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## Comparison of physical fitness among kabaddi and kho-kho players

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### Abstract

The purpose of the study was to find out the fitness of kabaddi and kho-kho players of Jammu And Kashmir State. The subjects were selected from the district Kulgam of different colleges. The simple strength was taken (50) subjects, in which (25) were as kabaddi and (25) were as kho-kho players respectively. Simple random sampling technique was used for the selection of subjects. To measure the level of physical fitness of kabaddi and kho-kho players of Kulgam district AAHPER youth fitness test was used. The findings of the present study directs that the variable strength is significant ( $p < 0.05$ ) among kabaddi and kho-kho players and also shows that the two variables co-ordination and cardiovascular endurance are insignificant ( $p > 0.05$ ) among kabaddi and kho-kho players. The data was statistically analyzed by applying 't' test. Further on conclusion that the variables co-ordination and cardiovascular endurance are insignificant among kabaddi and kho-kho players of Kashmir region of district Kulgam.

**Keywords:** Co-ordination and cardiovascular endurance, kabaddi and kho-kho

### Introduction

Physical fitness is a set of attributes that people have or achieve. Being physically fit has been defined as "the ability without undue fatigue and with ample energy to enjoy leisure time pursuits and to meet unforeseen emergencies" (Caspersen *et al.*, 1985)<sup>[3]</sup>, but it is modifiable through exercise training within individuals intra-variability. The most frequently cited components fall into two groups: one related to health and the other related to skills. The health related components are cardio-respiratory fitness (CRF), which reflects the capacity of the respiratory and cardiovascular system to bear prolonged exercise (Taylor, Buskirk, & Henschel, 1955)<sup>[6]</sup>; muscular strength, an essential component for daily life (Malina, Bouchard, & Bar-Or, 2004)<sup>[5]</sup>; flexibility as the component that relates to the range of motion available at the joint and the ability of appropriate amplitude of movement; and for lost body composition. Each of these components varies with age and gender. In all of them boys show better performances than girls, which might be related to the rapid increase in muscle mass (Malina *et al.*, 2004)<sup>[5]</sup>.

Health-related components of PF were evaluated using the Fitness gram battery test 23. The Fitness gram uses criterion-referenced standards to evaluate fitness performance. The standards were established by the Cooper Institute for Aerobics Research to represent a level of fitness that offers some degree of protection against diseases that result from sedentary living. Findings from current research based on the United States national norms have been used as the basis for establishing the Fitness gram standards. Performance was classified into two general areas: "in the healthy fitness zone" and "needs improvement" on a particular test item by different age and gender. The Fitness gram is included on physical education curriculum, and the 5 tests recommended in the Portuguese National Program (curl-up; pushup; trunk-lift; the modified back saver sit and reach and the 20 m shuttle run) were used in this study. Test results were split in two fitness categories such as under healthy fitness zone (under HFZ), equivalent to "needs improvement", and healthy fitness zone or above (HFZ). For sit and reach students were required to reach the distance to pass. Thus, test was split into two categories: pass/fail. The Fitness gram was chosen because of its simplicity of administration to large samples, its reliability and validity.

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All tests were conducted according to the Fitness gram measurement procedures. 23 The physical education teachers involved in this project undertook training sessions, worked together with qualified staff in order to assure the standardization, and reliability of the measurements. Students were familiarized with the procedure for each test before recording data. Further, the participants received verbal encouragements from the investigators in order to achieve maximum performance.

**Methods**  
**Subjects**

The study was a conducted on the Fifty (50) subjects. The subjects were chosen from the different collages of Kulgam district. In which 25 subjects were selected as Kabaddi and 25 were taken as Kho-Kho Players. The subjects were selected from district Kulgam from different collages. The subject were making aware about the test procedure and the need of the study according to the research. The researcher gives the full description about the test and also show some demo of the tests. Also, the head of the institution was informed about the

study with the accompany of the physical education teacher. The head of the institution and the physical education teacher gives full support.

**Variables and tests**

The subjects were selected for the purpose of the study were given the full freedom and to cooperate while taking the tests. The variables on which the researcher has gone through to check the physical fitness of the subjects are coordination and strength endurance. In this study AAHPER youth fitness test was used to measure the level of fitness of Kabaddi and Kho-Kho players.

**Statistical technique**

The investigation was statistically analyzed by the Statistical 't' test. To find out whether there will be any significant difference between the mean. Statistical 't' test was used to find out the significant difference between Kabaddi and Kho-Kho players.

