

A Comparative Study of Cardiorespiratory Endurance Among State Level Handball Players and National Level Handball Players

Author

Savita, Research Scholar, Dept. of Physical Education, Shri Khushal Das University, Hanumangarh-India

Dr. Rajesh Kumar, Associate Prof., Dept. of Physical Education, Shri Khushal Das University, Hanumangarh-India

Abstract-

In the present study would assess the physiological variable differences such as cardiorespiratory endurance among state level handball players and national level handball players in Haryana. The total number of subjects for this study were 200 Handball Players. (100 state level handball players and 100 national level handball players). The data for this proposed study were collected from coaching camps and various training centers in Haryana. The data was collected by use of spirometer. The data was analyzed and compared with the help of statistical procedures in which arithmetic mean, standard deviation (S.D.), t-test were employed. State level handball players and national level handball players cardiorespiratory endurance was found no significantly Difference.

Keywords- Cardiorespiratory endurance, state level handball players, national level handball players.

Introduction

The values of physical fitness and health awareness programmes are becoming noticeable as more and more peoples are participating in these events and the scientific proofs revealed that the benefits of these activities are accumulated. The participation in daily physical exercises results in perfect growth and development of health of an individual. Physical activities improve cardiovascular endurance, muscular strength, speed, coordination and agility, which are the basis for all physical works which can be performed by an individual. The Department of Health and Human Services of America defines physical fitness as "a set of attributes that people have or achieve that relates to the ability to perform physical activity." The present scenario of competitive sports is being portrayed by professionalism at the different levels of competitions.

The desires of the athletes for earning fame and wealth is the contributing factor of the professionalism. Scientific preparations of the sportspersons for the competitions play a vital role in the enhancement of the performances. To display the upper hand against the opponent the researchers and coaches develop their techniques and strategies. The frequent breaking of national and international records was possible by these technological and tactical advancements in the sports field. The scientific examinations in the performance by the athletes are playing an imperative role in evaluating the success. The popularity and the place of prominence of sports and games are in fastest pace which it has gained from past decades by the hard works of sportspersons, coaches, researchers, media, organizers etc.

Cardio-Respiratory Endurance

According to Heyward (2002), cardiorespiratory endurance refers to the capacity to engage in dynamic exercises that involve large muscle groups at moderate to high intensity for extended durations.

Method

For the purpose of the investigation, the sample for the total number of subjects for this study were 200 Handball Players. (100 state level handball players and 100 national level handball players). The data for this proposed study were collected from coaching camps and various training centers in Haryana. To measure the cardiorespiratory endurance of the subjects, they were divided into two groups i.e. State level handball players and National level handball players to measure cardiorespiratory endurance with the help of spirometer. Cardiorespiratory endurance was measured of every individual with the help of spirometer.

To examine the hypothesis of the study that there will be no significant difference in the cardiorespiratory endurance of national level handball players and state level handball players, descriptive statistics and t-test analysis was employed for the present data.

DESCRIPTIVE STATISTICS OF CARDIO-RESPIRATORY ENDURANCE

Table 1 shows descriptive statistics on the cardiorespiratory endurance of national-level handball players and state-level handball players. The results showed that the mean and standard deviation of national handball players was 12.73 ± 1.52 , while the mean and standard deviation

of state-level handball players was 11.49 ± 1.67 . The standard error of the mean (S.E.M) for national athletes was determined as 0.21, and for state athletes the S.E.M was determined as 0.23.

Table No. 1

Descriptive statistics of cardio-respiratory endurance of national level handball players and state level handball players

Variable	Group	N	Mean	Std. Deviation	Std. Error Mean
cardio-respiratory endurance	National level handball players	100	12.73	1.52	0.21
	State level handball players	100	11.49	1.67	0.23

Table No. 2

T-test description of national level handball players and state level handball players cardio-respiratory endurance

Variable	Groups	Df	t-value	Sig.
cardio-respiratory endurance	national level handball players- state level handball players	198	0.73	0.06

Table 2 shows t-test results for cardiorespiratory endurance of national and state handball players. As can be seen from the table, the endurance of national handball players is at the same level as national handball players ($t=0.73, p>0.05$). There is no significant difference between national and state handball players in terms of cardiovascular diseases and physical examination.

