

ANALYSIS OF NUTRITION INFORMATION OF ATHLETES  
COMPETING IN INTERCOLLEGIATE WRESTLING TURKEY  
CHAMPIONSHIP (1)ÜNİVERSİTELERARASI GÜREŞ TÜRKİYE ŞAMPİYONASINDA  
YARIŞAN SPORCULARIN BESLENME BİLGİLERİNİN ANALİZİHayrettin GÜMÜŞDAĞ<sup>1</sup>, Alpaslan KARTAL<sup>2</sup>, Erol BAYKAN<sup>3</sup><sup>1-2-3</sup> Yozgat Bozok University, School of Physical Education and Sports, Yozgat / TurkeyORCID ID: 0000-0002-1616-86711<sup>1</sup>, 0000-0003-1567-62762<sup>2</sup>, 0000-0002-7429-3446<sup>3</sup>

**Öz: Amaç:** Araştırma da çeşitli üniversitelerde aktif olarak güreş sporuyla uğraşan bayan ve erkek güreşçilerin beslenme bilgi düzeylerini karşılaştırmak, gelir düzeyi ve beslenme konusunda eğitim alıp almadığının güreşçilerin beslenme bilgi düzeylerine etkisi incelenmiştir. Araştırmaya 11 bayan 44 erkek olmak üzere aktif güreş sporuyla uğraşan 55 kişi gönüllü olarak katılmıştır. **Yöntem:** Demografik özelliklerine ilişkin bulgular ile bunların yorumlarına yer verilmiştir. Verilerde kayıp gözlemler bulunmaktadır. Bu değerler kayıp veri olduğundan cevapsız olarak değerlendirilmiştir. Araştırmaya göre; Gelir durumları ile değişkenler (besin maddeleri, tüm değişkenler) arasında ANOVA test istatistiği sonucuna göre Gelir durumları arasında fark bulunmamıştır. H<sub>0</sub> hipotezi kabul edilmiştir (besin maddeleri için F=0,509; p=0,604>0,05 – tüm değişkenler için F=0,094; p=0,910>0,05). Gelir durumları arasında fark bulunmadığından post hoc analizi yapılmamıştır. Diğer değişkenler (sıvı maddeler, yenileme, kilo kontrolü, gıda takviyeleri) normal dağılımından Kruskal Wallis testi yapılmıştır. Yapılan test sonuçlarına göre p değerleri 0,05 ten büyük olduğundan gelir durumu ile sıvı maddeler, yenileme, kilo kontrolü, gıda takviyeleri arasında farklı olmadığı bulunmuştur. **Bulgular:** Beslenme konusunda eğitimlerde yapılan bağımsız T testi sonrasında beslenme konusunda eğitim ile besin maddeleri ve tüm maddeler arasında farklı olmadığı bulunmuştur. Yani H<sub>0</sub> hipotezi ret edilmiştir (besin maddeleri için t=0,022 ; p=0,983>0,05 – tüm maddeler için t=0,730; p=0,470>0,05). Diğer değişkenler (sıvı maddeler, yenileme, kilo kontrolü, gıda takviyeleri) normal dağılımından Mann Whitney U testi yapılmıştır. Yapılan test sonuçlarına göre p değerleri 0,05'ten büyük olduğundan beslenme eğitimi ile sıvı maddeler, yenileme, kilo kontrolü, gıda takviyeleri arasında farklı olmadığı bulunmuştur. Kadın ve erkeklerin, karşılaştırması için yapılan bağımsız T testi sonrasında cinsiyet ile besin maddeleri ve tüm maddeler arasında farklı olduğu bulunmuştur. Yani H<sub>0</sub> hipotezi ret edilmiştir (besin maddeleri için t=-2,198 ; p=0,032<0,05 – tüm maddeler için t=-2,294 ; p=0,026<0,05). Ortalama değerlere bakıldığında erkekler kızlara göre daha fazla olduğu söylenebilir. Diğer değişkenler (sıvı maddeler, yenileme, kilo kontrolü, gıda takviyeleri) normal dağılımından Mann Whitney U testi yapılmıştır. Yapılan test sonuçlarına göre p değerleri 0,05 ten büyük olduğundan cinsiyet ile sıvı maddeler, yenileme, kilo kontrolü, gıda takviyeleri arasında farklı olmadığı bulunmuştur. **Sonuç:** Araştırmanın sonucuna göre; beslenme eğitimi alanlarla almayanlar arasında fark olmadığı için beslenme eğitimlerinin periyodik aralıklarla sporculara verilmesi uygun olabilir. Gelir durumunun beslenme bilgi düzeyi ile alakalı olmadığı anlaşılmıştır. Cinsiyet ile besin maddeleri ve tüm maddeler arasında fark olduğu, sıvı maddeler, yenileme, kilo kontrolü, gıda takviyeleri arasında fark olmadığı ortaya çıkmıştır.

