



ISSN: 2456-0057

IJPNPE 2023; 8(1): 137-139

© 2023 IJPNPE

www.journalofsports.com

Received: 01-10-2022

Accepted: 10-12-2022

Rajneesh ChamoliResearch Scholar, Sant Gadge
Baba Amravati University,
Amravati, Maharashtra, India**Dr. Khushal Jagtrao Alaspure**Director, Department of
Physical Education, Narayanrao
Rana Mahavidyalaya Badnera,
Amravati, Maharashtra, India

Study of body composition among volleyball and korfbal players

Rajneesh Chamoli and Dr. Khushal Jagtrao Alaspure

Abstract

The aim of this study was to compare the body composition between of volleyball and korfbal players. In this study inter collegiate volleyball and korfbal players were selected from Pauri Garhwal district of Uttarakhand. In this study, 40 players were selected as subjects, including 20 volleyball and 20 korfbal players. In this study to find out the body composition of the subjects A test developed by J. V.G. A. Durnin and J. Vommsley (1974) was used in which skin fold calipers were tested at four sites i.e. biceps, triceps, sub scapular and supra-iliac and the score was recorded in millimeters. The t-test was applied to examine the difference in mean scores between volleyball and korfbal players. The level of significance was set at 0.05. The present study concluded that there is a significant difference in body composition between volleyball and korfbal players. Body height of volleyball players was found to be higher than that of korfbal players, body fat content of volleyball players was found to be less than that of korfbal players, Absolute Body Fat of volleyball players was found to be less than that of korfbal players, but no positive difference was found in lean body weight and body weight. On the basis of the results obtained, it can be said that the training given to volleyball players, in that training more emphasis would be on jumping more level, due to which their body composition is good. It has been suggested by researchers that korfbal players should be given plyometric training so that their body composition can be corrected.

Keywords: Body composition, players, volleyball and korfbal players

Introduction

The three main components of the structure of the human body are muscles, fat and bone. An average adult male and female body consists of 15 and 20 percent fat as a proportion of total body weight, respectively. If this amount exceeds 5 percent of this, then that person is said to have excess fat. For example, body fat of 20 percent relative to total body weight for men and 30 percent for women is considered borderline for obesity. Fat content above/exceeding this threshold would be considered as overloading. An overweight person is said to be obese if his weight is found to be more than 20 per cent of the prescribed weight in proportion to body height and frame. The goals of obesity appear when the body accumulates more fat than is required for normal activities. Once the problem of excess weight or obesity starts, a person starts thinking of ways to overcome and control it. Exercise has a major role in reducing and controlling weight if a program of physical exercise is followed rigorously and over a long period of time. As a result of physical exercise, there may not be a decrease in the total weight of the body, but there is definitely a change in the body structure. Exercise can also lead to an increase in body weight. This increase is due to increase in the weight of meat without fat. A training program to increase stamina and strength leads to maximum growth of muscle without body fat. This may be due to their association with over nutrition and hypertrophy of muscle mass. On the contrary, training related to capacity acquisition / growth leads to reduction in body weight because the main source of energy in such exercise is fat. As the fat stores in the body start decreasing, the body weight/obesity also starts decreasing. In the context of physical exercise, it appears that fat loss through exercise is due to increased caloric expenditure. (Singh, *et al.* 2004)^[1].

Methodology

In this study inter collegiate volleyball and korfbal players were selected from Pauri Garhwal

Corresponding Author:**Rajneesh Chamoli**Research Scholar, Sant Gadge
Baba Amravati University,
Amravati, Maharashtra, India

district of Uttarakhand. In this study, 40 players were selected as subjects, including 20 volleyball and 20 korfbal players. Before selecting the players of volleyball and korfbal, each player was given complete information about this study. Only those players were included in this study who were willing to participate in this study. The age of the players selected for this study was between 18 to 25 years. In this study to find out the body composition of the subjects a test developed by J. V.G. A. Durnin and J. Vommersley (1974) was used in which skin fold calipers were tested at four sites i.e., biceps, triceps, sub scapular and supra-iliac and the score was recorded in millimeters. To measure the skin fold, a skin fold caliper was

used to measure the pressure of a 10gm/mm square. After grasping the skin with the caliper, the reading was taken after two seconds. Under which biceps skinfold, triceps skinfold, sub-scapular skinfold and surplice skinfold were measured.

