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THE COMPARATIVE STUDY OF ANTHROPOMETRICAL CHACACTERISTICS IN TABRIZ ELITE FOOTBALL AND VOLLEYBALL PLAYERS

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Abstract

The purpose of this study is comparing the anthropometrical Characteristic of Tabriz elite sportsmen in two courses of Football and Volleyball.

Methods For this purpose 40 Sportsmen (football and volleyball) who participated in the National championships were selected as samples. Twenty eight different Anthropometrics indexes were measured in this research, the variables was Consisted of Age, Wight, Sport Experience, and Height, Sitting height, Upper extremities, Opened hand length, Arm length and …, which of the Anthropometrical Characteristics were measured by Anthropometrics standards methods. After collecting, the data were analyzed using the statistical software, SPSS, and t-student tests ($p \leq 0.05$).The results demonstrated that there is significantly difference between the Heights, Sitting height, Upper extremities, opened hand length, Fat Triceps amount, in samples within two Courses of Football and Volleyball. There is no significant difference between other variables in two groups.

Key words: Anthropometrical Characteristics, Football player, Volleyball player.

Introduction

One of the fields that have drawn the attention of the experts in sports for researches is to find a relation between the physical specifications and skills and sport success. To be successful in a field does a person need special physical specifications? Or any person could be successful in any sport type by his own physical specification? Do any type of sport need special structural, functional and skill specifications?

Measuring and collecting information about the physical condition of the successful athletes in one filed, and analyzing the physical specification and typological dimensions of the individuals averagely, a skillful coach must have some information to select the talented ones for special fields.

Some of the young athletes lose their opportunities to increase their abilities or to achieve the rank of a good athlete because of lack of information about the special features and are not guided towards the blossoming in that filed. In sport, discovering the talents, and selecting in younger ages, controlling, and evaluating their abilities to achieve the highest level of skill is very important. Thus, the main aim of finding the suitable bodies and talents is to select the athletes

that have the most ability in special sport filed (F. Bloom et al., 1994). It has been attempted to direct the athletes towards some majors that could achieve the highest point by spending less energies and time (E. Zorba, 2006). Using the body recognition measures, along with decreasing the time and expenses of achieving the best function, leads to the rise in exercise practices (E. Zorba, 2006).

Form the investigation it is concluded that the anthropometric specifications influences the sport functions and success of the athletes which has been observed in footballers (K. Ebrahim, M., Hallaji, 2008). In addition, in "Yardimci"s (1997) investigations it is observed that in all sport fields the fat percent of athletes bodies are affective on the sportive functions (F. Bloom et al., 1994). Moreover, it could be resulted that he lack of incompatibility in anthropometric specifications in special sport fields could cause the drop-off in athlete's function (A.W.S. Watson, 1995).

The problem is here that whether athletes own special morphology? Is there any relation between the dimensions and their success? Are these relations interdependent? Two of the fields that need physical and physiological and suitable functions are football and volleyball. The need for analyses in two famous fields which draw the attention of many people is felt more. Realizing that which specification distinguishes the usual athletes from the best ones is significant. In the present study the anthropometric and success of the athletes in football and volleyball fields are investigated. Thus, the researcher has tried to study and evaluate the morphological specification of the said fields to analyze and evaluate the anthropometric specification of the athletes and to determine the anthropometric specification of the footballers and volleyballist from the standpoint of body shape and to evaluate their anthropometric indices.

Method

The statistic society of the study involves the football and volleyball players of Tabriz, who has participated in the first league of the 2008-2009. Considering that only one team participated in the said league form Tabriz, thus the society includes 40 players that 22 of them are footballers and 18 volleyball players.

Because of limitations regarding the number of individuals in statistical society the numbers were considered as the testing pattern without using the sampling method. All the samples were considered as full numbers.

The variables of the study includes the followings: age, height, weight, he length of body organs including the arms, forearm, tow stretched hands, height in sitting position, upper parts, lower parts, thigh, calf, which were measured using the a meter. The ambient of the organs including the arm, forearm, wrist, breast, wrest, thigh, hips, ankle, and the width of the organs including the elbow, and knee, were measured using a caliper.