**Anahtar Kelimeler:** Güreş, Beslenme, Yarışma, Analiz

**Abstract: Aim:** The study examined the nutritional information levels of female and male wrestlers actively engaged in wrestling at various universities, and the effect of income level and nutrition education on the nutritional information levels of wrestlers. 55 people who experienced active wrestling, including 11 women and 44 men, participated in the research as volunteers. **Method:** demographic characteristics of the findings and their interpretations are given. There are missing eyes in the data. These values have been evaluated as missed because they are lost data. According to the study, there was no difference between income states and variables (nutrients, all variables) according to the ANOVA test statistic. The H<sub>0</sub> hypothesis has been accepted (F=0.509 for nutrients; p=0.604>0.05 – F=0.094 for all variables; p=0.910>0.05). Post hoc analysis was not performed because there was no difference between income states. The Kruskal Wallis test was performed because other variables (liquids, replenishment, weight control, food supplements) were not normally distributed. According to the results of the test, p values are greater than 0.05 and it was found that there is no difference between income status and liquid substances, renewal, weight control and food supplements. **Results:** after the Independent T test conducted in nutrition education, it was found that there was no difference between nutrition education and nutrients and all substances. So the H<sub>0</sub> hypothesis has not been rejected (t=0.022 for nutrients ; p=0.983>0.05 – t=0.730 for all ingredients; p=0.470>0.05). Since other variables (liquids, replenishment, weight control, food supplements) were not normally distributed, the Mann Whitney U test was performed. According to the results of the test, p values are greater than 0.05 and it was found that there was no difference between nutrition education and liquid substances, refreshment, weight control and food supplements. Women and men were found to be different between sex and nutrients and all ingredients after the Independent t test for comparison. So the H<sub>0</sub> hypothesis has been rejected (t=-2.198 for nutrients; p=0.032<0.05-t=-2.294 for all ingredients ; p = 0.026<0.05). Men are more likely than girls when looking at average values. Since other variables (liquids, replenishment, weight control, food supplements) were not normally distributed, the Mann Whitney U test was performed. According to the results of the test, p values are greater than 0.05 and it was found that there was no difference between sex and liquid substances, renewal, weight control and food supplements. **Conclusion:** as there is no difference between those who receive nutrition training and those who do not receive nutrition training, it may be appropriate to give nutrition training to athletes at periodic intervals. It was understood that income status was not relevant to the level of nutritional information. It has been revealed that there is a difference between sex and nutrients and all ingredients, there is no difference between liquid ingredients, refreshment, weight control, food supplements.

**Key Words:** Wrestling, Nutrition, Competition, Analysis

Doi: 10.17363/SSTB.2020.34.3

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SSTB

www.sstbdergisi.com

International Refereed Academic Journal of Sports, Health and Medical Sciences

January - February - March Issue: 34 Winter Semester Year: 2020

Uluslararası Hakemli Akademik Spor Sağlık ve Tıp Bilimleri Dergisi

Ocak - Şubat - Mart Sayı: 34 Kış Dönemi Yıl: 2020

ID:475 K:459

ISSN Print: 2146-8508 Online 2147-1711

(ISO 18001-OH-0090-13001706 / ISO 14001-EM-0090-13001706 / ISO 9001-QM-0090-13001706 / ISO 10002-CM-0090-13001706)

(TRADEMARK)

(2015/04315- 2015-GE-18972)

## INTRODUCTION

Since nutrition in sports affects both the general health and the sporting performance of the athlete, it is now better understood that it is a subject to be focused on carefully and it has started to be focused on.

What is inevitable for every living thing is to ensure that physiological activities are carried out normally in the process from birth to death. It is seen that adequate and balanced nutrition also plays an important role in maintaining a healthy and high quality life of the individual. Our country has health problems in both developed and developing countries. The nutritional status of the people varies according to regions, seasons, socioeconomic level, rural-urban separation. One of the most important reasons for inadequate and unbalanced nutrition is lack of nutritional knowledge. Nutritional information is one of the factors affecting the nutritional status and habits of individuals, families and societies. Therefore, the place and importance of nutrition education in the protection and development of Health is great (Şanlıer, Konaklıoğlu, Güver, 2009).

Sports performance can be negatively affected by an unbalanced diet, as can be improved by a balanced diet. Athletes spend most of their time training in order to increase their efficiency, but also ignore the advantages that can

be achieved with a good diet. Indeed, great efforts are made to train and proper nutrition is of great importance in order not to frustrate these efforts (Şemşek, 2001).

