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A study of motor fitness of college girls players of korfball and handball

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■ **ABSTRACT**

As the motor fitness is essential for the well being, as a positive quantity, extended on a scale from birth, to death, the abundant life - the research scholar had keen interest to undertake a research work on the problem. A study of motor fitness of college girls players of korfball and handball basis of the above mentioned predicted the present standard of motor fitness of korfball and handball girls players of Amravati. A total number of 80 students were selected from 4 colleges between the age group of 16-19 years. Twenty students from each college where 40 are korfball players and 40 are handball players. D.G.W.S. Test was administered to each subject for the purpose of measuring motor fitness of the korfball and handball girl players. The raw score of the D.G.W.S. Test was obtained on the subjects were connected into standard scores for all five items individually and further added to get a composite score in motor fitness for each subject. To compare the motor fitness 7 means of scores of korfball and handball girls players in D.G.W.S. Test, 't' test was applied and to test the hypothesis .05 significance was chosen. The analysis of the data revealed that in motor fitness of korfball and handball girl players significantly differed as the obtained 't' value of 5.85 was greater than the 't' value 1.99 required to be significant at .05 level. Korfball girl players had better motor fitness that the handball girl players as the finings indicated that there was a significant different between the tow groups which was analysed separately.

■ **KEY WORDS :** Motor fitness, Korfball, Handball

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Every nation is becoming increasingly concerned about physical fitness of its citizen realising that fitness is fundamental to happy and purposeful living besides its contribution to economic growth.

Motor fitness is regarded as the preparedness for performance with special regard for big muscle activity, is a more general phase of physical fitness.

Fundamental in all types of games and sports is a higher level of physical and motor fitness. Under any hypothesis, a sound body and fit body is pre requisite to became a top level performer in any of the games or sports. It is considered a matter of common sense that even when all other contribution factors are controlled, an improvement in the level of motor fitness shall definitely lead to the performance level of sportsmen.

The importance of motor fitness for the proper growth and development of an individual is never questioned. The organic system of a totally fit person function well. Motor fitness permits a greater freedom of body movement and is helpful for a longer time it helps in preventing injures, increasing co-ordination of movement and shortening the pace for acquiring and perfecting movement. It contributes to the formation of concepts and ideal and development of confidence.

Field games and sports basic needs and base of excellency in performances. As high degree of motor fitness is necessary for the success along with specific skills, sharp thinking, anticipation, climate condition and physic preparation. There are games which are vigorous and alongwith that very fast and speedy namely Ice hockey, korfball, basketball and handball. Among these korfball and handball are approximately same in respect to many characteristics such as fundamental skill of players with respect measurement of ground. Both are indoor as well as outdoor. Duration of play is approximately same and the qualities in the players in both these items are quite common.

Therefore, the researcher decided to make a comparative study of the motor fitness of korfball and handball players, as the sources to say that both these require high degree of motor fitness and the games requires approximately the same characteristics. Still the motor fitness factors must be varying according to its own needs.

■ METHODOLOGY

For this study 80 college girls who play korfball and handball were selected. The average age of the subjects as obtained from the college record was ranging from 16-19 years. The subjects were selected from four colleges of Amravati 20 students from each colleges wereby 10 are korfball players and 10 are handball players.

Selection of test :

In the selection of test portion the researcher selected the "Division for girls and women sports test (DGWS)" to collect the data. The D.G.W.S. tests have five test items which are as follows :

– Standing broad jump
– Korfball throw
– Potato race
– Sit ups
– 30 seconds squat thrust

Scoring tables which were prepared by the researcher.

Collection of data :

The researcher collected the raw scores by administering the "Division for girls and women's sport test" by keeping the following points in mind :

– The test was explained, demonstrated and practised once prior to testing.
– Two sets in the morning and two sets in the evening, like wise four days testing programme was planned.
– Three assistants were taken for help.

