

NUTRITION HABITS AND FOOD CONSUMPTION FREQUENCIES OF MEDICAL FACULTY STUDENTS

TIP FAKÜLTESİ ÖĞRENCİLERİNİN BESLENME ALIŞKANLIKLARI VE BESİN TÜKETİM SIKLIKLARI

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ABSTRACT

Objective: Medical faculty students may develop irregular eating habits for reasons such as their social – economic situations, adaptation to faculty life, dormitory or their new environment. As a result, some students eventually ignore their basic food requirements and have a diet that is carbohydrate, saturated fat and cholesterol rich. Our aim was to search the nutritional habits and food consumption of medical faculty students in order to provide a healthy diet advice.

Material and Method: This study was conducted with the first, fourth and sixth year students of Istanbul University, Medical Faculty in the 2009-2010 academic year. Interview Forms were given to 746 students. They accepted to take part in this study voluntarily and answered the questions under our observation. Interview Forms included a questionnaire with 17 questions and a monthly food consumption frequency form.

Results: It was found that 1/3 of the students did not have three meals a day, almost half of the students had irregular meal times and more than 3/4 of the students had irregular and unhealthy meals. Some of the students had pre-existing health problems so they needed special diets. In all, 5.4% of the students had food allergies. In addition, the number of meals eaten decreased and irregular eating habits increased with the students' academic year progression. The most preferred snacks were found to be chocolate, wafers, cream-cakes, sweet foods, tea, coffee, cake, biscuits, fruit juice, fruit, cola, soda and nuts respectively.

Conclusion: These results showed that medical students have to give greater importance to their nutrition. We should continue to give nutritional education for students and control the content of the canteen and refectory menus.

Key Words: Students, nutrition habit, food consumption frequency, medicine.

ÖZET

Amaç: Tıp fakültesi öğrencileri sosyo-ekonomik durum, okul, yurt ve yeni çevreye uyum sağlama gibi nedenlerle düzensiz yemek yeme alışkanlıkları kazanabilirler. Bunun sonucunda temel besin gereksinimlerini karşılayamayıp, karbonhidrat, doymuş yağ ve kolesterolden zengin beslenebilirler. Tıp fakültesinde öğrencilerin sağlıklı beslenmelerini sağlayabilmek için bu çalışmada öğrencilerin beslenme alışkanlıklarının ve besin tüketimlerinin araştırılması amaçlandı.

Materyal ve Metod: Çalışma 2009-2010 öğretim yılında İstanbul Üniversitesi İstanbul Tıp Fakültesi'nde okuyan 1., 4. ve 6. sınıf öğrencileri ile gerçekleştirildi. Araştırmaya gönüllü olarak katılmayı kabul eden 746 öğrenciye Görüşme Formları, "Toplum Beslenmesi Dersi"nde "Gözlem Altında Yanıtlama Yöntemi" ile uygulandı. Görüşme formları 17 sorudan oluşan anket formu ve aylık besin tüketim sıklığı formunu içeriyordu.

Bulgular: Öğrencilerin üçte biri günde üç öğün yemek yiyemiyordu, yarıya yakınının öğün saatleri düzensizdi, dörtte üçünden fazlası düzensiz ve sağlıksız atıştırma yapıyordu, %5'inin özel diyet gerektiren sağlık sorunu vardı. Sınıflar yükseldikçe öğün sayısı azalıyordu, düzensiz atıştırma artıyordu. Düzensiz atıştırmada en çok tercih edilen gıdalar sırasıyla çikolata, gofret, pasta, tatlı gıdalar, çay, kahve, kek, kurabiye, meyve suyu, meyve, kolalı içecekler, gazoz, kuruyemiş idi.

Sonuç: Bu sonuçlar tıp fakültesi öğrencilerinin beslenmelerine özel önem verilmesi gerektiğini göstermektedir. Öğrencilere beslenme eğitimi verilmesine, ayrıca kantin ve yemekhanedeki menülerin kontrol edilmesine devam edilmelidir.