Nutrition: to meet the energy needs of the vital activities in our body, protect our health, physical growth and development to make it possible to practice and adapt your workout to maximize the effects of essential nutrients; carbohydrates, fats, proteins, vitamins, minerals and water can be defined as consuming a balanced diet (Bully, 2001). To know the feeding habits of adolescents and to determine their relationship with economic, socio-demographic factors and health are guiding in understanding the causes and consequences of eating habits (Tanrıverdi et al., 2011).

Athlete nutrition: according to the sex of the athlete, age, daily physical activities and the type of sport he does, training and competition periods by making arrangements for food intake in an adequate and balanced manner (Güneş, 2009). A good diet alone is not enough for a good yield. However, in a poor diet the yield level drops. In this respect, athletes should recognize their own food and their needs they should know (Sun and Ersoy.1997). In addition, the rate of injury in athletes is as high as 50% with good nutrition it is also stated that it can be reduced (Gülgün 2004).



SSTB

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International Refereed Academic Journal of Sports, Health and Medical Sciences

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Wrestling: it is a fighting sport in which two people combine their body and intelligence to give each other the upper hand. It is the struggle of two wrestlers or people to establish superiority by using their technique, skill, strength and intelligence in accordance with the rules of "FILA" without using tools on certain sizes of mattresses (Şahin, 2005). Wrestling is a dual combat sport. Each wrestler tries to bring his opponent on his back or defeat him with points. It is not enough for him to have only good technique and condition, on the contrary, he must have the tactical ability to attack and defend in every case of wrestling with courage (Blacksmith, 1995). Wrestling is defined as the struggle of two wrestlers or people to establish superiority over each other by using their technique, skill, strength and intelligence in accordance with FILA rules without using a tool on a certain size cushion (Gökdemir, 2000). Turkish wrestling started its official structure with the establishment of the Republic in 1923; Turkish Wrestling Federation was established on 13 April 1923; it became a member of Fila and participated in the Olympics held in Paris in 1924 for the first time (Avcı oğlu, 1993).

Today, wrestling is important as a close combat sport, which requires the joint work of all body parts, as well as courage, reflex, skill, endurance and strength, which requires star-

ting preparations at an early age (Kürkçü ve Özdağ, 2005).

## MATERIAL and METHOD

### Research Group

The sample of the study consisted of athletes who are currently actively engaged in the sport of wrestling, participating in the Intercollegiate Turkish Championship held on April 25-30, 2017 in Sivas province. There are 55 wrestlers in total, of which 11 are female students and 44 are male students.

### Data Collection Tools

Measuring the nutritional information levels of the wrestlers participating in the survey a team of experts consisting of 6 sports dieticians, adapted to Turkish, administered the athlete nutrition information level determination questionnaire. Sports Nutrition Questionnaire (Zinn, schofield and wall, 2005) 23 substances were applied to participants in the Scale: 7 from nutrients, 5 from liquids, 5 from regeneration, 2 from weight gain, 2 from weight loss (4 under weight control) and 2 from food supplements. The correct answers given by the athletes are 1, the wrong answers are -1, and the undecided or not sure answers are 0. IBM-SPSS 22.0 program has been entered.



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International Refereed Academic Journal of Sports, Health and Medical Sciences

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## Analysis of the Data

During the data acquisition phase of the research, the athlete nutrition information level determination scale survey consisting of 23 items was applied to the athletes who participated in the inter-university wrestling championship held in Sivas province. In the statistical analysis, nutritional information levels were examined according to the variables of gender, income level and whether or not to receive training in nutrition. The IBM-SPSS 22.0 program was used to analyze the data and create the tables. In Analyses; by using descriptive statistical techniques, Kolmogorov-Smirnov test, it was determined whether or not the nutritional information score was normal distribution according to the variables. In cases where the normality assumption is provided, the Independent T test was used to compare two independent groups and the one-way variance analysis was used to compare more than two groups. The Mann Whitney U test and Kruskal Wallis test analyses were used in groups three and above. The level of significance was evaluated as 0.05.

## Hypotheses

H0: there is no difference between gender and variables (nutrients, liquids, replenishment, weight control, food supplements, all variables).

H1: there is a difference between gender and variables (nutrients, liquids, replenishment, weight control, food supplements, all variables).

H0: there is no difference between income states and variables (nutrients, liquids, replenishment, weight control, food supplements, all variables).

H1: there is a difference between income states and variables (nutrients, liquids, replenishment, weight control, food supplements, all variables).

H0: there is no difference between training and variables (nutrients, liquids, replenishment, weight control, food supplements, all variables).

