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Assessment of body composition in referees and assistant referees professional football

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ABSTRACT

Review to assess body composition, physical fitness, health and design training programs for athletes is essential. The aim of the present study was to assess body mass index, fat mass, percent body fat, lean body mass and body weight were referees and assistant referees professional football. Subjects of the study were 72 men (age 30-40) who participated is the study voluntarily and were assigned in referees (n=12) and assistant referees (n=12) groups. The subjects of this study were at least 10 years of history in competitions football. Data was analyzed using independent t-test statistical methods. Research findings showed that significant difference between the amount of lean body mass (p=0.013) and body weight (p=0.006) was observed in both groups but no significant difference between BMI levels (p=0.257), fat mass (p=0.152) and fat percentage (p=0.485) referees and assistant referees were observed. Given that the action playing soccer with a referees must be present at the place and at the right time and see the game up close, interpretation of laws, and critical decisions have the for the check the status of useful information rehearses body composition assessment fitness referees and assistant referees provides.

Keywords: Body mass index, fat mass, fat percentage, lean body mass, body weight, referees, assistant referees.

INTRODUCTION

Today, the most popular sport worldwide is football, referees and assistant referees is inseparable factor of this sport. According to published statistics, there are over 800.000 official referee and assistant referee. In addition, body composition is a highly important factor for officially tested. An appropriate body composition status is a mandatory prerequisite for any referee at advanced competitive levels. The overall physical demands on the referees are considered similar to those on the soccer players. However, referees are older than the players and, in most cases, are amateur and cannot be substituted during the game [1-3].

A referee's body composition is of particular importance for performance. In football BMI, fat mass and lean body mass of an athlete relates to on-field performance [4]. Periodic measurement of body composition can be used to assess the effectiveness of training program and to monitor changes in body composition. Type, intensity and duration of exercise on body composition of athletes are affects. The magnitude of changes in is related to age, genetics, environmental factors, nutrition and physical activity disease [5-7].

Usually BMI to classify individuals of normal weight, overweight and obesity should be used. Compared with other methods of assessing BMI is an inexpensive and easy to administer [8,9].The groups with optimal BMI perform better in officially tested than overweight/obese or those with higher BMI [8,10].

Body composition refers to the components of lean body mass and fat mass. Many studies show that exercise training has a great capacity to change body composition. Regular exercise training causes a gradual decrease in BMI, body mass and body fat [11,12]. Greater lean body mass can be affected by physical performance, and the higher values of fat free mass can be an advantage for athletes [13-15]. Bodyweight has been commonly observed after the age of20-50ages, which has been attributed primarily to gains in fat mass. The increase in fat mass is occurring in the central abdominal sites [16].

Given the ability to measure changes in an athlete's body composition is essential for both coaches and athletes. In addition to assessing body composition are of interest due to its effect on athletic performance and health is growing [4,11]. The increasing economic importance of matches has increased Extraordinary the physical and psychological Pressures on referees and assistant referees. Despite the importance of assessing body composition and physical condition of referees in a football match at least one study has examined [2,4,17].Therefore, this study to assess body mass index, fat mass, percent body fat, lean body mass and body weight were referees and assistant referees professional football.

MATERIALS AND METHODS

Subjects were 72 male volunteers of 30 to 40 years old. Subjects referees and assistant referees Premier League and Iran Football League First Division. The subjects of this study were at least 10 years of history in competitions football. The subjects' physical characteristics are presented in Table 1.Firstly, the objectives, details as well as objective, methodology, and applications were described to the subjects and the subjects' written consents were obtained. Qualified individuals were randomly assigned into two groups; referees (n=36), assistant referees (n=36) groups. This device is used to measure body composition and with the help of this device several diseases such as obesity, diabetes, osteoporosis and cardiovascular disease during the course of treatment are needed to determine body composition, and controlled drug recipes, they need to be given by a doctor.

Table 1- Participant Characteristics in refers and assistant referees

Parameter	Age (year)	Height (cm)
Referees	36.72±4.22	179.11±6.01
Assistant referees	36.03±4.53	175.72±5.50

Statistical analysis was performed using SPSS version 18. Data normality was determined by Kolmogorov-Smirnov test. Independent t-test was used for between-groups comparison. The significance level of the test was also considered $p \leq 0.05$.