To calculate the amount of the fat in body the lower layer of the skin in arm, armpit, belly and the thigh were kept by thumb and the forefinger and they were measured using a caliper. All the measurements were carried out in the right side of the body after two times of measuring and the average numbers were used.

Generally, the descriptive and inferential statistical methods were used, the said methods includes the following: calculating the centralized statistical indices (average, normal and exponent) dispersal index (changes in range, standard deviance, and variance) of variables in two groups. Using the test (t student) in independent groups to find meaningful difference between the groups in three groups of upper and lower parts and other variables were calculated meaningfully as five percent.

The data of the research

Table 1: Describing the central indexes and the dispersal of the variables studied in football players

Group statistics	Average	Standard deviance	The least	The most
Age (year)	16.63	1.25	15	18
Weight (kilo)	64.69	6.63	58.40	78.80
Exercise records (year)	7.72	3.46	3	14
Standing height (cm)	171.43	1.89	165	189.50
Sitting height (cm)	88.80	3.45	83	95.90
Open hand length (cm)	176.6	7.34	167	195
Length of upper organs (cm)	76.43	3.30	73	84
The length of arm (cm)	37.33	2.02	35	41
The length of forearm (cm)	26.77	1.42	25.50	30.50
Ambient of the arm (cm)	29.43	1.84	27	32
Ambient of the forearm (cm)	26.72	1.62	24.50	29
ambient of wrest (cm)	18.36	1.51	16.51	21.50
Elbow width (cm)	6.43	0.30	5.90	7
Chest ambient (cm)	87	3.22	82	91.30
Girth (cm)	70.83	3.68	67	79.50

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The length of lower parts (cm)	105.23	4.94	95	114.50
Length of thigh (cm)	49.27	5.84	36.50	61
Length of calf (cm)	41.95	4.86	28	46.50
Ambient of high (cm)	45.13	6.08	30.50	52
Ambient of hips (cm)	90	4.22	81	96
Ambient of calf (cm)	35.36	2.55	31.50	39.80
Ambient of ankle (cm)	27.72	1.35	26	30
Width of knee (cm)	9.65	0.36	9	10.50
Under skin fat for armpit (ml)	9.17	1.14	7.50	11.10
Under skin fat for back of arm (ml)	6.81	1.51	4.40	10.40
Under skin fat for thigh (ml)	15.55	1.82	12	17.50
Under skin fat for belly (ml)	12.64	2.50	9	18
Fat percent	11.01	1.04	9.35	12.89

Table 2: Describing the central indexes and the dispersal of the variables studied in volleyball players

Group \ statistics	Average	Standard deviance	The least	The most
Age (year)	16.44	0.98	15	18
Weight (kilo)	74.86	6.22	66	84
Exercise records (year)	4.66	1.18	3	7
Standing height (centimeter)	186.34	5.24	167	193
Sitting height (cm)	96.98	2.84	91	101.50
Open hand length (cm)	184.17	7.96	166	195
Length of upper organs (cm)	85.97	3.15	81.50	92
The length of arm (cm)	43.45	1.80	41	46
The length of forearm (cm)	29.47	1.10	27.2	31
Ambient of the arm (cm)	29.44	2.05	26	32.50
Ambient of the forearm (cm)	25.88	1.10	24	27.50
ambient of wrest (cm)	17.71	0.94	16.50	19.50
Elbow width (cm)	6.08	0.48	5.40	6.80
Chest ambient (cm)	93.61	4.61	87.50	99.50
Girth (cm)	78.50	4.28	71	84
The length of lower parts (cm)	98.23	5.87	90	106
Length of thigh (cm)	52.75	3.24	48.50	59
Length of calf (cm)	42.15	3.26	50.36	47
Ambient of high (cm)	54.05	2.03	51	57.50
Ambient of hips (cm)	97.98	4.51	93	106
Ambient of calf (cm)	37.95	1.88	35.10	41
Ambient of ankle (cm)	26.85	1.63	24	29.5
Width of knee (cm)	9.24	0.45	8.60	9.90
Under skin fat for armpit (ml)	7.86	0.75	6.20	9.10
Under skin fat for back of arm (ml)	5.16	1.11	4.10	8
Under skin fat for thigh (ml)	14.77	1.11	13.10	17
Under skin fat for belly (ml)	10.48	2.50	8	15
Fat percent	9.81	870/	8.57	1.56