Thus, the raw score of D.G.W.S. tests were collected by the researcher in four days in eight items of the scoring tables which were prepared by the researcher. Then the scores were converted into 't' scores from the scoring table of D.G.W.S. and were tabulate for statistical analysis and interpretation.

■ OBSERVATIONS AND DISCUSSION

The statistical analysis of the data consisting of raw score mode by the subjects of D.G.W.S. test items were converted into standard scores with the help of 't' score and composite score was formed, which were subjected to 't' test to find out the overall significance difference between the two groups *i.e.* korfball and handball players (Table 1).

The following formula was applied to find out the significance difference between mean scores of korfball and handball girl players.

$$t = \frac{M_1 - M_2}{\sqrt{\frac{SD_1^2}{N_1} + \frac{SD_2^2}{N_2}}}$$

The degree of freedom = $(n_1 - 1) + (n_2 - 1)$
= (40-1) + (40 -1)=78

Level of significance = 0.05 and 0.01

The table value of 't' at 0.05 level of confidence at 78 degree of freedom is 1.99.

The obtained 't' is 5.85 which is greater that the table value of t (1.99). Therefore Null hypothesis is rejected. Hence, there is a significance difference between the means of korfball and handball girl players. The korfball girl players are better that handball players regarding the motor fitness. The mean performance of the total fitness have been shown graphically in Fig. 1

Table 1: Significance of mean difference between korfball and handball girl players in total fitness (No. of students = 80)

Groups	Mean	Mean difference	SD	SE	Ratio
Korfball	262.12	24.28	313.29	4.5	5.58
Handball	237.84		313.29		

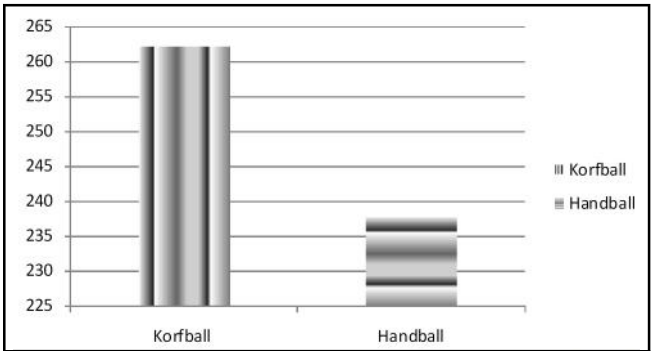

Fig. 1 : Significance mean difference between Korfball and Handball girl players performance in total fitness

It is observed from the Table 2 that there is a significant difference in standing broad jump between the korfball and handball girl players, as calculated 't' is greater than tabulated 't'. Hence, there is a difference in strength and muscle endurance of trunk flexors between two groups.

The mean performance of college girl players of the korfball and handball girl players have been shown graphically in Fig. 2.

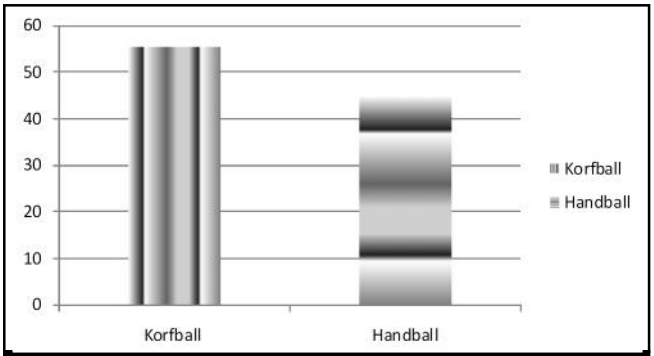

Fig. 2 : Significance mean difference between korfball and handball girl players performance in standing broad jump

Graph showing the significance mean difference between korfball and handball girl players performance in standing broad jump.

It is observed from the Table 3 that there is no significant difference in korfball throw performance of both the groups as the calculated 't' is less than the tabulated 't'. Hence, there is no difference in arm shoulder gridle strength and co-ordination among the two groups.

