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A Cogitation on Elite Weight Athletes' Obsessions with Healthy Eating in Terms of Some Variables

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Abstract

It was aimed to investigate the opinions of elite athletes related to weight-drop and determine their tendencies about orthorexia Nervosa and determine these tendencies with regard to gender and the attitudes of athletes on weight-drop. 143 athletes were involved in research from Boxing, Taekwondo, Wrestling and Judo. Data were obtained through personal information form and Orthorexia-11 Scale (ORTHO-11). It was determined that the vast majority of athletes (77%) sometimes got help from dieticians, more than half's (65%) performance were affected negatively during the weight-drop period, and those who were close to half (49.7%) were determined to skip meals for losing weight and more than half (56.6%) were determined to start training without having breakfast. It was also determined that ORTHO-11 average scores of participants were as 24.18. Athletes who expressed to experience weight-drop which affect their performance quite often had significantly lower ORTHO-11 scores than those who did not ever experience weight-drop. Finally, it was revealed that weight-category athletes had higher healthy diet obsession tendency. It can be suggested that this obsession tendency may arise from anxiety of weight-drop and performance-drop experience.

Introduction:

Nutrition is defined as the intake of necessary nutritional elements into the organism, their digestion, absorption, and metabolizing of these elements to achieve bodily functions (Dunford & Doyle, 2015). It should be admitted that nutrition is not only a physiological but also a sociological and psychological phenomenon (Çalistir *et al.*, 2005; Baysal, 2014). Failed use of nutritional elements may cause one to experience many health problems. In scientific research, there are nearly 50 nutritional elements for human living and there are prescriptions for healthy growth, and living longer and productive. Unless any of these elements were not taken or taken much or less it is scientifically suggested that growth and development and health issues may occur (Turkish Nutritional Guide 2004). When ordinary habits and behaviors related to the management of body weight, body composition, and food consumption are excessive, eating disorders may occur. Fundamentally known eating disorders are anorexia nervosa (not eating), Bulimia-Nervosa (excessive eating and vomiting), and Binge-Eating disorder (URL 1).

Nutrition experts use a new conception named 'orthorexia nervosa' (ON). However, ON doesn't still exist in the DSM (Diagnostic and Statistical Manual of Mental Disorders) and is also known as a new category for researchers to concentrate on (Kazkodu, 2010). It is thought that in the essence of ON, there are health improvement, treatment of a disease, or weight-drop purposes. This style of nutrition constitutes the most significant part of orthorexic individual's lives (Bonaachea *et al.*, 2005). It is indicated that orthorexic individuals' life plans are based frequently on foods (Kratina, 2006). Nutrition is a crucial matter for athletes to keep body weight and achieve sportive performance. Weight management and body composition are two major subjects on athletic performance. This is a key factor of competition and preparation for competitions (Morton *et al.*, 2010). Beyond suppressing hunger, qualified nutrition is defined as consuming nutritional elements sufficiently and balanced way which the body needs. In sportive activities exhibiting a high level of performance is depended on both the quality of training and the quality of the regeneration period. So nutrition constitutes the most

important element of the regeneration period (Civil, 2020). To improve their performance, athletes need to have convenient body weight according to their sports branches. In bodyweight management, many factors play a great role like basal energy requirements, energy amounts they consumed in training or competitions, and energy contents of the nutritional elements they consume.

There is a bodyweight rule as a prior condition in branches like taekwondo, karate, box, judo to participate in the competitions. These competitions are being held according to weights which International Sports Federations defined (Maughan & Leiper 1999; Zengin, 2003; Çatikkas, 2016). It is well-known that weight athletes lose 5% of their body weight in a short period like less than a week to gain an advantage over his/her opponent who is leaner and improve his/her performance potential (Maughan & Leiper 1999; Brito *et al.*, 2012; Çatikkas 2016). In weight sports; it is known that athletes may sometimes stay hungry which is contrary to qualified nutrition principles and losing-weight, they are dressed in layers, and also they use fat-burners and diuretics and vomit (Çatikkas, 2016). In many research, a great majority of athletes dealing with weight sports are reported to lose weight 3-4 days before the competition (Pehlivan, 2005; Brito *et al.*, 2012; Yarar *et al.*, 2017).

It is inevitable for athletes to face some difficulties who try to lose weight in this period. For this reason, it is an intriguing subject whether these athletes turn their nutrition styles into an obsession or not. In this study, it was aimed to investigate the attitudes of athletes about getting support from nutrition experts throughout their weight-loss process, attitudes about the effects of weight-loss on performance, and also training without having breakfast, skipping meals.