According to the results there was a meaningful difference between the following issues in football and volleyball: weight variables, sport records, standing height, sitting height, the length of open hands, length of upper parts, length of arm, length of forearm, width of elbow, chest ambient, girth, length of lower parts, length of thigh, ambient of thigh, ambient of hips, ambient of calf, under skin fat in armpit, under skin fat in back of arm, under skin fat in thigh and under skin fat in belly (Diagram 1).
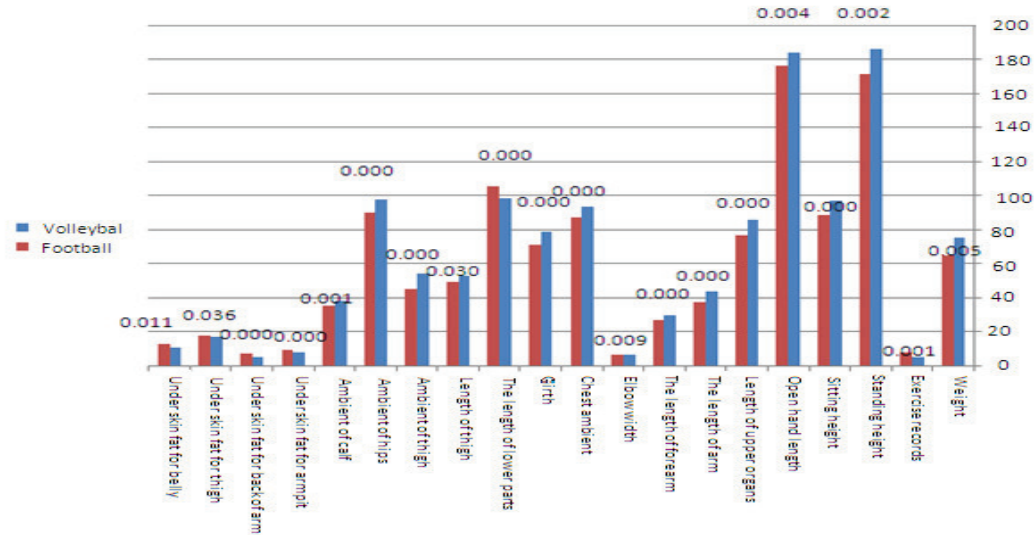
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Diagram 1: The results of t test concerning the variables between football and volleyball players which show a meaningful difference.

Discussion and conclusion

Many elements have led to success in being in form for athletes. Recognizing the elements paves the way towards the success. By studying the body of our athletes the time for achieving the best results decreases and athletes useful life could be extended. People are directed towards fields that from the point of view of physical, physiological and psychological standpoints are suitable for them. Considering the said subject all the athletes participated in the present study have started their sport activities in or before the growth ages, and this long period was enough time to influence special organs. The result concerning the meaningful difference in height and record variables was not something far because of long term exercises, and they were in accordance with the results of studies carried out by, Rahimi, Bloum, Diyol Albay and etc (G. Rahimi, 2009; A., Sarneshin et al., 2009).

Correct functions, on time decisions, the harmony of hand and eye, nerve and muscle, eye and leg, hands quick movements in different directions, quick maneuvers and leaps, are possible by having strong and flexible organs. Meaningful differences in upper parts, open hands, arm and forearm and the high amount of average in these elements in volley ball players in relation to footballer's shows that athletes in volleyball need taller and extended organs to perform hand techniques better and to perform the kicks with the least error (H. Peymanizad, 1995; Sarneshin et al., 2009; T. Bielicki, Z. Welon, 1982). The shortness of the upper organs in football players is to perform the kicks better, quicker and stronger and more over they need shorter organs and levers (S. Farajzade, H. Kazemiroor, 2008).

