ARAŞTIRMA

INVESTIGATION OF NUTRITIONAL KNOWLEDGE AND HABITS OF UNIVERSITY STUDENTS*

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ABSTRACT
Aim: This research was conducted in order to determine the nutrition knowledge and habits of the students who are studying at Isparta Vocational School of Health Services, Suleyman Demirel University.
Methods: 116 students studying at the university have participated in the research voluntarily. A questionnaire consisting of 36 questions was administered to determine participants' knowledge and habits about nutrition. In the analysis of the obtained data, frequency analyses were performed using statistical package program.
Results: At the end of the study, it was determined that most of the participants had sufficient knowledge about nutrition, food items, the importance of nutrition and how a good nutrition should be. However, it has been found that the ratio of those who have inadequate knowledge about calorie intake and those who are fed with inadequate meals are at a level not to be underestimated.
Conclusions: In the light of these findings, we can say that vocational high school students should make more efforts to reflect the nutritional knowledge in daily life.
Keywords: Nutrition; habits; university; students.

ÖZET
Üniversite Öğrencilerinin Beslenme Bilgi ve Alışkanlıklarının İncelenmesi
Amaç: Bu araştırma, Süleyman Demirel Üniversitesi Isparta Sağlık Hizmetleri Meslek Yüksekokulu'nda öğrenim gören öğrencilerin beslenme bilgilerini ve alışkanlıklarını belirlemek amacıyla yapılmıştır.
Yöntem: Araştırmaya yüksekokulda öğrenim gören 116 öğrenci gönüllü olarak katılmıştır. Katılımcıların beslenme konusundaki bilgi ve alışkanlıklarını belirlemek için 36 sorudan oluşan anket uygulanmıştır. Elde edilen verilerin analizinde istatistiksel paket programı kullanılarak frekans analizleri yapılmıştır.
Bulgular: Araştırmanın sonunda, katılımcıların büyük bir bölümünün, beslenme, besin öğeleri, beslenmenin önemi ve iyi bir beslenmenin nasıl olması gerektiği konusunda yeterli bilgiye sahip oldukları belirlenmiştir. Ancak öğrencilerin içerisinde kalori alımı konusunda yetersiz bilgiye sahip olanların ve yetersiz öğün ile beslenenlerin oranının da azımsanmayacak düzeyde olduğu bulunmuştur.
Sonuç: Elde edilen bu bulgular ışığında meslek yüksekokulu öğrencilerinin beslenme konusundaki bilgilerini günlük hayata yansıtmaları için daha çok çaba sarf etmeleri gerektiğini söyleyebiliriz.
Anahtar Kelimeler: Beslenme; alışkanlıklar, üniversite; öğrenciler

INTRODUCTION

It is imperative that every living being be fed to survive. Nutrition is the amount of nutrients that people need to grow, develop, maintain healthy and productive lives for a long time, and take them in sufficient quantities to use them in the body. It is scientifically proved that growth and development are prevented and health is impaired when none of these items are taken or taken less or more than necessary. In this regard, the aim of nutrition is that the individual can provide all the nutrients necessary for his age, gender and physiological condition in sufficient quantities. This can be explained by the phrase "adequate and balanced nutrition". Adequate nutrition usually means providing the energy needed to sustain the body's life and work. At this point, carbohydrates, fats and proteins are the components providing energy. Balanced nutrition is the provision of all food

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items, alongside of energy, as needed (Baysal 1997).

The World Health Organization (WHO) states that the level of chronic diseases seen in developing countries can be reduced by proper dietary and lifestyle changes. In this context, the importance of healthy eating practices for the prevention of chronic diseases in public health approaches emerges as an important situation (Ulas and Genc 2010). It should not be forgotten that nutrition is as sociological and psychological as it is physiological. In every phase of life, to be healthy from the physical and mental aspect and to maintain health is possible with balanced nutrition. Today it is known that nutrition plays a key role in the prevention of many chronic diseases such as cardiovascular diseases, many types of cancer, obesity, hypertension, diabetes, allergic diseases, osteoporosis and tooth decay. Chronic diseases usually occur in adulthood, but the foundations of diseases are laid during childhood and teenage years (Tanır, Sasmaz, Beyhan and Bilici 2001).

