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A COMPARATIVE STUDY OF CARDIOVASCULAR ENDURANCE OF KORFBALL, SWIMMER AND THROWERS (BOYS)

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ABSTRACT:

The study was carried of Korfball, Swimmer and Thrower. It was hypothesis that there might be significant difference in the cardio-vascular endurance of Korfballer, Swimmer and Thrower. It was also hypothesis that the cardio vascular endurance of Korfballer and Swimmer will be more that thrower. For the purpose of this study total 30 subjects were selected. There were 10 players from each game. These were the players who took part in the inter-collegiate competition, S.G.B. Amravati University, Amravati. The subjects were in the age group of 18 to 25 years, only male players were taken for the study. The collection of data were done by conducting Coopers 12 minutes run/walk test. The collected data from the test of the three groups were arranged in a tabulated form and processed through one way analysis of variance (score). Thus it may be concluded that there would be no difference in the cardiovascular endurance of Korfballer, Swimmer and Thrower of intercollegiate level of S.G.B. Amravati University, Amravati.
KEYWORDS: Cardiovascular Endurance, Korfball, Swimmer, Throwers

INTRODUCTION:

Endurance means the ability to continue repetitions actions with a heavy load at a maximum speed for relatively prolonged period. Endurance is such a significant component of physical performance. In long distance running, swimming events endurance is very important.

Physical educators have long been concern with the measurement of cardiovascular endurance. This form of endurance involves the continued activities of the entire organism. During which major adjustment of the circulatory and respiratory systems are necessary.

The lungs (respiratory system) must provide the oxygen that makes it way from environment air to blood. Greater the intensity of exercise greater are the demand upon the circulatory and respiratory system. In fact in some activities circulatory and respiratory efficiency determines performance quality (success) to a much greater extent than muscle strength.

STATEMENT OF THE PROBLEM:

Thus the researcher have taken a keen interest to undertake this group research project work on the subject. The Comparative study of Cardio-vascular endurance of Footballer, Swimmer and Thrower (boys) in Degree College of Physical Education, Amravati. The above mentioned test is conducted on Cooper test of the players.

PURPOSE OF THE STUDY:

The main purpose of the study were

- To find out the cardio-vascular endurance capacity of the Footballer, Swimmer and Thrower.

To compare the cardio-vascular endurance between Footballer, Swimmer and Thrower.

HYPOTHESIS:

It was hypothesis that there may be significant difference in the cardio-vascular endurance of Football, Swimmer and Throwers.

It was also hypothesis that cardio-vascular endurance capacity of the Footballer and Swimmer will be more that the thrower.

DELIMITATION OF THE STUDY:

The study was delimited to the following aspects :

- Ten subject from each game were taken for the study.
- The study was conducted only on male players.
- The minimum standard of the subject was inter collegiate participation.
- The age group of every subject was in between 18 to 25 years.
- The study was delimited to Footballer, Swimmer and Throwers participants students of College

LIMITATION OF STUDY:

The study was limited to the following aspects :

- All subjects were from various states of India, their climatic conditions and diet habits were different.
- Coaching and Physical education background of the subject were unknown.
- The daily practice and physical exercise program of the subject was unknown.
- Interest of subjects towards test was unknown.
- The study was limited to the Cooper 12 min run/walk test only.

DEFINITION:

CARDIO-VASCULAR ENDURANCE

Extremely high efficiency in the functioning of the heart, lung and blood vessels that results in the increase efficiency in the performance of the continuous work involving large muscle group, also referred to as aerobic fitness of cardio-vascular endurance.

REVIEW OF LITERATURE:

Huckle compare the reaction of male Junior High School Athletes and Non-athletes with respect to certain cardio-respiratory factors in which oxygen pulse was one of the factors. Significant differences was noticed except in duration of time, where the athletes had more endurance.