Statistical Analysis

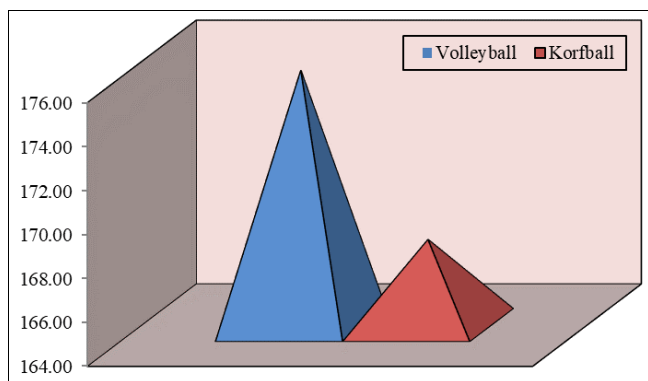
The mean, standard deviation and mean difference were obtained through the statistical package for Microsoft Excel, (version 2007) for the purpose of data descriptive statistics analysis. The t-test was applied to examine the difference in mean scores between volleyball and korfbal players. The level of significance was set at 0.05.

Table 1: Shows the comparison of Body Composition between volleyball and korfbal players.

Variables	Groups	N	Mean	SD	SE	MD	Ot	df	Tt
Body Height	Volleyball	20	175.60	4.26	1.43	7.70	5.38*	38	2.02
	Korfbal	20	167.90	4.78					
Body Weight	Volleyball	20	69.50	7.72	2.29	0.25	0.11	38	2.02
	Korfbal	20	69.75	6.73					
Body Fat%	Volleyball	20	18.74	3.80	1.39	3.76	2.72*	38	2.02
	Korfbal	20	22.51	4.89					
Absolute Body Fat (Kg)	Volleyball	20	13.15	3.56	1.04	2.39	2.30*	38	2.02
	Korfbal	20	15.54	2.99					
Lean body Weight	Volleyball	20	56.35	5.49	2.12	2.14	1.01	38	2.02
	Korfbal	20	54.21	7.71					

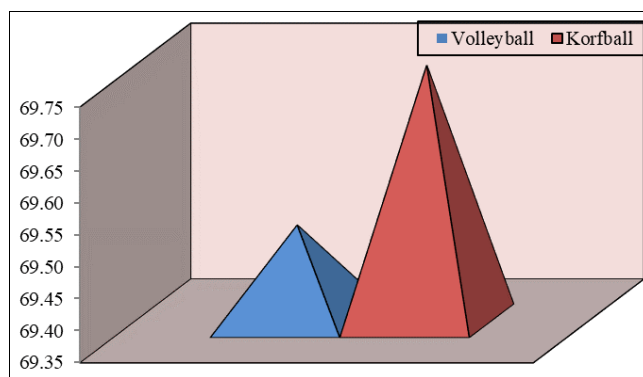
Table-1 reveals that there was a significant difference between the mean scores of volleyball and korfbal players of body height, since the calculated t-value 5.38 was higher than the tabulated t-value 2.02 which was required to be significant at 38 degrees of freedom with 0.05 level of confidence. It shows that volleyball players have significantly better in height than the korfbal players.

players have better body fat percentage.



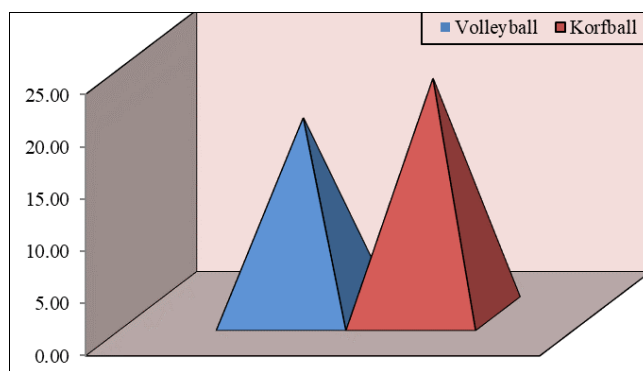
Graph 1: Mean difference of body height between volleyball and korfbal players

Table-1 reveals that there was a significant difference between the mean scores of volleyball and korfbal players of body weight, since the calculated t-value 0.11 was less than the tabulated t-value 2.02 which was required to be insignificant at 38 degrees of freedom with 0.05 level of confidence. It shows that the body weight of korfbal players is higher than that of volleyball players, but the difference is not significant at the significant level.