Materials and Methods:

In research, 144 voluntary elite Turkish athletes from Olympic weight sports like Boxing, Taekwondo, Wrestling, and Judo were involved. Before the research, athletes were given an informed consent form and information about the research. Those who accepted to participate in the research we're involved in to study group. This research was carried out after obtaining ethics committee approval from Trabzon University Ethics Committee with issue: 81614018-000E.330 and also this research was carried out appropriate to Helsinki Declaration.

Information from athletes like weight, height, sports branch, sports age, sports weight, and attitudes related to nutrition, weight-drop, and sportive performance was obtained using a personal information form after a literature search.

For determining healthy nutrition obsessions of athletes; the ORTO-15 scale was developed by Donini *et al.*, (2004). Also before developing this scale, expressions on a question sheet consisting of 10 items developed by Bratman

(2000) inspired Donini *et al.*, in developing this scale. Originally this scale was developed in the English language and consisted of 4 Likert and 15 items. However, Arusoglu *et al.*, (2008) who adopted this scale into Turkish, decreased questions to 11 items as its 4 items had less than 0.50-factor load and the scale was adopted into Turkish as ORTO-11. Cronbach alpha values of scale were found as 0.62. As Turkish athletes constituted the research group ORTO-11 scale were used. In this scale, lower scores indicate orthoektic tendency.

In the statistical analysis of research data, SPSS 22.0 statistical analysis program was used. Categorical variables obtained from the research were indicated as frequency and percent, and continuous variables were indicated as arithmetical mean and standard deviation. Kolmogorov Smirnov test was used for normality analysis of data. As the data showed a normal distribution, the Independent Sample t-Test for two independent group comparisons, and One-way ANOVA and Post-Hoc LSD test protocols were used in three or more independent groups. In the correlation analysis between variables Pearson Correlation test was used. Significance level was taken as $p < 0.05$ in all statistical analyses.

Results:

Table-1: General physical characteristics of athletes and ON Scores

Variables	Min	Max	M±Sd
Age (year)	18	37	22.87±4.30
Height (cm)	155	200	173.9±9.42
Weight (kg)	46	115	70.41±14.66
Weight Category (kg)	46	97	66.67±13.41
Traning Age (year)	2	26	11.45±4.3
ON skor	15	36	24.18±4.7

While adjusting weight during the competition preparation period, 77% of athletes were determined to get professional support occasionally, and 65% significantly athlete performance was seen to be affected, and 49.7% significantly athletes were determined to skip meals and 56.6% of athletes were determined to train without having breakfast (Table-1).

Table 2. Analysis of Some Answers to Some Questions

Variables	Generally n (%)	Occasionally n (%)	Never n (%)	X ₂	p
Do you get help from your dietician?	24 (16.8)	77 (53.8)	42 (29.4)	30.476	0.00*
Did you have any weight-drop affecting your performance?	15 (10.5)	93 (65)	35 (24.5)	68.867	0.00*
Do you skip meals for weight-drop	45 (31.5)	71 (49.7)	27 (18.9)	20.531	0.00*
Do you start training before having breakfast?	19 (13.3)	81 (56.6)	43 (30.1)	41.007	0.00*

Orthorexia average scores of athletes related to their dietary behaviours and weight adjustments in accordance with their attitudes were given in Table-3. There were no statistically significant differences between Orthorexia

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average scores of sub-groups which were constituted according to thoughts as gender, weight-drop was a cause of performance loss, training without having breakfast, skipping meals for weight-drop, getting professional help during preparation period to competitions and whether to be an Olympic athlete or not'. However, when Orthorexia scores were observed according to the answers of athletes to "Did you have a weight-drop affecting your performance" question; athletes who answered as "generally" were determined to have less Orthorexia scores than those who answered as "never" and 'occasionally'.

Table-3: ON Score analysis according to gender and answers to some questions

Variables	Min	Max	M±Sd
Gender (t/f=1.620; p=0.11)			
Female (n=45)	15	32	23.24±4.1
Male (n=98)	15	36	24.61±4.92
Are you an Olympic athlete? (t/f=1.131; p=0.87)			
Yes (n=42)	15	36	24.26±5.51
No (n=101)	15	36	24.15±4.37
Do you get professional help with your diet? (t/f=2.840; p=0.06)			
Never (n=42)	17	32	25.11±4.68
Occasionally (n=77)	15	36	24.25±4.91
Generally (n=24)	17	32	22.29±3.62
Did you ever have a weight-drop affecting your performance? (t/f=5.320; p=0.01*)			
Never (n=35)	18	30	23.77±3.04b
Occasionally (n=93)	16	36	24.88±5.02b
Generally (n=35)	15	28	20.80±4.61a
Do you skip meals for dropping weight? (t/f=2.747; p=0.06)			
Never (n=27)	17	36	25.40±4.65
Occasionally (n=71)	15	36	23.28±4.25
Generally (n=45)	15	32	24.86±5.23
Do you start training without having breakfast? (t/f=1.949; p=0.15)			
Never (n=43)	16	36	24.09±4.59
Occasionally (n=81)	16	36	24.66±4.78
Generally (n=19)	15	30	22.31±4.44
Statistically significant difference with a=b			