Anahtar Kelimeler: Öğrenciler, beslenme alışkanlığı, besin tüketim sıklığı, tıp

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INTRODUCTION

The last years of adolescence coincide with the first years of university education, because physical growth and development is visibly fast in adolescence, an adequate and balanced diet should be provided. Adolescents and young people perceive their bodies differently, through aesthetic concerns, and this may cause some people to eat more or less. In this period, if attention is not paid to regular meals, physical growth and success in academic courses can be affected negatively. In addition, some changes in adolescents' life such as registering to an educational faculty, living in a dormitory, starting to smoke, drinking alcohol, level of exercise and other circumstances affect their energy and nutriment intake. Eating habits in this period will probably continue into adulthood so primary preventions with healthy eating should be provided to prevent diseases that may arise such as diabetes, obesity, osteoporosis. During adolescence and youth, if we add some social factors to the nutritional factors such as economic status, living conditions and possible inadequate education of young people, this will reveal the importance of detecting dietary problems and improving eating habits for students. Medical faculty students may have irregular eating habits for reasons such as social – economic situations, problems with adapting to the faculty, dormitory or their new environment. As a result, they may eventually ignore their basic food requirements, they may rely on a carbohydrate, saturated fat and cholesterol rich diet. The aim of the study was to search the nutritional habits and frequencies of food consumption of medical students to provide better healthy eating education. (14,16).

MATERIALS AND METHODS

This study was conducted with the first, fourth and sixth year students in Istanbul Medical Faculty in the 2009-2010 academic year. The first, the fourth and the sixth year students of Public Health were selected for the study groups because a course titled "Nutrition" is given

as a lecture in these classes in terms of Public Health. It was aimed to reach all the students in these classes without sampling. Interview Forms were given to 746 students who voluntarily agreed to participate in this study under our observation. Participation rate was 67.7% for the first year (306/452), 59.6% for the fourth year (214/359), and 77.1% for the sixth year (226/293). The total participation rate was 67.6% for these three groups so the study was representative of these classes. Interview Forms included a questionnaire and a Monthly Food Consumption Frequency Form. Seventeen questions were asked to the students to collect knowledge about their demographic characteristics and some eating habits. The Monthly Food Consumption Frequency Form that was used was based on forms used in similar studies carried out in Turkey. Frequency, percentage rate, mean, standard deviation and chi – square test were used for data analysis. Statistical results were evaluated for 95% confidence interval and $p < 0.05$ was accepted as statistically significant.

3. Results

In total, 40.0% (n:299) of the students were female; 60.0% (n:447) of the students were male among the 746 students questioned about their nutritional habits. 22.8% (n:170) of the students lived with their families; 40.1% (n:299) lived with friends; 6.3% (n:47) lived with relatives; 23.2% (n:173) lived in a dormitory; 7.6% (n:57) lived elsewhere. In all, 7.4% (n:55) of the students' families consisted of 7 people or more. As to meal frequencies, 2.4% (n:18) of the students had one meal a day; 27.7% (n:207) had two meals a day, 67.2% (n:501) had three meals a day, 2.7% (n:20) had more than three meals a day. 55.4% (n:413) of the students had their meals regularly. There was a significant difference between academic year and the number of main meals

($\chi^2 : 39.57, p < 0.001$) (Table 1). As the academic years progressed, the number of meals decreased.

Table 1 : Distribution of the number of main meals of medical students relevant to academic year.

	Academic Year	Number of main meals			Total
		n (%)	n (%)	n (%)	
	1st	9 (50.0)	50 (24.2)	243 (48.5)	302
	4th	5 (27.8)	69 (33.3)	135 (26.9)	209
	6th	4 (22.2)	88 (42.5)	123 (24.6)	215
	Total	18	207	501	726

The results indicated that 82.3% (n:614) of students had irregular eating habits and poor diets. Mostly they preferred chocolate, wafers, cakes, dessert, tea, coffee, biscuits, fruit juice, fruit, soft drinks and nuts respectively. There was no significant difference between students' regular diet and income levels of the students' families ($\chi^2 : 5.09, p : 0.078$) (Table 2). As the academic years progressed the number of students'

regular meal times decreased ($\chi^2 : 12.73, p : 0.002$) (Table 3).

Food allergies were declared by 5.4% (n:40) of the students. According to the students' answers, milk, strawberry, honey, tomato, egg and packaged nuts caused the most frequent allergies, respectively. Also, 5.2% (n:39) of the students had implemented a special diet. The reasons for these diets were obesity, fitness,

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hypertension, constipation, diabetes, hyperthyroidism, reflux, hyperuricemia and weight gain respectively. Monthly food consumption frequencies of the students are shown at Table 4. The most frequently consumed foods were found to be bread, cheese, oil, sugar, jam, fresh fruit and vegetables respectively, for each day. Consumed food frequencies are listed as white bread, 64.1% (n:478); olive oil, 19.0% (n:142); whole-wheat bread, 19.2% (n:143); sunflower, soybean, corn oil, 22% (n:164); full-fat white cheese, 23.5% (n:175); sugar, jam, 36.1% (n:269); low-fat white cheese, 10.1%