Nowadays, it is observed that the eating habits of university students differ from those of the pre-higher education. Underlying this, is the more free choices made about nutrition by the university student newly separated from his/her family. Wrong diet emerges at this stage as the youth concentrates their attention on body development and aesthetic appearance. Young people in this period tend to use superfluous foods and beverages as well as diets that are published on mass media due to aesthetic concerns which tend to feed young people inadequately and unbalancedly. Changing nutritional behaviors can affect the mental and physical state of the university student as well as the school performance indirectly. Therefore, it is very important to identify the nutritional knowledge and habits of the university students and to develop appropriate suggestions for the situation. For this reason, although nutrition is important for every segment of the society, it also has a different significance for the university youth. However, the fact that young people have the right eating habits has a social significance both in terms of their own health in future periods and the role of this group as an example model. Determination of the nutritional status with such great importance and the measures to be taken for future periods is important not only for young people but also for the public health of the young people. The identification of student nutritional tendencies is important in terms of

regulation of nutritional habits in the adult period and prevention of possible disorders that may be caused by inappropriate nutrition (Mazıcıoglu and Oztürk 2003). Concordantly in this study, it is aimed to determine the knowledge and habits of the university students about nutrition.

METHODS

Design: This descriptive study was conducted using a questionnaire, which consists of questions intended to determine, with some demographic information, the nutritional knowledge and habits of the participants.

Population: The population of this study consisted of students who studying at Suleyman Demirel University, Isparta Vocational School of Health Services.

Sample and Setting: The sample consisted of 116 students who agreed to participate in the study. The students participating in the survey were selected from within the School by Random Selection Method.

Ethical considerations: Verbal permission for the study was obtained from the School Directorate and the students accepting to participate were asked to give the researchers their verbal consent. However, only volunteer students were included in the study and no student was forced to participate in the survey.

Data collection: Data were collected through a questionnaire prepared by the researchers between 17-21 June 2013. The questionnaire was filled with face-to-face interview method with the students. The survey took 15 minutes to answer.

Data analysis: In the analysis of the obtained data, statistical package program (SPSS 15.0) was used. Frequency analysis has been done in this program.

Limitations of the Study: This study had several limitations. This study was conducted in a university located in Isparta, Turkey. So, these findings cannot be generalised to Turkey. Students who agreed to participate were included in the study.

RESULTS AND DISCUSSION

The mean age of the students participating in the study was 19.5 years and 65.7 % were female.

The 3 out of every 4 participants who participated in the survey have breakfast in the mornings (Table 1). According to these findings, we can say that participating university students generally have regular breakfast habits. It was determined in a study on high school students that 63.2 % of the students have breakfast daily,

8.3 % of them have breakfast every other day, 20.7 % of them have it 1-2 times a week, 2.3 % of them have it 1-2 times a month, and 5.5 % of them did not have any breakfast at all (Aslan, Gurtan, Hacım, Karaca, Senol and Yıldırım 2003). It has been noted that having regular breakfast is a habit that helps to maintain health throughout life (Önder, Kurdoğlu, Oğuz, Özben, Atilla and Oral 2000). University period; it is a time when the freedom and responsibilities of individuals increase (Niemeier, Raynor, Lloyd-Richardson, Rogers and Wing 2006). In our country, in studies on the eating habits of university youth; during this period, it was reported that very serious problems related to nutrition are experienced, students usually do not pay attention to the meals, they skip meals especially the breakfast (Mazıcıoglu and Oztürk 2003; Gülec, Yabancı, Goçgeldi and Bakır 2008). Similarly, in the United States, between 1965 and 1991, breakfast consumption was found to be lowest among the 19-29 year olds (Haines, Guilkey and Popkin 1996). Since university students serve as an example for the society, it is important for them to have the right eating habits (Vancelik, Onal, Guraksın and Beyhun 2007). Breakfast is an important meal for people. The individual should take daily energy and nutrient needs adequately and balancedly at every single meal. Breakfast is also described as the first and the most important of these meals. At the beginning of a new day, the amount and composition of breakfast plays a big role in beginning the day well and keeping it productive throughout the day. Our body continues to work even while we sleep. It takes about 12 hours between dinner and the next morning. During this time, the body uses all the nutrients, and if breakfast is not done in the morning, the brain will not get enough energy. In this case, difficulties such as fatigue, headache, and attention deficit are experienced. Without a breakfast, the body uses its own stores and its resistance against the diseases falls (Merdol 2001).