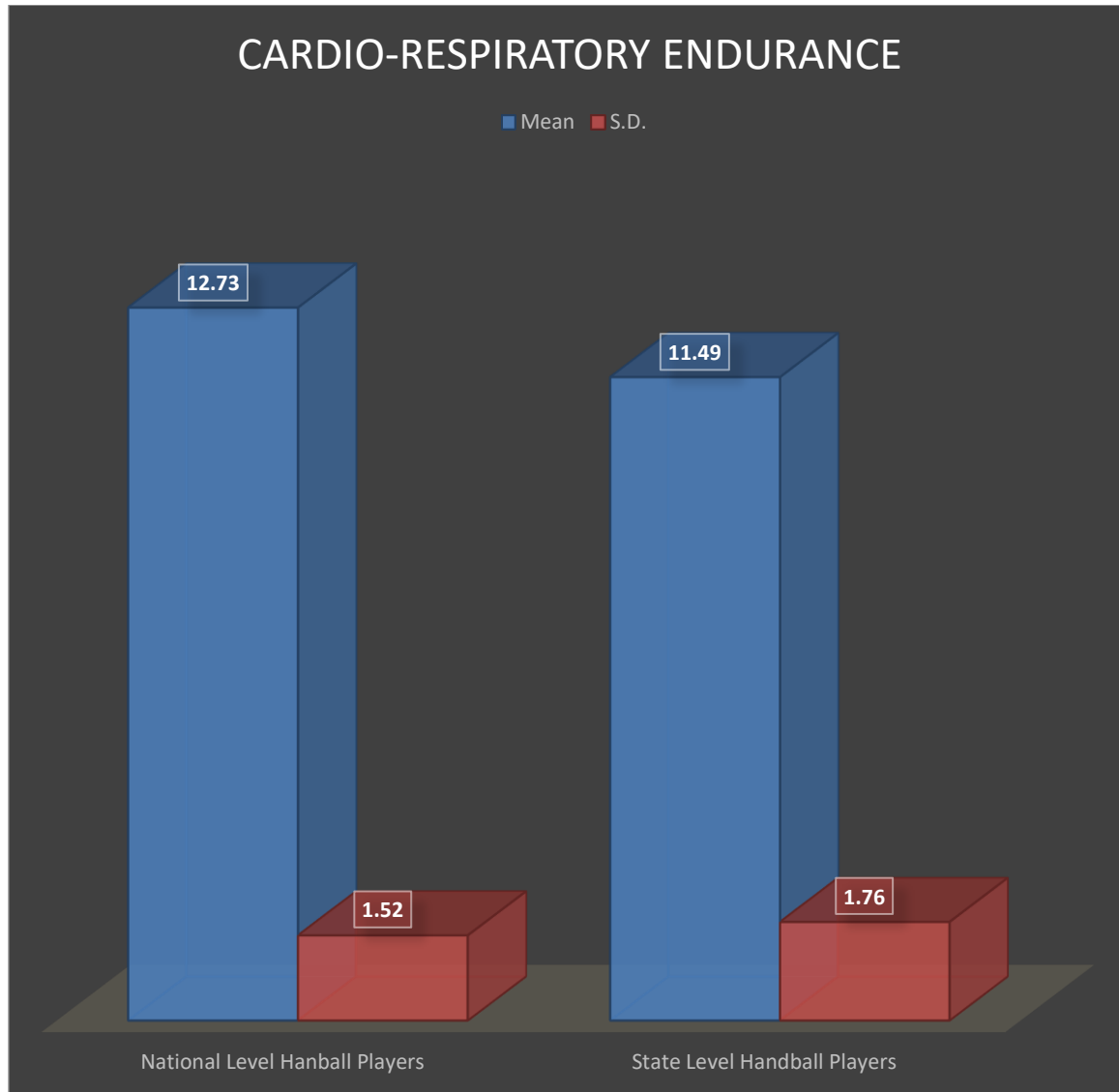


Figure No. 1:

Bar diagram showing the mean value of Cardio-Respiratory Endurance between national level handball players and state level handball players

The Graphical representation shows the mean and S.D. values of Cardio-Respiratory Endurance between state participants handball players and national participants handball players according to this graphical representation Cardio-Respiratory Endurance of national level handball players were higher than the state level handball players and they also represent no significant difference at the 0.05 level of significant. So that the forth null hypothesis “the handball players from Haryana who compete at the State level and National level competition would not differ

significantly on Physical fitness measures such as Cardio-Respiratory Endurance” were accepted.

Conclusion

In the present study it was concluded that national level handball players were no significantly difference cardiorespiratory endurance than the state level handball players

References

- Narazaki, K., Berg, K., Stergiou, N., & Chen, B. (2009). Physiological demands of competitive basketball. *Scandinavian journal of medicine & science in sports*, 19(3), 425-432.
- Phadnis, P. (2017). PHYSICAL FITNESS PSYCHOLOGICAL AND ANTHROPOMETRIC PROFILES OF WEST ZONE CRICKETERS OF INDIA.
- Richards, J., Foster, C., Townsend, N., & Bauman, A. (2014). Physical fitness and mental health impact of a sport-for-development intervention in a post-conflict setting: randomised controlled trial nested within an observational study of adolescents in Gulu, Uganda. *BMC Public Health*, 14(1), 619.
- Singh, A. K. (2007). Conducted a Study on Comparison of Selected Motor Fitness. *Physiological and Psychological Variables of Professional and Non-Professional Hockey and Soccer Players*, JSPE, 3(41428-1435).
- AAHPER, (1976) Youth fitness test manual, washington: American, Alliance for health, Physical education & Recreation.