(n:75); fresh fruit, 26.4% (n:197); cheddar cheese, 11.3% (n:84), fresh vegetables, 15.7% (n:117). Frequently consumed drinks for each day are listed as tea-coffee 75.2% (n:561); soft drinks 13.7% (n:102); alcoholic beverages 1.2% (n:9). Foods less consumed were: Tail fat 66.8% (n:498); hazelnut oil 63.1% (n:471); margarine (soft) 41.3% (n:308); fat-free (skim) milk 50.5% (n:377); margarine (not soft) 47.7% (n:356); low-fat milk 38.1% (n:284); fat milk, 19.6% (n:146).

Table 2: Distribution of regular meal times of students according to the income levels of their families.

Family income levels (Monthly)	TL(Turkish Liras)	Regular meal times		Total
		Yes (%)	No (%)	
	999 TL or below	68 (51.5)	64 (48.5)	132
	1000-1999 TL	177 (54.3)	149 (45.7)	326
	2000 TL or above	145 (62.2)	88 (37.8)	233
	Total	390	301	691

Table 3: Distribution of regular meal times of students relevant to academic year.

Academic Year		Regular meal times		Total
		Yes (%)	No (%)	
	1st	194 (63.6)	111 (36.4)	305
	4th	109 (52.2)	100 (47.8)	209
	6th	110 (49.1)	114 (50.9)	224
	Total	413	325	738

DISCUSSION

In Onay's study, it was reported that 62% of Nursing College students from Selcuk University Aksehir Health Nursing College had two meals a day, 55% of them never had breakfast. In that study the most consumed foods were found to be bread (85%), cheese (52.5%) and the most consumed drink was tea (94.9%) (4).

Uzunöz and Gülsen found that 28.7% of the students from Tokat Gaziosmanpaşa University consumed milk regularly (12).

At Süleyman Demirel University, Orak et al. observed that 2.4% of the students only had one meal, 47.5% of the students had two meals, 40.9% had three meals, and 9.3% had more than three meals a day. 27.5% of the students skipped breakfast, 23.4% skipped lunch, 9.2% skipped dinner. The most frequently declared reasons were that they did not want to eat meals regularly, they did not have enough time and money for meals, and other reasons, respectively. In their study, 72.1% of the students drank both tea and coffee, 9.2% of them drank milk. 55.3% of them ate bread, 15.3% of them ate

pastry, 19.1% of them ate savory roll covered with sesame seeds and 8.2% of them ate toast-sandwich at breakfast. At lunch and dinner, 25.4% of the students ate protein, 22.2% ate carbohydrates, 24.3% ate vegetables, 17.0% ate pita bread, and 11.1% ate fruit and beverages (5).

Güleç et al. studied two female dormitories in Ankara. They determined that 11.3% of students ate less than three meals a day, 36.7% ate three meals a day, and 52.0% ate more than three meals a day. At breakfast, 37.3% of students ate bread and cheese, 32.0% ate pastry or savoury roll covered with sesame seeds, 12.0% ate olive and bread, 66.0% drank tea, 16.3% drank packaged fruit juice, and 13.7% drank milk. The most frequently consumed foods for the main courses were determined to be 25.3% vegetables and fruit, 20.0% egg, meat and meat products 19.7% milk and milk-products, 12.3% cereals, 11.7% legumes, and 11.0% desserts (2). Yılmaz and Ozkan conducted a study on a group of students studying Nursery and Child Development in Balıkesir.

Beslenme alışkanlığı

Table 4: Monthly food consumption frequencies of the students.