The 57.8 % of the participants were informed about nutrition during education. 50.7 % of the participants who were informed during education use the information in food selection (Table 1). It was reported in a study conducted that 47.2 % of the students had received education in nutrition and 27.7 % of those who received education participated in a conference or training related to nutrition apart from the classroom education (Mazıcıoglu and Ozturk 2003). In another research conducted, it was reported that 41 % of the university students received nutrition education in school education (Ermis, Dogan, Erilli and Satıcı 2015). In this study, we think that the reason why the number of students receiving nutrition education is high is due to the fact that the research group is in a health-related department and that the students have taken this topic in the compulsory courses.

A large majority of participants (89.7 %) think that "life would fall into danger if the human body lost all carbohydrates and fat, half of the proteins, and 10 % of the body water" (Table 1). In another research, it was reported that 78.4 % of the university students think that fats have important roles in the body (Ozdogan and Ozcelik 2011). In a study carried out with college students, three quarters of participants agreed/strongly agreed that the nutritional content of foods is important and that a right ratio of carbohydrates, fats, and proteins to achieve/maintain health exists (Davy, Benes and Driskell 2006). Sufficient drinking of water daily is vital to ensure that the blood carries nutrients and that the tissues receive adequate nutrition. Water from our bodies is lost by way of urination, sweating, respiration and excretion. When we do not get enough fluid to compensate for the amount we lost daily, the body cells fail. Vital body works fall in danger in the case of a 10 % water loss in the body. For this reason, you should drink water before you get thirsty (Pehlivan 2009). Proteins have great duties in maintaining vital activities (Saygılı and Balcıoglu 2003). It is seen that the students who participated in our research also agree with that idea. The high rate of correct answers indicated that the students were aware of the importance of carbohydrates, fat, protein and body water.

According to 93.8 % of respondents, the control of body temperature, the transport of electrolytes and the digestion of nutrients are among the tasks of the water. 83.8 % of the individuals participating in the study say that "calcium, potassium, phosphorus and chlorine are present as ions in the human body". The majority of the participants (90.4 %) think that minerals are the building blocks of hard tissues such as bones and teeth in the body (Table 1).

Table 1. Answers that given by participants to some expressions

Questions	Answers	n	%
Do you have breakfast in the morning?	Yes	87	75.0
	No	29	25.0
	Total	116	100
Have you been informed about nutrition during education?	Yes	67	57.8
	No	49	42.2
	Total	116	100
If you were informed during the education, do you put this knowledge to use in food selection?	Yes	34	50.7
	No	33	49.3
	Total*	67	100
If all the carbohydrates and fat, half of the proteins and 10 % of the body water in the human body are lost, life will fall into danger.	Yes	96	89.7
	No	11	10.3
	Total*	107	100
The control of body temperature, the transport of electrolytes and the digestion of nutrients are among the tasks of the water.	Yes	106	93.8
	No	7	6.2
	Total*	113	100
Calcium, potassium, phosphorus and chlorine are present as ions in the human body.	Yes	93	83.8
	No	18	16.2
	Total*	111	100
Minerals are the building blocks of hard tissues such as bones and teeth in the body.	Yes	103	90.4
	No	11	9.6
	Total*	114	100
While protein rich foods form acid, vegetables and fruit form base.	Yes	67	58.8
	No	47	41.2
	Total*	114	100
Table salt meets your need for chlorine.	Yes	93	80.9
	No	22	19.1
	Total*	115	100
The decrease in the relative calcium ratio in blood causes nerve and muscle work disruption.	Yes	93	82.3
	No	20	17.7
	Total*	113	100
Milk and its derivatives, molasses, sesame, hazelnut and dried fruits are calcium sources.	Yes	89	78.1
	No	25	21.9
	Total*	114	100
Organ meat, fish, egg and milk are sources of phosphorus.	Yes	79	69.9
	No	34	30.1
	Total*	113	100
The need for cholesterol is derived from animal fats only.	Yes	71	62.3
	No	43	37.7
	Total*	114	100
Glucose and sucrose are found in fruit.	Yes	89	79.5
	No	23	20.5
	Total*	112	100
Cellulose is a polysaccharide.	Yes	91	80.5
	No	22	19.5
	Total*	113	100
Protein is most commonly found in soya, white cheese, lentils, dried beans, and meat.	Yes	89	78.8
	No	24	21.2
	Total*	113	100

	Yes	96	84.2
A, E, D, B2, B6, B12 vitamins are found in fish.	No	18	15.8
	Total*	114	100

*Analyzes were made on students who answered the related questions, and those who left blank were excluded from the analysis.