H1: there is a difference between training and variables (nutrients, liquids, replenishment, weight control, food supplements, all variables).

## FINDINGS

Held at Taha Akgül Gymnasium in Sivas province on April 25-30, 2017 is still actively participating in intercollegiate gym championship in the sport of wrestling that they took the level of income of the people who made nutrition and nutrition education on nutrition knowledge level of male and female athletes and compare the effect of 6 dietitians to determine the level of knowledge and sports

nutrition knowledge of athletes prepared by an expert team to determine the level of the scale adapted to Turkish was applied. Sports Nutrition Questionnaire (Zinn, schofield and wall, 2005).

In this section, the findings and interpretations of their demographics are given. There are missing eyes in the data. These values were evaluated as lost data and were not answered.

**Table 1. Descriptive Statistics On Demographic Variables**

		Number	% Percentage
<b>Gender</b>	Woman	11	20,0
	Man	44	80,0
<b>Age</b>	18	4	7,3
	19	12	21,8
	20	12	21,8
	21	9	16,4
	22	6	10,9
	23	6	10,9
	24	3	5,5
	25	1	1,8
	26	1	1,8
	27	1	1,8
<b>Income</b>	2000 and Under	16	29,1
	2001-3000	16	29,1
	3001-4000	10	18,2
	4001-5000	6	10,9
	5001 and Over	7	12,7
<b>National Player</b>	Yes	43	78,2
	No	12	21,8
<b>NUTRITION BEFORE HAVE YOU TRAINED ABOUT?</b>	Yes	24	43,6
	No	31	56,4

As the table shows, of the 55 participants, 11 (20%) were girls and 44 (80%) were boys. Of the 55 respondents, 16 (29.1%) were 2000

and below, 16 (29.1%) were 2001-3000, 10 (18.2%) were 3001-4000, 6 (10.9%) were 4001-5000, and 7 (12.7%) were 5001 and

over. According to the income situation, the largest group is those in the group 2000 and below and 2001-3000, while the smallest group is those in the group 5001 and above. All of the participants are wrestlers. Of the participants, 43 people (78.2%) were national athletes and 12 people (21.8%) were not national athletes. 24 people (43.6%) of the athletes had previously been trained in nutrition. 31 people (56.4%) declared that they had not been trained in nutrition before.

If a test scale measures the desired property correctly and without mixing it with other properties, this test is said to be valid. Reliability affects the validity of a test. A valid test must be reliable. The first condition for a measurement tool to be considered valid is that it is reliable (Alpar, 2010). The alpha coefficient scale calculated to measure reliability states that if 0.40 to 0.60 it is "low reliable", if 0.60 to 0.80 it is "highly reliable" and if 0.80 to 1.00 it is "highly reliable". When we examine the reliability of substances,

## NUTRIENTS

1. A high carbohydrate diet reduces the destruction of protein in the body.
2. After eating, drinking tea prevents iron intake from foods.
3. Spinach and chard plants are essential for our bodies in terms of iron supply.

4. The increase in the amount of vitamin C in our body prevents iron absorption.
5. The amount of protein in a glass of whole milk is greater than the amount of protein in a glass of skimmed milk.
6. The amount of calcium in a glass of whole milk is greater than the amount of calcium in a glass of skimmed milk.
7. Calcium is most easily obtained from Yellow leaf vegetables.
8. If a person wants to lose weight, they should choose to eat boiled potatoes instead of eating french fries.

As a result of the analysis carried out on the data, a reliability value of the scale's internal consistency cronbach alpha coefficient as low as  $\alpha = 0.414$  was obtained.

## LIQUID SUBSTANCES

1. A fluid loss of 2% of our body weight lowers our performance by 20%.
2. Weighing players before and after competitions is a good way to determine the fluid requirement of individuals.
3. The best time for an athlete to perform fluid intake during exercise is when he or she is thirsty.
4. Fruit juice should be consumed during training and between competitions.

5. Energy drinks such as” Monster “and” Red Bull “ should be consumed 30 minutes before training.

As a result of the analysis carried out on the data, a reliability value of the scale’s internal consistency cronbach alpha coefficient as low as  $\alpha = 0.067$  was obtained.

#### WEIGHT GAIN and WEIGHT LOSS

1. To increase lean muscle mass, it is necessary to eat protein-weighted novelties.
2. It is necessary to use protein powder to increase lean novelties.
3. If an athlete continues his / her training program without ever changing and drinks 6 cups of juice in addition to his / her normal diet, he / she is likely to gain weight.
4. Instead of 1 teaspoon of margarine on the sandwich bread 1 teaspoon of butter should apply.
5. He should eat more cheddar cheese instead of lean mozzarella cheese.
6. He should eat a small amount of salami and a lot of chicken breasts.
7. He should not eat pasta and rice after 17:00 in the evening.