FOOD	Everyday		3-5 a week		1-3 a week		Once per 15 days		Once a month		Never		Not answered	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Milk (Fat)	45	6.0	82	11.0	165	22.1	113	15.1	115	15.4	146	19.6	80	10.7
Milk (Low- fat)	26	3.5	37	5.0	78	10.5	74	9.9	80	10.7	284	38.1	167	22.4
Milk (Fat free)	15	2.0	11	1.5	36	4.8	40	5.4	56	7.5	377	50.5	211	28.3
Buttermilk	26	3.5	132	17.7	262	35.1	147	19.7	60	8.0	18	2.4	101	13.5
Yogurt (Fat)	56	7.5	150	20.1	242	32.4	91	12.2	41	5.5	67	9.0	99	13.3
Yogurt (Low-fat)	22	2.9	51	6.8	90	12.1	73	9.8	38	5.1	259	34.7	213	28.6
Yogurt (Fat free)	8	1.1	26	3.5	41	5.5	36	4.8	28	3.8	341	45.7	266	35.7
Cheese (Fat)	175	23.5	174	23.3	132	17.7	44	5.9	21	2.8	71	9.5	129	17.3
Cheese (Low-fat)	75	10.1	93	12.5	89	11.9	54	7.2	33	4.4	200	26.8	202	27.1
Cheese (Fat free)	14	1.9	36	4.8	46	6.2	37	5.0	30	4.0	323	43.3	260	34.9
Parmesan cheese	84	11.3	183	24.5	210	28.2	98	13.1	63	8.4	42	5.6	66	8.8
Egg	56	7.5	159	21.3	306	41.0	116	15.5	46	6.2	27	3.6	36	4.8
Red meat	66	8.8	223	29.9	295	39.5	68	9.1	28	3.8	17	2.3	49	6.6
Chicken (skinned)	8	1.1	41	5.5	138	18.5	93	12.5	44	5.9	287	38.5	135	18.1
Chicken (skinless)	10	1.3	136	18.2	329	44.1	116	15.5	37	5.0	33	4.4	85	11.4
Fish	1	0.1	23	3.1	117	15.7	279	37.4	237	31.8	52	7.0	37	5.0
Legumes	15	2.0	134	18.0	315	42.2	162	21.7	42	5.6	22	2.9	56	7.5
Fresh vegetable	117	15.7	246	33.0	237	31.8	71	9.5	23	3.1	12	1.6	40	5.4
Fresh fruit	197	26.4	238	31.9	209	28.0	49	6.6	13	1.7	5	0.7	35	4.7
White bread	478	64.1	72	9.7	63	8.4	20	2.7	18	2.4	48	6.4	47	6.3
Whole wheat bread	143	19.2	78	10.5	108	14.5	72	9.7	64	8.6	150	20.1	131	17.6
Wheat	6	0.8	61	8.2	231	31.0	259	34.7	94	12.6	41	5.5	54	7.2
Pasta, noodles,..etc	17	2.3	133	17.8	341	45.7	167	22.4	37	5.0	14	1.9	37	5.0
Rice	30	4.0	226	30.3	338	45.3	91	12.2	15	2.0	11	1.5	35	4.7
Butter	59	7.9	114	15.3	172	23.1	118	15.8	91	12.2	113	15.1	79	10.6
Tail fat	2	0.3	5	0.7	13	1.7	28	3.8	75	10.1	498	66.8	125	16.8
Margarine (soft)	11	1.5	25	3.4	111	14.9	98	13.1	76	10.2	308	41.3	117	15.7
Margarine (not soft)	5	0.7	19	2.5	73	9.8	63	8.4	60	8.0	356	47.7	170	22.8
Olive oil	142	19.0	141	18.9	142	19.0	96	12.9	68	9.1	75	10.1	82	11.0
Hazelnut oil	6	0.8	14	1.9	25	3.4	35	4.7	50	6.7	471	63.1	145	19.4
Sunflower oil, soybean, corn oil	164	22.0	127	17.0	117	15.7	60	8.0	54	7.2	112	15.0	112	15.0
Sugar, jam	269	36.1	152	20.4	150	20.1	63	8.4	38	5.1	31	4.2	43	5.8
Dough desserts	22	2.9	94	12.6	265	35.5	197	26.4	89	11.9	22	2.9	57	7.6
Milky desserts	19	2.5	88	11.8	286	38.3	215	28.8	72	9.7	14	1.9	52	7.0
Soft drinks	102	13.7	159	21.3	154	20.6	118	15.8	67	9.0	102	13.7	44	5.9
Alcoholic Beverages	9	1.2	22	2.9	43	5.8	56	7.5	75	10.1	457	61.3	84	11.3
Tea-Coffee	561	75.2	96	12.9	39	5.2	12	1.6	5	0.7	3	0.4	30	4.0
Honey	59	7.9	104	13.9	196	26.3	167	22.4	96	12.9	76	10.2	48	6.4

They found that 90.3% of students skipped meals and that 65.8% of the skipped meals were lunch, and 29.7% of the skipped meals were breakfast. They reported that 51.3% of students indicated that they skipped meals due to time constraints. When they analyzed frequencies of drinks consumption, tea was the most consumed daily drink (73.1%), never consumed drinks were milk (16.6%), fresh fruit juice (32.0%), and alcoholic beverages (93.7%). When frequencies of food consumption were analyzed, cheese was the most consumed food everyday (76.0%), olives (52.0%), bread (38.3%), fresh fruits (34.3%), jam (24.6%), chocolate and sweets (24.6%), and savoury rolls covered with sesame seeds (21.1%). Less frequently consumed foods were offal (72.6%), butter (50.3%), and margarine (50.3%) (16).

