP. 2016;3(4):532.