8. To get more protein, he should eat muesli bars and dried fruit instead of eating yogurt.

As a result of the analysis carried out on the data, a reliability value of the scale’s internal consistency cronbach alpha coefficient as low as  $\alpha = 0.155$  was obtained.

#### FOOD SUPPLEMENTS

1. Creatine supplements are very beneficial for athletes who want to get their strength up to the top.
2. The effect of creatine use is quite effective when the body’s energy stores are depleted.
3. Creatine has a performance-enhancing effect, as well as a fat increase in body metabolism.
4. Creatine is very useful for improving performance in endurance exercises.
5. Multivitamin tablets should be used by athletes.
6. Athletes should use the iron tablet when they feel too tired and exhausted.
7. Vitamin C promoters should be used regularly by athletes.
8. Vitamin B should be used when energy drop is felt.



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International Refereed Academic Journal of Sports, Health and Medical Sciences

January - February - March Issue: 34 Winter Semester Year: 2020

Uluslararası Hakemli Akademik Spor Sağlık ve Tıp Bilimleri Dergisi

Ocak - Şubat - Mart Sayı: 34 Kış Dönemi Yıl: 2020

ID:475 K:459

ISSN Print: 2146-8508 Online 2147-1711

(ISO 18001-OH-0090-13001706 / ISO 14001-EM-0090-13001706 / ISO 9001-QM-0090-13001706 / ISO 10002-CM-0090-13001706)

(TRADEMARK)

(2015/04315- 2015-GE-18972)

Ninth Protein powder helps to burn fat in the body during exercise.

10. Salt tablets should be used by athletes to prevent cramps that may occur during exercise.

11. The athlete should use thermogenic tablets (L-carnitin) if the goal is to lose weight.

As a result of the analysis carried out on the data, a reliability value of the scale's internal

consistency cronbach alpha coefficient as low as  $\alpha = 0.417$  was obtained.

### TEST of NORMALITY

Normality analysis has been performed to measure whether our data is normally distributed. Normality analysis was studied with Kolmogorov-Smirnov test statistic. Since nutrients ( $p=0.077$ ) are all substances ( $p=0.098$ ), our data is normally distributed. It is not normally distributed for other scoring (Total Food, Liquids, Recovery, Weight Control, Food Sup.).

**Table 2. Normality Test**

	Kolmogorov-Smirnov <sup>a</sup>		
	Statistics	df	Sig.
# Food Ingredients	,113	55	<b>,077</b>
# Liquids	,159	55	,001
# Replenishment	,186	55	,001
# Weight Control	,148	55	,004
# Food Supplement	,136	55	,013
Cumulative	,109	55	<b>,098</b>



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**Table 3. Skewness and flatness values (Descriptive Statistics)**

	Skewness		Kurtosis	
	Statistic	Std. Error	Statistic	Std. Error
# Food Ingredients	-,102	,322	,319	,634
# Liquids	-,128	,322	-,739	,634
# Replenishment	,681	,322	,224	,634
# Weight Control	,780	,322	-,214	,634
# Food Supplements	,406	,322	,674	,634
Cumulative	,983	,322	2,438	,634
Valid N (listwise)				

## EVALUATION of FINDINGS

**Table 4. Percentage of Right, Wrong, Undecided and Unanswered Percentage of Respondents Given to Survey Questions**

	% Percentage			
	True	Wrong	Unstable	No Answer
Food Ingredients	%48,5	%11,5	%38,2	%1,8
Liquids	%37,2	%9,1	%53,5	%0,2
Replenishment	%25,1	%0,8	%32,4	%41,7
Weight Control	%31,5	%8,1	%36,5	%23,9
Food Supplement	%37,9	%19,0	%42,5	%0,6