The mean difference in korfball thrown of college girl players of both the two groups have been shown graphically in Fig. 3.

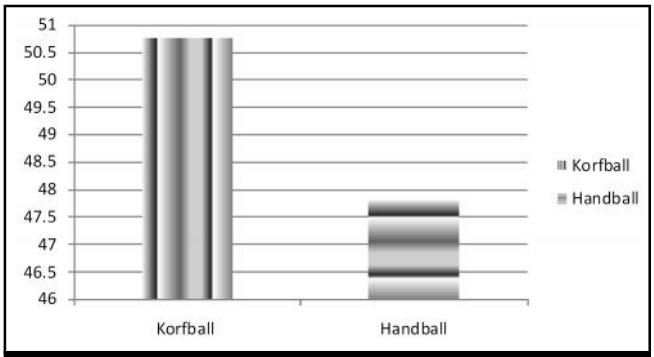

Fig. 3 : Significance mean difference between Korfball and Handball girl players performance in Kroftball throw

It is observed from the Table 4 that there is a significant difference in potato race performance between the korfball and handball girl players, as calculated 't' is greater than tabulated 't'. Hence, there is a difference in agility, speed and endurance between two groups.

The mean performance of college girl players of korfball and handball girl players have been shown graphically in Fig. 4.

Table 2 : Significant mean difference between korfball and handball girl players in standing broad jump (No. of students = 40 + 40)

Groups	Mean	Mean difference	SD	SE	't' ratio
Korfball	55.35	10.5	8.51	1.86	5.64
Handball	44.86		8.19		

* Significant where calculated 't' at 5.64, 0.05 level of confidence is 1.99

Table 3: Significant mean difference between korfball and handball girl players in korfball throw (No. of students = 40 + 40)

Groups	Mean	Mean difference	SD	SE	't' ratio
Korfball	50.76	2.94	12.43	2.43	1.20
Handball	47.82		9.06		

* Not significant, where calculated 't' at 1.20, tabulated 't' at 0.05 level of confidence is 1.99

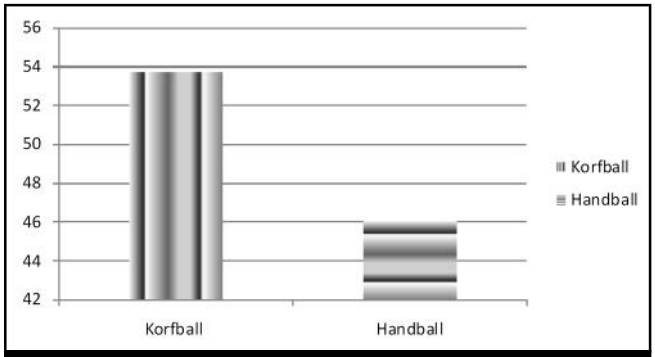

Fig. 4 : Significance mean difference between korfball and handball girl players performance in potato race

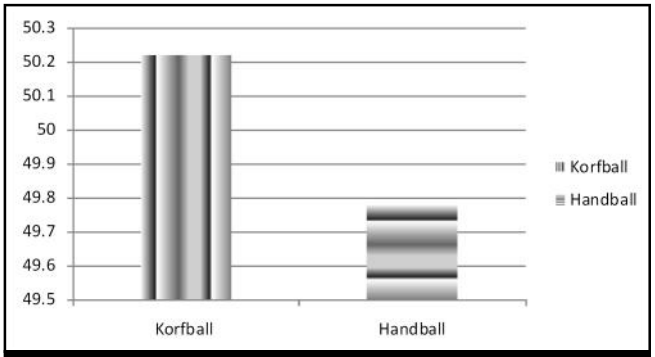

Fig. 5 : Significance mean difference between korfball and handball girl players performance in sit ups

It is observed from the Table 5 that there is no significant difference in sit ups performance of both the groups as calculated 't' is less than the tabulated 't'. Hence, there is no significant difference in strength and muscle endurance of trunk flexor among the two groups.