Abdoconducted a study of leg strength, height, weight factors in relation to cardio-vascular efficiency of college women. Chest width and pelvic width were also among the factor studied. Data collection from 198 subject were inter co-related. The result indicated that excess weight had the greatest tedious effect on Cardio-vascular efficiency and Ponderal Index was significant, but the regression line leveled off for women with high cardiovascular efficiency.

METHOD OF STUDY:

The design of the study has been presented under the following headings.

A. Sources of data: The data was collected by conducting the COOPER's 12 minutes run/walk test on the students who participated in the intercollegiate competition. These were the player's football, swimming and throwing who took part in the intercollegiate competition, Amravati. The subject were in the age group of 18 to 25 years.

B. Method of Sampling: For the collection of data total 20 students from swimming and 15 from throwing were available. Out of those, 10 subjects from each were selected randomly by using the lottery method of sampling. The list of the player was made from each actively and place in a box then 10 no. of chits were selected each for three respective games.

C. Tools for collection of data: Cardio-vascular endurance was measured by administering COOPER's 12 minutes run/walk test.

D. Administration of the test: For measurement of cardio-vascular endurance of the player, COOPER's 12 minutes run/walk test was administrate.

Equipment's: Stopwatch, Whistle, Clapper, Distance mark, accurately measure track as running area Procedure for conduction test: The test was conducted at 400 mts track of Degree College of Physical Education. The track was marked in segment as 25 meter. The subjects were assembled at the starting line and given the necessary information about the test. Firstly, 10 subjects of Korfball were started for the run at the sounding of the clapper by the time keeper. The standing start was adopted by the subjects. Likewise the subjects of swimming and throwing were made to run alternately. One scorer was assigned to each of the runner to count and note down the number of laps and rounds completed within the stipulated time of 12 min. During the course of running, the subjects were allowed to walk or slow down if they tire. However, they were motivated to give their maximum effort. On the competition of 12 min, the time keeper blew the whistle and subject stop running the scorer who were instructed to mark the spot reached by the runner goes to their respective runners and distance covered.

Scoring: When the time keeper whistled at the completion of 12 mins the scorer located the spot reached by their respective subjects and recorded the distance covered correct to the nearest 25 meter.

E. Collection of data: The data were collected by administrating the COOPER's 12 min run/walk test. The subjects of three games were inform about the dates of taking the test with the help of boys, the 400 meters track was mark in segments of 25 mts. On first day 10 subjects from Korfball were assembled for the test. The subjects were given the necessary information regarding the test. On the second day and the third day the same test was conducted on swimming and throwing players respectively. Thus after the completion of the test for the three groups, the data were collected. The final score was converted into kilometer and then the collected data were arranged for statistical analysis.

ANALYSIS AND INTERPRETATION OF DATA:

After getting the raw scores the researcher change them into percentile score from the COOPER's scoring table. Then they were arranged in the descending order for tabulation and their mean, standard deviation were calculated. After that to find the difference between three groups the 't' ratios was calculated by using the formula.

$$t = \frac{M_1 - M_2}{\sqrt{\frac{SD_1^2}{N_1} + \frac{SD^2{}_2}{N_2}}}$$

Where, M1, is the mean of one group and M2 is the mean of other group also SD1, is the standard deviation of one group and SD2 is the standard deviation of other group. After calculating the following tables were calculated :

Table 1. Mean Difference Between Korfball And Swimmer

	Mean	SD	Calculated 't'
Korfballer	67.9	8.59	1.26
Swimmer	72.3	6.92	

The table value at 18 of freedom at 0.05 level is 2.31.

In table no. 1, the calculated't' value is 1.26 which is less than table value. Therefore there is no significant difference between two groups of Korfballers and swimmers.