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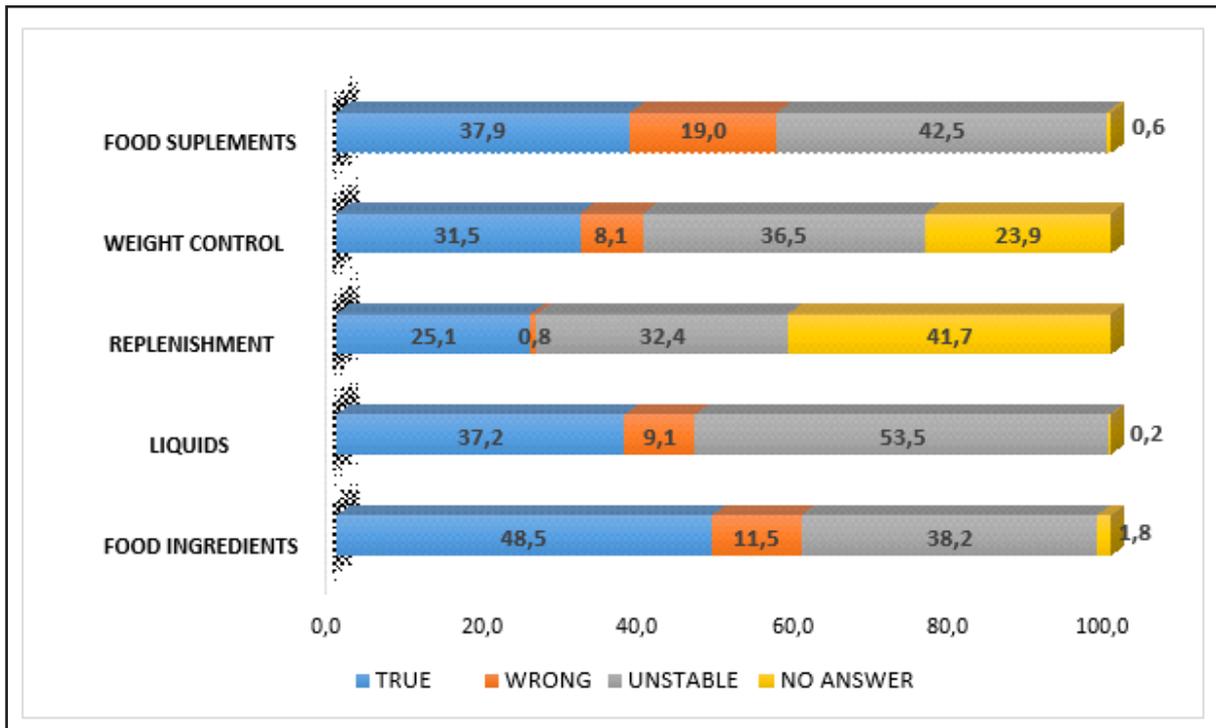
ISSN Print: 2146-8508 Online 2147-1711

(ISO 18001-OH-0090-13001706 / ISO 14001-EM-0090-13001706 / ISO 9001-QM-0090-13001706 / ISO 10002-CM-0090-13001706)

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**Table 5. Graphical Representation of the Percentage of Right, Wrong, Undecided and Unanswered Percentage Given by the Participants to the Survey Questions**



**Table 6. Mean Percentages and Standard Deviations of the Questions That the Participants Gave Right, Wrong, Undecided and Unanswered Questions**

	AVERAGE - STANDARD DEVIATION			
	TRUE	WRONG	UNSTABLE	NO ANSWER
Food Ingredients	20,4±5,1	4,8±5,4	16±4,3	0,7±1,1
Liquids	3,3±1,5	0,8±1,2	4,8±1,7	-
Replenishment	2,8±1,7	0,1±0,4	3,6±1,8	4,6±2,1
Weight Control	4,7±2,5	1,2±1,5	5,5±2,2	3,6±2,1
Food Supplements	4,2±2,1	2,1±2,8	4,7±2,4	0,1±0,3



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**Analysis on the basis of variables according to sex (nutrients, liquids, refreshments, weight control, food supplements, all variables) :**

Since the data is normally distributed (as can be understood from the normality test table, TOPBM and TOTALLAM  $p > 0.05$ ), Independent t test was performed. The Independent t test for independent groups is a statistical analysis method used to test whether the averages belonging to the two groups are different from each other. The Independent t

test examined whether there was a difference between sex and variables (nutrients and all variables).

H0: there is no difference between gender and variables (nutrients, liquids, replenishment, weight control, food supplements, all variables).

H1: there is a difference between gender and variables (nutrients, liquids, replenishment, weight control, food supplements, all variables).

**Table 7. Descriptive Statistical Table About Gender**

	GENDER	N	Mean	Standard Deviation	Standard Error Mean.
# FOOD ING.	WOMAN	11	17,27	5,042	1,52
	MAN	44	21,02	5,065	0,764
CUMULATIVE	WOMAN	11	30,73	5,424	1,635
	MAN	44	36,77	8,277	1,248

**Table 8. Homogeneity Test of Variances**

	Levene's Test		t-test						
	F	Sig.	t	df	Sig. (2-tailed)	Average Differences	Standard Error Differences	95% Confidence Int.	
								Lower	Upper
#FOOD Varians equal	,061	<b>,806</b>	<b>-2,198</b>	53	<b>,032</b>	-3,750	1,706	-7,171	-,329
Varians not equal			-2,204	15,453	,043	-3,750	1,701	-7,367	-,133
CUM. Varians equal	1,188	<b>,281</b>	<b>-2,294</b>	53	<b>,026</b>	-6,045	2,636	-11,332	-,759
Varians not equal			-2,939	23,204	,007	-6,045	2,057	-10,299	-1,792

The first table is the descriptive statistics table. In other words, it is the table that shows how many people are in which group and the mean and standard deviation of each group. The average for nutrients was 17.27 for girls and 21.02 for boys.