Part of the minerals, especially calcium and phosphorus, are the building blocks of skeletons and teeth (Dorozhkin and Epple 2002). In a research, it was found that most of the university students were familiar with the importance of calcium (98.9%) in bone health (Uddin, Huda, Jhanker, Jesmeen, Imam and Akter 2013). Another part of the minerals (such as sodium, potassium) helps keep the body water in balance (Lobo, Bostock, Neal, Perkins, Rowlands and Allison 2002). Minerals such as iron are necessary for the transport of oxygen, which is essential for energy to form from the food items in the body (Rouault 2003). Some minerals are involved in the composition of the enzymes that,
regulate the body's functioning. Others (zinc, selenium) are used in the sufficiency of the defense system (Mocchegiani, Romeo, Malavolta, Costarelli, Giacconi, Diaz et al. 2013). In this context, we can say that the students who participated in our research know the benefits of minerals in general.

While 58.8 % of respondents said yes, 41.2 % gave no as a response to the statement that "protein rich foods form acid, and vegetables and fruit form base". 9 out of every 10 participants participating in the study think that meals meet your need for salt. 82.3 % of respondents answered yes to the knowledge that "the decrease in the relative calcium ratio in blood causes nerve and muscle work disruption". 78.1 % of the participants think that "milk and its derivatives, molasses, sesame, hazelnut and dried fruits are calcium sources". Similarly, in another research it was indicated that the majority of the students (81.5%) think that "milk and milk products are the best sources of calcium" (Ozdogan and Ozcelik 2011). The high rate of correct answers indicated that the students were aware of the importance of calcium. While 69.9 % of respondents said yes, 30.1 % gave no as a response to the statement that "Organ meat, fish, egg and milk are phosphorus sources". According to 62.3 % of the individuals participating in the study, the need for cholesterol is derived from animal fats only. 79.5 % of respondents agree with the opinion that "glucose and sucrose are found in fruit". 80.5 %

of the individuals participating in the study think that cellulose is a polysaccharide (Table 1). Cholesterol is an oil-like ingredient found only in foods of animal origin (Ersoy 2007). Fruits are also known to be carbohydrate-containing foods in general (Gillespie, Kulkarni and Daly 1998). In this context, it is observed that the students who participated in the research have general knowledge about the sugar content of cholesterol and fruit. 78.8 % of the participants think that protein is most commonly found in soya, white cheese, lentils, dried beans, and meat. 84.2 % of the participants agree with the opinion that "A, E, D, B2, B6, B12 vitamins are found in fish" (Table 1). It is known that most of the D and B vitamins are found in fish and other nutrients are rich in protein (Miles and Chapman 2006). In this context, we can say that the students who participated in our research have a good level of knowledge about nutrients in question. 40 % of participants think that 1 cup of milk should be consumed per day, 47.3 % think that 2 cups should be consumed and 83 % of participants drink 1 cup of milk a day (Table 2). It is known that milk has a great importance in meeting the basic calcium need (Ersoy and Hasbay 2006). In another studies with university students in Turkey, the consumption of milk was found to be lower (Mazıcıoglu and Oztürk 2003; Sevindi, Yılmaz, İbiş and Yılmaz 2007; Yılmaz and Ozkan 2007).

The amount of carbohydrate to be taken per day was 100-250 g according to 8.8 % of participants, 20-30 g according to 24.5 %, 50-70 g according to 33.3 %, and 100-125 g according to 33.3 %. 12.9 % of the participants think that 3.05 g/kg, 34.7 % think that 2.0 g/kg, 37.6 % think that 0.75 g/kg and 14.9 % think that 0.125 g/kg protein is the amount that should be taken daily (Table 2). Proteins are the building blocks of cells. In the strengthening of the immune system, proteins play a major role in the growth, development and formation of new tissues, in the renewal of old tissues, in the formation of antibodies fighting diseases, in the production of certain hormones and enzymes and in the provision of body fluid, acid and base balance.