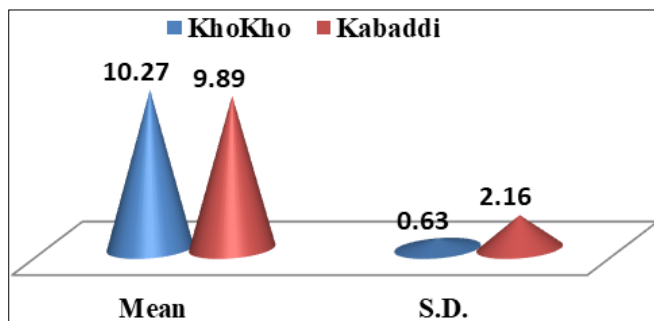
**Results**

**Table 1:** This study shows insignificant difference on co-ordination ability among players ( $t' = 0.82, p > 0.05$ ). Since mean is not significant, 't' test was applied and revealed that kho-kho and Kabaddi players have approximately the same co-ordination ability.

Game	N	Mean	S.D.	't' value
Kho-Kho	25	10.27	0.63	0.82
Kabaddi	25	9.89	2.16	

\*Significant at 0.05 level

The mean and S.D. is graphically represented in the figure 1, in which the data shows clear indication about that the mean value of kho-kho players is high. It means that the kho-kho players are better than the kabaddi players on the variable co-ordination ability.



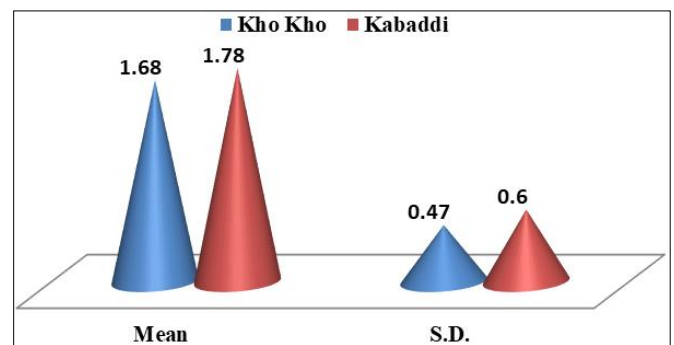
**Fig 1:** Mean and S.D. of kabaddi and kho-kho players on the co-ordination ability.

**Table 2:** This study shows insignificant difference on cardiovascular endurance among players ( $t' = 0.62, p > 0.05$ ). Since mean is not significant, 't' test was applied and revealed that kho-kho and Kabaddi players have approximately the same cardiovascular endurance.

Game	N	Mean	S.D.	't' value
Kho-Kho	25	1.68	0.47	0.62
Kabaddi	25	1.78	0.60	

\*Significant at 0.05 level

The Mean and S.D. is graphically represented in the figure 2, in which the mean value of kabaddi players are shown high as compared to the kho-kho players, that means the kabaddi players are better than the kho-kho players on the variable cardiovascular endurance.



**Fig 2:** Mean and S.D. of Kabaddi and kho-kho players on cardiovascular endurance.

**Discussion**

Strength endurance and co-ordination ability are two important components of the physical fitness. Here, the researcher is going to check the physical fitness of the Kho-kho and kabaddi players by using the two variables accordingly. As discussed by the researcher that the significant difference between control and experimental group. The research was conducted on t see whether a short time coordination exercise program held during recess would improve agility of elementary school students. The participation of experimental group on coordination exercise program for a total of 12, 20-minutes recess in the time duration of five week. On the other hand control group did as usual recess activities. Also, it is likely an improvement occurred in the ability to identify one's position and where to move, a so called orientation ability and conversion ability, as indicated by Hartmann and Senf (2008) [4]. Some similar studies are being supported, the coordination ability was measured before and after the program, and it was discovered that a coordination exercise program improved reaction skills.

Other research projects on coordination in children (Azumane & Miyashita, 2004; Azumane *et al.*, 2006; Rothlisberger, 2009)<sup>[1, 2, 7]</sup> involved three weeks of 10-20 minute activities during regular physical education classes, and they reported positive changes in coordination and/or agility after the program.

### Conclusion

It was concluded that the cardiovascular endurance among the kabaddi players was high as compared to the kho-kho players, similarly the coordination was found high in kho-kho players as compared to kabaddi players.

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