The mean performance in sit ups of girl players of both the groups have been shown graphically in Fig. 5.

It is observed from the Table 6 that there is no significant difference in 30 sec squat thrust performance of both the groups as calculated 't' is less than the tabulated 't'. Hence, there is no significant difference in agility and muscle endurance between the groups.

The mean performance in 30 sec squat thrust of girl players of both the two groups have been shown in Fig. 6.

From Table 1 it is apparent that the college going girl players of Korfball had a higher mean score in the total fitness where calculated 't' is higher and is found t be highly significant. Therefore, the korfball players have more motor fitness that that of the handball players.

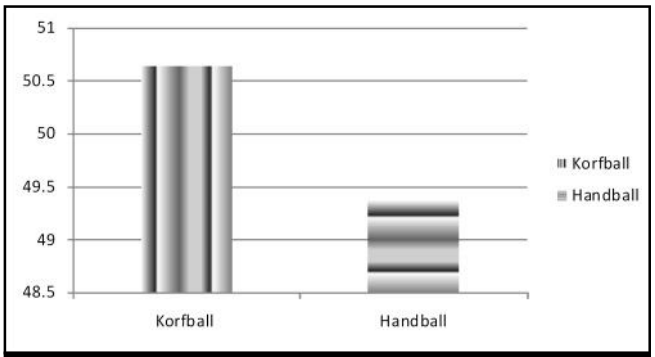

Fig. 6 : Significance mean difference between korfball and handball girl players performance in 30 sec squat thrust

Table 4 : Significance of mean difference between korfball and handball girl players in potato race (No. of students = 40 + 40)

Groups	Mean	Mean difference	SD	SE	't' ratio
Korfball	53.72	7.65	8.71	2.07	3.96
Handball	46.07		9.85		

* Significant where calculated 't' 3.69, tabulated 't' at 0.05 level of confidence is 1.99

Table 5: Significant mean difference between korfball and handball girl players in sit ups (No. of students = 40 + 40)

Groups	Mean	Mean difference	SD	SE	't' ratio
Korfball	50.22	0.44	10.90	2.22	0.19
Handball	49.78		8.95		

Not significant, where calculated 't' at 0.19, tabulated 't' at 0.05 level of confidence is 1.99

Table 6 : Significant of mean difference between korfball and handball girl players in 30 sec squat thrust (No. of students = 40 + 40)

Groups	Mean	Mean Difference	SD	SE	't' ratio
Korfball	50.64	1.27	9.55	2.22	0.57
Handball	49.37		10.34		

Not significant, where calculated 't' at 0.57, tabulated 't' at 0.05 level of confidence is 1.99

From Table 2 it is found that the muscle strength and power of hip and knee extensors is found significant in korfball girl players.

Table 3, apparently shows that the mean difference between the two groups in korfball Throw is only 1.20, in measuring the arm shoulder gridle strength power and co-ordination. It is found that there is no significant difference in both the groups.

From the Table 4 it is found that the agility, speed and endurance measure in potato race was significantly high in korfball players having mean score 53.72 and handball girl players 46.07.

Table 5 indicates the sit ups between the korfball and Handball girl players. No significant difference is found between the two groups in the performance as calculated 't' is 0.19.

Table 6 indicates the 30 sec squat thrust between korfball and handball girl players. No significant difference is found between the two groups in their performance as the calculated 't' is 0.57.

Conclusion :

- On the basis of the analysis of data the following conclusion were drawn.
- Overall there was significant difference in motor fitness performance of korfball and handball girl players of the age group of 16-19 years.
- Girl players of korfball groups were better in motor fitness as compared to the girl players of handball group.
- Girl players of korfball were found superior to the girl players of handball in muscle strength power of hip and knee extensors agility and speed.
- No significant difference is found in arm shoulder gridle strength, muscle endurance of trunk flexors and muscle endurance of the body.

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