The F value in the first part of the Independent t test table is used to test whether the variances are homogeneous(Levene test). Right next to you, Sig. if the value is less than 0.05, the variance is not homogeneous( $p=0.806$  ;  $p=0.281$ ). Sig next to f. if the value is greater than 0.05, it is decided that the variances are homogeneous. Women and men were found to be different between Sex and nutrients and

all ingredients after the Independent t test for comparison of Nutritional Information levels. So the H0 hypothesis has been rejected ( $t= -2.198$  for nutrients ;  $p=0.032<0.05$  –  $t= -2.294$  for all ingredients ;  $p=0.026<0.05$ ). When looking at average values it can be said that boys are more than girls. Since other variables(liquids, replenishment, weight control, food supplements) were not normally distributed, the Mann Whitney U test was used. According to the results of the test, p values are greater than 0.05 and it was found that there was no difference between sex and liquid substances, renewal, weight control and food supplements.

**Table 9. Mann Whitney U Test (Hypothesis Test Summary)**

	Null Hypothesis	Test	Sig.	Decision
1	The Distribution of # Liquid and Gender	Indepentent-Samples Mann-Whitneu U Test	.691	Retain the null hypothesis
2	The Distribution of # Recovery and Gender	Indepentent-Samples Mann-Whitneu U Test	.242	Retain the null hypothesis
3	The Distribution of # Weight Control and Gender	Indepentent-Samples Mann-Whitneu U Test	.151	Retain the null hypothesis
4	The Distribution of # Food Suplement and Gender	Indepentent-Samples Mann-Whitneu U Test	.536	Retain the null hypothesis

Asymptotic significances are displayed. The significance level is ,05

**Variables (nutrients, liquids, regeneration, weight control, food supplements, all variables) analysis by income status:**

**Table 10. ANOVA Income Test**

	Number	%	Cumulativ %
2000 and Lower	16	29,1	29,1
2001-3000	16	29,1	58,2
3001 and Upper	23	41,8	100,0
Total	55	100,0	

In order to give statistically significant results in the analyses, data of 3000 and above were combined in the case of income.

One-way variance analysis (Anova) is used to calculate the difference between three and more independent averages in a normal distribution data. Anova alone compares the arithmetic averages of three or more groups; when

at least one of these comparisons is meaningful, the Anova result is also meaningful. The test investigated whether income states differed according to variables (nutrients, liquids, replenishment, weight control, food supplements, all variables). The homogeneity of the variances was tested with Levene test statistic and ANOVA test statistic was performed.



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International Refereed Academic Journal of Sports, Health and Medical Sciences

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Ocak - Şubat - Mart Sayı: 34 Kış Dönemi Yıl: 2020

ID:475 K:459

ISSN Print: 2146-8508 Online 2147-1711

(ISO 18001-OH-0090-13001706 / ISO 14001-EM-0090-13001706 / ISO 9001-QM-0090-13001706 / ISO 10002-CM-0090-13001706)

(TRADEMARK)

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H0: there is no difference between income states and variables (nutrients, liquids, repl-

nishment, weight control, food supplements, all variables).

**Table 11. Homogeneity Test of Variances**

	Levene Stat.	df1	df2	Sig.
# FOOD INGREDIENTS	,325	2	52	,724
CUMULATIVE	1,395	2	52	,257

The homogeneity of the variances was tested with the Levene test statistic. since  $p > 0.05$ , the variances are homogeneous.

**Table 12. ANOVA**

		Total Squares	Degree of Freedom	Mean	F	Sig.
# FOOD	Between groups	28,453	2	14,226	<b>,509</b>	<b>,604</b>
	In-group	1452,457	52	27,932		
	Total	1480,909	54			
CUMULATIVE	Between groups	12,840	2	6,420	<b>,094</b>	<b>,910</b>
	In-group	3548,688	52	68,244		
	Total	3561,527	54			

There was no difference between income states and variables (nutrients, all variables) according to the ANOVA test statistic. The H0 hypothesis has been accepted ( $F=0.509$  for nutrients;  $p=0.604 > 0.05$  –  $F=0.094$  for the sum of all substances;  $p=0.910 > 0.05$ ). Post

hoc analysis was not performed because there was no difference between income states.