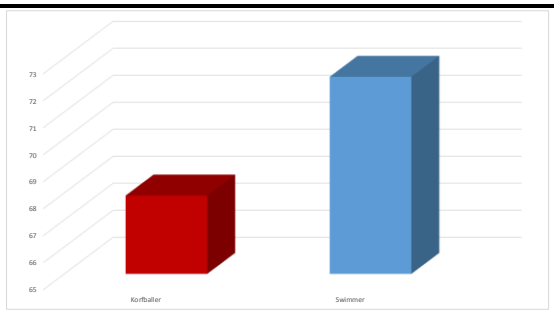

Fig. 1: Means of Korfball and Swimmer

TABLE NO. 2. MEAN DIFFERENCE BETWEEN KORFBALL AND THROWERS

	Mean	SD	Calculated 't'
Korfballer	72.3	8.59	
Swimmer	45.8	6.98	6.8

The table value at 18^0 of freedom at 0.05 level is 2.31.

In table no. 2, the calculated't' value is 6.8 which is more than table the value. Therefore there is a significant difference between two groups of Korfballers and throwers.

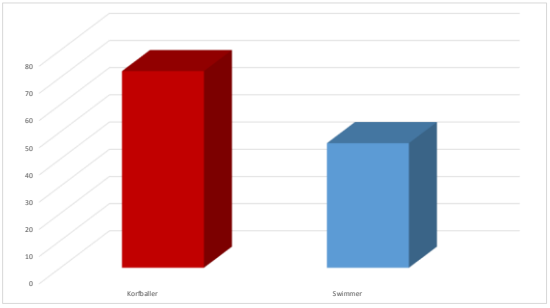

Fig. 2: Means of Korfball and Swimmer

TABLE NO. 3

MEAN DIFFERENCE BETWEEN SWIMMERS AND THROWERS

	Mean	SD	Calculated 't'
Footballer	72.3	6.92	
Swimmer	45.8	6.98	8.77

The table value at 18^0 of freedom at 0.05 level is 2.31.

In table no. 3, the calculated't' value is 8.77 which is more than table the value. Therefore there is a significant difference between two groups of swimmers and throwers.

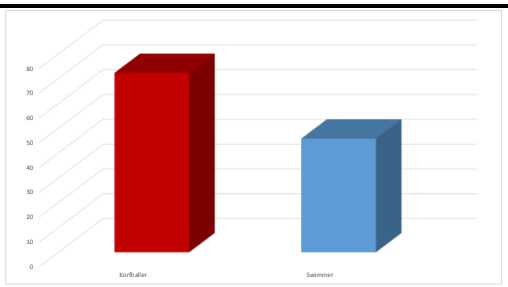

Fig. 3: Means of Korfball and Swimmer

FINDINGS :

In data collected from 30 subjects of Korfballers, Swimmers and Throwers on the cardio-vascular endurance was computed by using't' ration statistical technique. The following findings has been drawn by using't' ratio statistical technique.

1. There is no significant difference in the cardio-vascular endurance of Korfballers and Swimmers.
2. There is no significant difference in cardio-vascular endurance of Korfballers and throwers, swimmers and throwers.

So the cardiovascular endurance of Korfballers and swimmers are same and more that the Throwers.

CONCLUSION :

From the statistical analysis the following conclusion have been drawn.

1. There were no significant difference in cardio-vascular endurance of Korfballers and Swimmers. (t = 1.26)
2. There were significant difference between Korfballers and Throwers. (t = 6.8)
3. So, the cardio-vascular endurance of Korfballers and Swimmers are same.
4. The motivational factors that might have affected the results of the study where beyond the control of the research scholar.

It may be concluded that there would be no difference in the cardio-vascular endurance of Korfballers, Swimmer and Thrower of inter collegiate level of S.G.B. Amravati University, Amravati.

REFERENCES

1) Myront Huckle, "A Comparison of the reactions of male junior high school athlete and non-athlete with respect to certain cardio-respiratory factors as determined by performance of trade mill", Completed research in health, Physical education and recreation V, 1963, p. 90
2) Samia H. Abdo, "Leg strength, height, weight factors in relation to Cardio-vascular, efficiency of college women" Completed research in health physical education and recreation, 1966, p. 44.