The meaningful difference between the widths of the knee in athletes showed that quick movements, and foot techniques, circular movements and alacrity need more speed and power. It was clear according to the situation of the players in different points of the ground especially in football. It seems that mechanical pressure causes the circulation of blood more in some joints and it causes the increase in volume. It has been approved in the arm and the forearms of the tennis players (H. Peymanizad, 1995; A. Duyul, M. Ark, 2008). Meaningful difference and more volume in the length of thigh in volleyball players could be for lower center of gravity and more stability in football in which having shorter thighs and calves are better. Therefore football players have shorter thigh and calf. The athletes of two fields had meaningful difference in percent of fat (A.W.S. Watson, 1995; E. Zorba, 2006).

Totally it could be concluded that volleyball and football players own special anthropometric patterns, physical form, and body shape. It seems that the said pattern is different in various posts. Perhaps the reason for the said issues is the special needs of the posts from the standpoint of anthropometric and physical specifications to carry out the skills better. Considering the physiological needs of the players in different posts, preparing and performing suitable exercise plans to improve the function of players in their special posts is necessary.

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THE EFFECT OF COMBINED TRAINING ON SOME CONDITIONAL PARAMETERS OF BASKETBALL PLAYERS AGED 12-14

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Abstract

This research has been performed on 34 volunteer male basketball players aged 12-14 age groups from junior male basketball team of Ankara University and Ulaştırma Sports Club. The subjects have been randomly divided into the experimental and control groups . Before training program resting heart rate , systolic-diastolic blood pressure, aerobic-anaerobic capacity have been evaluated for both groups, besides some measurements have been also performed on some parameters by using Eurofit test battery. The same measurements have been performed again after the 8 weeks combined training program for the experimental group and the effect of combined trainings on these parameters has been tried to determine. In this 8 weeks period, the subjects in the control group have not been put to an extra training program, they have carried on their daily sports life.

SPSS 8.0 statistical package program has been used for the statistical analysis and arithmetic average, standart deviation, standart error and range of the values have been determined. The differences between groups have been examined by t-test in the significance level 0.01 and 0.05.

In consequence of this research, it has been observed that while the values of body height (% 0,61 ; $p <.001$), leg power (% 17,21 ; $p <.001$), pull-up motion (% 32,06 ; $p < .001$), standing long jump (% 6,85 ; $p < .001$) and aerobic capacity (% 8,65 ; $p < .001$) have showed an increase, the values of resting heart rates (% 7,71; $p < .005$), 10 x 5 m. (% 13,15 ; $p < . 001$) and left hand reaction time to light (% 7,31; $p < .0005$) have showed a decrease after the first and the last measurements of combined training program for the experimental group. It has not been observed any changes in the control group.

As a result, it has been determined that the combined trainings performed on experimental group have been more efficient than technical trainings.

Key Words: Eurofit Tests, Combined Training, Training in Children, Basketball.

Purpose

The aim of the training for the kids and the young is to provide the development of sportive performance with the means of training science and pedagogical.

The contents of training for the kids have been determined in accordance with the principles which have been stipulated by the sports science and the features of their development period.

The aim of this research is to investigate the effect of the 8 weeks combined basketball trainings on the development of some technical and conditional parameters of the male basketball players aged 12-14.

Method

This research has been performed on male basketball players aged 12-14 exercising regularly from junior male basketball team of Ankara University and Ulaştırma Sports Club.

In the experimental group there have been 17 male athletes from junior male basketball team of Ankara University, whose mean age was 13,47±1.12 years, mean height was 163±0.05 cm, mean weight was 53,38±11.10 kg. Before the research, the values of all subjects like weight and height measurement, resting heart rate, systolic and diastolic blood pressure, 30 m sprint, reaction time, leg strength, push-up,