The Kruskal Wallis test was performed because other variables (liquids, replenishment, weight control, food supplements) were not normally distributed.

**Table 13. Kruskal Wallis**

	# Weight			
	# Liquid	# Replenishment	Control	# Food Supplements
Chi-Square	,425	,488	,004	,279
df	2	2	2	2
Asymp. Sig.	,809	,783	,998	,870

According to the results of the test, p values are greater than 0.05 and it was found that there is no difference between income status and liquid substances, renewal, weight control and food supplements.

**Analysis on the basis of variables (nutrients, liquids, refreshments, weight control, food supplements, all variables) according to educational status in nutrition:**

H0: there is no difference between training and variables (nutrients, liquids, replenishment, weight control, food supplements, all variables).

H1: there is a difference between training and variables (nutrients, liquids, replenishment, weight control, food supplements, all variables).

**Table 14. Independent t Test**

HAVE YOU EVER BEEN EDUCATION ABOUT NUTRITION?		N	Mean	Standard Deviation	Standard Error Average
# FOOD	YES	24	20,29	6,868	1,402
	NO	31	20,26	3,633	0,652
CUM.	YES	24	36,54	10,476	2,138
	NO	31	34,81	5,764	1,035

The F value in the first part of the Independent t test table is used to test whether the variances are homogeneous(Levene test). Right next to you, Sig. if the value is less than 0.05, the variances are not homogeneous(p=0.001 ; p=0.009). After an Independent t test, it was

found that there was no difference between nutrients and all ingredients by training. So the H0 hypothesis has not been rejected (for nutrients t=0.022 ; p=0.983>0.05 – the sum of all substances t=0.730; p=0.470>0.05).

Since other variables (liquids, replenishment, weight control, food supplements) were not

normally distributed, the Mann Whitney U test was performed.

**Table 16. Mann Whitney U test (Hypothesis Test Summary)**

	Null Hypothesis	Test	Sig.	Decision
1	The Distribution of # Liquid and Nutrition Question	Independent-Samples Mann-Whitney U Test	.671	Retain the null hypothesis
2	The Distribution of # Recovery and Nutrition Question	Independent-Samples Mann-Whitney U Test	.197	Retain the null hypothesis
3	The Distribution of # Weight Control and Nutrition Question	Independent-Samples Mann-Whitney U Test	.514	Retain the null hypothesis
4	The Distribution of # Liquid and Nutrition Question	Independent-Samples Mann-Whitney U Test	.085	Retain the null hypothesis

Asymptotic significances are displayed. The significance level is ,05

According to the results of the test, p values are greater than 0.05 and it was found that there was no difference between nutrition education and liquid substances, renewal, weight control and food supplements.

## DISCUSSION and CONCLUSION

The main objective of this research is to compare nutrition information levels of female and male wrestlers participating in the Interuniversity Wrestling Championship held in Sivas province on April 25-30, 2017, and to examine the effect of income level and nutrition education on nutrition information levels of wrestlers.

According to the results of the research, it is understood that income status is not related

to nutritional information level. It was revealed that there was a difference between sex and nutrients and all ingredients (thought to be more common in men), there was no difference between liquids, refreshments, weight control, and food supplements. With training on nutrition, it was found that nutrients are not different from liquid ingredients, refreshment, weight control, food supplements, and not all ingredients.

As a result of research (Gümüşdağ and Kartal; 2019), it was determined that judoists had sufficient knowledge about nutrition. However, the level of nutrition knowledge can be further increased by directing athletes to nutrition training. Referees are seen to be affected by ads in preference to vitamins, whi-



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(TRADEMARK)

(2015/04315-2015-GE-18972)

le some people sometimes take ads into account. The majority of people are safe about the reliability of the illegally sold vitamins it seems that they are not, and 19. we can show the substance as evidence for that substance. In line with these results determined within the scope of the research, it was concluded that the vast majority of football referees do not use vitamins. But some referees seem to use vitamins. It is also observed that the sensitivity of referees on health-related issues is similar in all quarters. The referees think that they have sufficient knowledge about vitamins and act in favour of vitamin use in case of health problems. (Gümüldağ and Kartal; 2019).

As a result, it is thought that it will be useful to inform wrestlers who are trained at the university about their nutritional knowledge, which significantly affects performance and success. Research has shown that a significant proportion of athletes do not have sufficient knowledge of athlete nutrition, and some are erroneous found to have eating habits, family and coaches active in the training of athletes they were determined to be. It was therefore concluded that it would be beneficial for athletes and their families and coaches to be informed about athlete nutrition.

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