Table 2. Knowledge levels of the participants about the consumption amounts of some foods that should be consumed

Questions	Answers	n	%
How much milk should a person in your age drink in a day?	1 cup	44	40.0
	2 cups	52	47.2
	3 cups	7	6.4
	4 cups	7	6.4
	Total*	110	100
How much milk do you drink?	1 cup	78	83.0
	2 cups	10	10.6
	3 cups	3	3.2
	4 cups	3	3.2
	Total*	94	100
How much is the amount of carbohydrates you need to take daily according to your	100-250 g	9	8.9
	20-30 g	25	24.5
	50-70 g	34	33.3
	100-125 g	34	33.3
	Total*	102	100
How much is the amount of protein you need to take daily according to your age?	3.05 g/kg	13	12.9
	2.0 g/kg	35	34.6
	0.75 g/kg	38	37.6
	0.125g/kg	15	14.9
	Total*	101	100
How much is the amount of water to be taken daily?	500 ml	12	11.0
	2200 ml	71	65.1
	1000 ml	24	22.0
	750 ml	2	1.9
	Total*	109	100
How much is the amount of calorie you need to take daily?	500 kcal	20	18.9
	1000 kcal	35	33.0
	1500 kcal	36	34.0
	2000 kcal	15	14.1
	Total*	106	100

*Analyzes were made on students who answered the related questions, and those who left blank were excluded from the analysis.

At the same time, the proteins also act as energizing agents (1 gram = 4 kcal) (Parker, Hamlin, Coleman and Fitzpatrick 2003; Karacabey and Ozdemir 2012). Daily protein intake in young individuals is 0.8 g per kilogram (Pehlivan 2009). Within this context, it is necessary to pay attention to the intake of protein, which has a great importance for the body. And, in order to pay attention to protein intake, one has to calculate daily protein intake and get enough protein.

The 11 % of the participants think that 500 ml, 65.1 % think that 2200 ml, 22 % think that 1000 ml and 1.8 % think that 750 ml of water per day should be consumed (Table 2). Water is the most important ingredient that comes after oxygen to live.

About 67 % of the adult human body is water. Water plays an important role in The digestion, absorption and transport of nutrients to the cells and in the control of body temperature. For this reason, about 2 liters of water should be drunk daily (Meyerowitz 2001). Within this scope, we can say that the students who participated in our study have generally sufficient knowledge about fluid intake.

The 18.9 % of participants think that 500 kcal a day, 33 % think that 1000 kcal a day, 34 % think that 1500 kcal a day and 14.2 % think that 2000 kcal a day should be taken (Table 2). In normal people, the energy need is the basal metabolism (the energy required for the operation of the organs and systems = 1000-1400 kcal), the energy required for daily bodily movements and the thermal effect of food (energy expenditure for food digestion) (Pehlivan 2009). It should be noted that the nourishment an adult should take on a daily basis is at about 2200 kcal per day. Within this scope, we can say that the students who participated in our study generally do not have sufficient knowledge about calorie intake. Health is based on adequate and balanced (healthy) nutrition (Kleiser, Mensink, Scheidt-Nave and Kurth 2009). For this reason, individuals need to calculate the nutrients and energy level they need to take daily.

The vast majority of individuals participated in the survey (83.5 %) think that protein is the most abundant nutrient found in meat. 34.9 % of the participants think that in milk the minerals are found the most, 39.4 % think that it has protein, 20.2 % think that it has vitamin and 5.5 % think that it has carbohydrate the most. 13.8 % of the individuals who participated in the survey think that in cereals protein is found the most, 21.1 % think that mineral, 63.3% think that carbohydrate, and 1.8 % think that fat is found the most in cereals (Table 3). Proteins are the most common nutrients in meat and meat products and milk and dairy products (Saygılı and Balcıoglu 2003). Cereals are nutrients found at the base of the food pyramid and constitute the basis of all meals (Ersoy 2007). Cereals are nutrients that contain carbohydrates, minerals, proteins, some

B group vitamins and fibers (Sarwar, Sarwar, Sarwar, Qadri and Moghal 2013). Within this scope, we can say that the students who participated in our study have generally sufficient knowledge about nutrient content of meat, milk and cereal products.