RESULTS

Table 2 shows comparison of the measured means between the referees and assistant referees. Research findings showed that significant difference between the amount of lean body mass (p=0.013) and body weight (p=0.006) was observed in both groups but no significant difference between BMI levels (p=0.257), fat mass (p=0.152) and fat percentage (p=0.485) referees and assistant referees were observed.

Table 2- Comparison of Mean Outcome Measurements between referees and assistant referees

Variable	Referees	Assistant referees	p-value
Body Mass Index (kg/m2)	24.59±1.60	24.13±1.79	0.275
Body mass fat (kg)	13.76±3.34	12.65±3.18	0.152
Present body fat (%)	17.28±3.51	16.70±3.51	0.485
Lean body mass (kg)	65.35±5.63	62.01±5.40	0.013
Body weight (kg)	79.10±7.18	74.52±6.50	0.006

DISCUSSION

This study was designed to assessed BMI, fat mass, percent body fat, lean body mass and body weight of referees and assistant referees professional football. The results showed that no significant difference was found between BMI referees and assistant referees. The results were consistent with Banfi et al (2006) but did not match with Kim et al (2010), Vatansev et al (2010),and Walsh et al (2011).Specialists of BMI to determine the physical characteristics of the body are used. Appears to be directly related to BMI and body fat. Recent studies show that the relationship between body mass index and fat mass is influenced by age, sex and exercise, and such a relationship is not yet known in the adult footballers [8,22].Probably due to differences in lipid levels between the two groups, no significant difference in BMI values have been observed in these subjects.

The results showed that no significant difference was found between fat mass referees and assistant referees. The results were consistent with Andreoli et al (2003) but did not match with Gomez et al (2013), and Marandi et al (2013).Body fat in athletes is related to the type of exercise and position. Body composition of professional football in particular, is of great importance in athletic performance. In football, like many sports and sports performance in the field depends on body composition [4,5].Given that both referees and assistant referees in a sporting and competitive level are similar. Probably to have the consistency of fat mass and body fat monitors are successful and there is no significant difference between the two groups.

The results showed that no significant difference was found between fat percentage referees and assistant referees. The results were consistent with Gomez et al (2013) but did not match with Zahedmanesh et al (2013).Total body fat mass and fat storage in two essential fats into fatty tissue is fat tissue makes up about 50 percent of total body weight. Fat mass role in metabolism human. Fat stored in the body as an energy source and partly for sport and daily life activities is required [8,23]. According to the referees and assistant referees professional judgment are involved For your fitness and nutrition and regular exercise drew could possibly be the reason for the lack of significant differences between the two groups to be considered.

The results showed that significant difference was found between lean body mass referees and assistant referees. The results were consistent with Andreoli et al (2003) but did not match with Kim et al (2003), and Marandi et al (2013).High percentage of pure lean body mass coupled with the success of the sport and is a complete wellbeing. Body composition of professional football in particular, is of great importance in athletic performance. Football, like many sports and sports performance in the field depends on body composition [4]. Given that both referees and assistant referees to achieve more success the same daily schedule for exercise and nutrition and their lifestyle. Have probably made the same lean mass and there is no significant difference between the two groups.

The results showed that significant difference was found between lean body mass referees and assistant referees. The results were consistent with Zahedmanesh et al (2013) and Andreoli et al (2003) but did not match with Kim et al (2010), and Vatansev et al (2010).It appears that physical training plays an important role in the improve of body weight, and intensity, duration and type of exercise for weight loss should be controlled [11].According to the assistant referee than referees fat mass, fat percentage and lean body mass more so than the referees, assistant referees have more weight. Probably referees did not keep the energy balance towards the assistant referee and assistant referees have led to greater weight.

CONCLUSION

Limitations of this study include lack of control of physical exercise, nutrition, sleep and psychological state of the subjects. Given that the action playing soccer with a referees must be present at the place and at the right time and see the game up close, interpretation of laws, and critical decisions have the for the check the status of useful information rehearses body composition assessment fitness referees and assistant referees provides.

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