Graph 2: Mean difference of body weight between volleyball and korfbal players

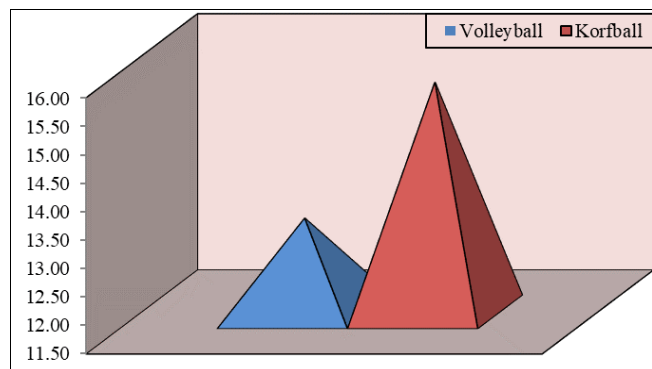
Table-1 reveals that there was a significant difference between the mean scores of volleyball and korfbal players of body fat%, since the calculated t-value 2.72 was higher than the tabulated t-value 2.02 which was required to be significant at 38 degrees of freedom with 0.05 level of confidence. This shows that body fat percentage is lower in volleyball players than korfbal players, thus it can be concluded that volleyball



Graph 3: Mean difference of body fat% between volleyball and korfbal players

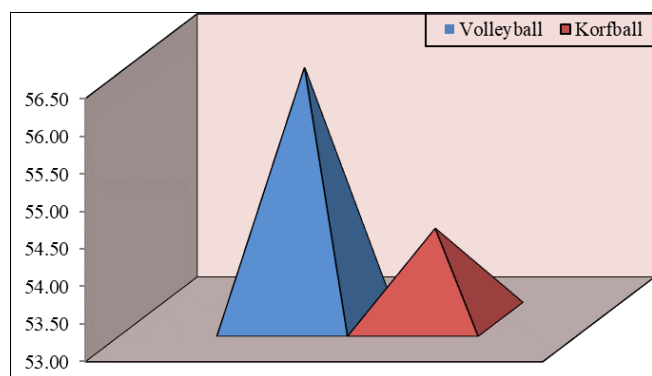
Table-1 reveals that there was a significant difference between the mean scores of volleyball and korfbal players of absolute body fat (Kg), since the calculated t-value 2.30 was higher than the tabulated t-value 2.02 which was required to be significant at 38 degrees of freedom with 0.05 level of confidence. This shows that absolute body fat is lower in

volleyball players than korfbal players, thus it can be concluded that volleyball players have better absolute body fat.



Graph 4: Mean difference of absolute body fat between volleyball and korfbal players

Table-1 reveals that there was a significant difference between the mean scores of volleyball and korfbal players of lean body weight, since the calculated t-value 1.01 was less than the tabulated t-value 2.02 which was required to be insignificant at 38 degrees of freedom with 0.05 level of confidence. This shows that the lean body weight of korfbal players is higher than that of volleyball players, but the difference is not significant at the significant level.



Graph 5: Mean difference of lean body weight between volleyball and korfbal players

Conclusions

The present study concluded that there is a significant difference in body composition between volleyball and korfbal players. Body height of volleyball players was found to be higher than that of korfbal players, body fat content of volleyball players was found to be less than that of korfbal players, Absolute Body Fat of volleyball players was found to be less than that of korfbal players, but Body Weight And no positive difference was found in Lean body weight. On the basis of the results obtained, it can be said that the training given to volleyball players, in that training more emphasis would be on jumping more level, due to which their body structure is good. It has been suggested by researchers that korfbal players should be given plyometric training so that their body composition can be corrected.

References

1. Singh A, *et al.* Essential of Physical Education. New Delhi: Kalayani Publishers; c2004. p. 325.
2. Cavas L, *et al.* A Comparative Study: Skin Folds, Estimated Percentage Body Fat, Total Body Fat Weight and Fat-Free Body Mass in the Female and Male Turkish

3. Athletes. Sports Medicine Conference. 2004;3(2):193.
4. Abass, Olasupo A. Body Composition Characteristics of Primary School Deaf and Mentally Retarded Pupils in Nigeria. Pakistan Journal of Nutrition. 2004;3(11):2456-2460.
5. Silva PR, *et al.* Body Composition, Somatotype and Proportionality of Elite Bodybuilders In Brazil. *Original Article.* 2003;9(6):86.
6. Bahram A, Shafizadeh M. A Comparative and Correlational Study of the Body-Image in Active and Inactive Adults and with Body Composition and Somatotype. International Osteoporosis Foundation. 2010;67(3):207-214.
7. Singh KM. Anthropometric Measurements, Body Composition and Physical Parameters of Indian, Pakistani and Sri Lankan Field Hockey Players. Serbian Journal of Sports Sciences, 2010;3(2):400.