Table 3. Knowledge levels of the participants about the contents of certain foodstuffs

Questions	Answers	n	%
Which food group is most commonly found in meat?	Proteins	91	83.5
	Fat	13	11.9
	Vitamins	3	2.8
	Minerals	2	1.8
	Total*	109	100
Which food group is most commonly found in milk?	Minerals	38	34.9
	Proteins	43	39.4
	Vitamins	22	20.2
	Carbohydrate	6	5.5
	Total*	109	100
Which food group is most commonly found in cereals?	Proteins	15	13.8
	Minerals	23	21.1
	Carbohydrate	69	63.3
	Fat	2	1.8
	Total*	109	100

*Analyzes were made on students who answered the related questions, and those who left blank were excluded from the analysis.

In the absence of carbohydrates; 14.4 % of the participants think that constipation will occur, 57.7 % think that it will decrease body resistance, 21.2 % think that diseases will last longer, and 6.7 % think that course of diseases will be severer. Lack of carbohydrate causes circumstances such as fatigue in the body, impaired health, and mental loss of concentration (Saygılı and Balcıoglu 2003). Proteins are the most basic nutrients necessary for growth, development, maintenance of the body's resistance and for the continuity of the cells (Malina 1986). In the absence of proteins; 20.8 % of the participants think that growing will stop, 20.8 % think that bodyweight will start to decrease, 12.3 % think that the probability of catching diseases will increase, and 46.2 % think that all these health problems will occur. 62.4 % of the participants think that vitamin deficiency, 25.7 % think that protein deficiency, 6.4 % think that mineral deficiency, and 5.5 % think that

carbohydrate deficiency cause night blindness, rickets and beriberi (Table 4).

Table 4. Knowledge levels of the participants about the diseases that leads to lack of some nutritions

Questions	Answers	n	%
What disorder will carbohydrate deficiency cause?	Constipati	15	14.4
	Body resistance falls	60	57.7
	Diseases last longer	22	21.2
	Course of diseases	7	6.7
	Total*	104	100
What disorder will protein deficiency cause?	Growth stops	22	20.8
	Bodyweight starts to decrease	22	20.8
	Probability of catching diseases increases	13	12.2
	All of them	49	46.2
	Total*	106	100
Night blindness, rickets and beriberi occurs in the absence of which of the following?	Minerals	7	6.4
	Proteins	28	25.7
	Vitamins	68	62.4
	Carbohydr	6	5.5
	Total*	109	100

*Analyzes were made on students who answered the related questions, and those who left blank were excluded from the analysis.

The 39.8 % of the participants eat cheese, honey and butter in the morning and 44.6 % of them have a snack. While only 4.3 % of the participants eat 1 meal per day, 38.8 % of them eat 2 meals, 39.7 % of them eat 3 meals, and 17.2 % of them eat 4 meals a day. While 27 % of the participants do not have lunch, 27 % of them eat in the dining hall, 25.2 % of them have a snack form the school canteen, and 20.7 % eat something in a sandwich. While 30.4 % of the individuals participating in the research do not eat fruit every day, 33 % of them eat seasonally and 27 % eat occasionally (Table 5).