Discussion:

In this research, attitudes of athletes related to weight-drop and ON tendencies of these athletes were investigated per the data obtained from 143 voluntary participants. Weight athletes usually use the negative energy balance method for weight-drop (Kordi *et al.*, 2011; Durkalec-Michalski *et al.*, 2014; Barley *et al.*, 2018). The most common ways which athletes and trainers use rapid weight-drop are liquid limitation, high-velocity training, training in warmer gyms, sauna, dressing in layers (Artioli *et al.*, 2010; Brito *et al.*, 2012; Çatikkas, 2016). As only nutrient limitation method in the diet may cause to lean body mass besides fat loss, it is important to include physical exercise in diet program (Sahin & Emin, 2005). In many tournaments, the duration between weight and competition is different. It is stated that there are 3 – 24 hours of regeneration duration among Olympic weight sports (Reale, 2018). It is important for

athletes to regenerate and prefer the right foods to be ready for the competition. It is also important for weight athletes to get support from dieticians and trainers both during the weight-drop period and after weighing. In research, those who answered the question "do you get help from dieticians" as "I take it often" were found in a low level as 16.8%. It was determined that the vast majority stated that they got this help, and those who stated that they didn't get any help had a 29.4% score which was a considerable amount for them. These results make one think that weight athletes mostly use traditional habits in weight-drop and regeneration duration after weighing. In research, those who answered the question "did you have weight-drop affecting your performance?" as "never" were found as 24.5%. The vast majority of athletes stated that their performances were affected. In research, athletes reported that a rapid weight-drop affected their performance negatively, and also they reported they exhaust very rapidly and can not complete the competition thoroughly. Despite rapid weight-drop methods have negative effects on health and performance, weight athletes were reported to use these methods in 60-90 percentage (Franchini *et al.*, 2012; Çatikkas, 2016). In research, those who answered the questions "Do you skip meals for weight-drop?" and "Do you start training without having breakfast?" had percentages as 18.9% and 30.1% respectively. These results indicate that athletes attempt to make a nutrient limitation and so they try to have a negative energy balance. As a result of these unhealthy weight-dropping methods, ON tendency risks may increase in weight athletes. In addition, according to Kurt & Çatikkas (2006), unhealthy weight-drops in weight sports may decrease testosterone and cortisol levels. In parallel with this, it is inevitable to experience decreases in strength and performance and especially endurance. In literature; high-risk groups for ON were reported as women, adolescents, students receiving health education, exercisers, dieticians, individuals use gyms, and performance artists (Donini *et al.*, 2004; Catalina *et al.*, 2004; Kinzl *et al.*, 2006; Aksoydan & Camci, 2006; Arusoglu *et al.*, 2008; Martins *et al.*, 2011). Fidan *et al.*, (2010) reported ON frequency as 43.6% in Medical students. In a research carried out with Arslantas *et al.*, (2017) on nursing students, students were reported to have 45.3% of the risk in terms of ON.

Bo *et al.*, (2014) found ON tendency frequencies and eating disorders in university students who received nutrition and exercise courses as 9.1% and 25.9% respectively. In this research, weight athletes' ON tendency average scores were found as 24.18. Those who had ORTHA-11 scale scores were >27 had 24.5%, and those who had <27 were found as 75.5%. Starting from this result it can be suggested that weight athletes had higher risks in terms of ON. This may arise from athletes' anxiety of keeping sportive performance stable and losing weight. When ON

scores of participants were investigated according to answers “generally” to the question of “Did you have a weight-drop affecting your performance?”, athletes who answered as “generally” had lower statistically significant ON scores than those who answered as “never” and “occasionally”. It was determined that there were statistically significant differences between ON scores and answers to the questions related to Gender and other questions. Having higher orthoectic tendencies in athletes who answered the question “do you experience weight-drop affecting your performance” as “generally” than those who answered as “sometimes and never” may arise from their struggle of healthy nutrition which may protect from performance loss. As a result, high healthy nutrition obsession tendency in weight athletes was thought to arise from the anxiety of performance loss during the competitions and training and food preference of athletes during weight-drops. Spreading these weight-drops of these athletes on a wider duration and dietary regulations by dieticians matter. In addition, it will be beneficial for athletes if trainers would receive training about weight-loss and performance and plan their training programs in accordance with this. In order to not turning ON tendencies into an obsession, trainers should encourage athletes to compete in a weight that is convenient to their morphological characteristics and should not push athletes to compete in sub-weight categories and push them for rapid weight-drops.

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