Sevindi et al. conducted a study on a group of students studying Physical Education and Sports High School from Gazi University, Ankara. They stated that 71.0% of male students and 77.0% of female students skipped meals: 56.0% of male students and 61.0% of female students did not eat breakfast, and that 37.0% of male students and 27.0% of female students did not eat lunch, respectively. The most consumed drinks at breakfast were listed as: tea (71.0%), fruit juice (14.3%), soft drinks (11.2%), and milk (3.5%). Also the most consumed foods were listed as: egg (46.9%), cheese (28.6%), pastry (12.5%), and olives (12.1%) (10). Mazıcıoğlu and Öztürk studied students from Erciyes University. They determined that 48.9% of students ate three meals a day, 24.8% ate less than three meals a day, and 26.1% ate more than three meals a day. Only 34.4% of students ate breakfast regularly everyday. Tea was the most consumed drink (77.7%). Milk consumption was 7.8% at breakfast. The most frequently consumed foods were reported to be cheese (77.7%), olives (63.6%), honey or jam (31.6%), eggs (23.3%) and tomatoes (20.9%) (3).

Bektas et al. studied nursing students and found that the healthy nutrition rate was 50.6% (1).

Ozdogan et al. found that 55.2% of the students who studied at the Home Economics High School, Ankara University, did not eat breakfast regularly (6).

Vancelik et al. studied students from Atatürk University. In that study, 87.4% of the students skipped meals. Breakfast was the most frequently skipped meal. The reasons for skipping meals were reported as 'forgetting to eat something' or not having enough time for meals (52.9%), not wanting to eat anything (31.5%), trying to lose weight (3.6%), and other reasons (12.0%) (13).

A Greek study by Papadaki et al. found that students who lived away from their family ate crisps and home made food more, however they consumed low-fat butter, margarine and vegetables less. They reported a decreased consumption of fresh fruit, cooked and raw vegetables, fish, seafood, olive oil; snacks, beer and other alcoholic beverage consumption were found to be increased during their university education (7,8).

Yahia et al. studied university students in Lebanon. They reported that 53.3% of female students and 52.1% of male students ate breakfast everyday or 3-4 times a

week. Regular meals were eaten by 61.4% of students and 30.5% of students ate vegetables everyday (15). Skemiene et al. studied students studying in medicine and pharmacy from Kaunas Medical Faculty, Lithuania. They reported that the students ate meals irregularly because they did not have enough time, and only 20% of them managed to eat the 450 gr. of fruit and vegetables per day, a recommendation by the World Health Organisation (WHO). In the study, male students were found to consume meat more than females. 1/7 of students consumed more salt. Medical students consumed inadequate quantities of bread, potatoes and cereals. Beer was consumed by 23.0% of male students once a week (11).

Sakamaki et al. studied university students in China. They noted that 79.0% of students ate three meals a day regularly, 66.8% of male students and 82.3% of female students ate breakfast regularly. It was found that female students had snacks (31.1%) more than male students (11.5%). Vegetables were eaten by 47.9% of students and 32.5% ate fruit everyday. 22.7% of students indicated they needed a special diet. According to the obesity classification of WHO, frequencies of overweight students were found to be 2.5%; frequencies of obese students were found as 0.4% (2).

The Monthly Food Consumption Frequency Form we used was like many other studies'. The food consumption frequency forms reflected Turkish cuisine in general but some foods might not be available in other countries, so in our opinion this is the most important limitation for the study.

CONCLUSIONS

One third of students did not eat three meals a day, about half of these students had irregular meal times, more than 3/4 of them had unhealthy snacks, and 5.0% of them had health problems that required a special diet. The most frequently consumed foods were bread, cheese, olive oil, sugar and jam. The most frequently consumed drink was tea. In addition, as the academic years progressed, the number of meals decreased but frequency of irregular meal hours increased.

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