Table 5. Participants' meal status and other knowledge about nutrition

Questions	Answers	n	%
What do you eat for breakfast?	I just have a cup of tea	7	8.4
	I just have a cup of milk	6	7.2
	I make breakfast with cheese, honey, and butter	33	39.8
	I have a snack	37	44.6
	Total*	83	100
How many meals do you eat per day?	1 meal	5	4.3
	2 meals	45	38.8
	3 meals	46	39.7
	4 meals	20	17.2
	Total	116	100
Do you have lunch?	I do not have lunch	30	27.0
	I eat in the dining hall	30	27.0
	I have a snack from the school canteen	28	25.2
	I eat something in a sandwich	23	20.8
	Total*	111	100
Do you eat fruit every day?	I do not	35	30.4
	I eat seasonally	38	33.0
	I eat occasionally	31	27.0
	I eat if it comes to my mind	11	9.6
	Total*	115	100
What is a balanced diet?	To take all kinds of nutrients daily.	10	9.2
	To take adequate nutrients that the body needs	83	76.2
	Daily protein need	8	7.3
	I do not know	8	7.3
	Total*	109	100
At what stage of your education did you get more information about nutrition?	Primary school	11	16.4
	Secondary school	6	9.0
	High school	41	61.2
	University	9	13.4
	Total*	67	100
From which source do you get knowledge about nutrition the most?	Radio	1	1.0
	Dietitian	24	22.2
	Doctor	23	21.3
	Magazines	12	11.1
	Newspapers	9	8.3
	Books	4	3.7
	TV	16	14.8
	Other	19	17.6
	Total*	108	100

*Analyzes were made on students who answered the related questions, and those who left blank were excluded from the analysis.

Similarly, it was indicated in another study that 48.9 % of the students prefer to eat three meals a day (breakfast, lunch and dinner), 24.8 % of them eat less than three meals a day, and prefer school dining hall for lunch (Mazıcıoglu and Oztürk 2003). Similar results were obtained during the investigation of medical students at Kaunas University of Medicine in Lithuania. In this research, it was indicated that only approximately 20% of students ate 400 g of fruit and vegetables dail (Škėmienė, Ustinavičienė, Piešinė and Radišauskas 2007).

According to these findings, we can say that the college students participating in the research usually eat 2-3 meals a day, and their frequency of having lunches and fruit differ.

It has been stated that the number of meals and the nutrients to be consumed at meals should be well planned. It is also advisable to have at least one food from each food group present at each main meal. Daily energy can be taken divided as 20 % for breakfast, 25 % for lunch and dinner, and 15 % for snacks. Small amounts of 5-7 small meals a day are preferred due to increased daily performance and less body fat compared to 2-3 large meals. After meals, there should be 2.5-3 hours of time to digest what has been eaten. However, it is reported in the studies that taking the necessary nutrients daily is more important than their time (Pehlivan 2009).

Approximately 3 out of every 4 participants believe that getting enough of the nutrients that the body needs is balanced nutrition (Table 5).). In contrast, 85.6% of students were aware of the concept of nutritionally balanced food in China University students (Sakamaki, Toyama, Amamoto, Liu and Shinfuku 2005). Adequate and balanced nutrition; is identified as regular, constant and economic provision of nutrients and energy to the body, which are required for the protection of health, growth and development, in essential quantity, quality, and varieties (Gibson and Williams 2005). In this context, we can say that most of the college students who participated in the research have sufficient knowledge about adequate and balanced nutrition. 16.4 % of the individuals participating in the survey received information about nutrition in primary school, 9 % in middle school, 61.2 % in high school and 13.4 % in university. Participants' sources of information about nutrition were radio (0.9 %), dietitian (22.2 %), doctors (21.3 %), magazines (11.1 %), newspapers (8.3 %), books (3.7 %), and TV (14.8 %) respectively. 17.6 % of the participants are informed through other sources (Table 5). In another study unlike our findings, a significantly larger (P<0.05) percentage of women than men obtained most of their nutrition knowledge from family members (58.0% vs 40.0%) and magazines/newspapers (43.1% vs 30.5%) (Davy, Benes and Driskell 2006). Based on these findings, we can say that the participants received the most knowledge about nutrition in high school and that they turned to the doctors and dietitians to get information about nutrition.

CONCLUSION

As a result, it was determined that the students who participated in the research had generally sufficient knowledge about nutrition. However, it has been observed that there are some areas where students do not use the nutritional knowledge they have in their daily life. In order to eat adequately and healthily, there is a need for sufficient knowledge about nutrition and the development of behavior out of these knowledges. Nutrition education from childhood to adulthood should be emphasized for the development of behaviors and habits. In order to improve the results of our work we can propose the following;

1. Studies can be done to determine the nutrition knowledge and habits of university students who are studying at different universities, faculties or institutes.

2. Studies aiming to determine the socio-economic and demographic characteristics that affect the eating habits of college students can be done.

3. Studies can be done to examine the effects of eating habits on school success in college students.

Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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