International Journal of Nutrition and Food Sciences
2015; 4(4): 431-438
Published online June 4, 2015 (http://www.sciencepublishinggroup.com/j/ijnfs)
doi: 10.11648/j.ijnfs.20150404.13
ISSN: 2327-2694 (Print); ISSN: 2327-2716 (Online)

Evaluation of Dietary Habits Among University Students in Konya, Turkey

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To cite this article:
Gulcin Algan Ozkok. Evaluation of Dietary Habits Among University Students in Konya, Turkey. *International Journal of Nutrition and Food Sciences*. Vol. 4, No. 4, 2015, pp. 431-438. doi: 10.11648/j.ijnfs.20150404.13

Abstract: University students are the first post-childhood group who reach adulthood. A new period begins in the nutrition of students as they, following the start of education, have become more open to external factors and begin to make their own choices more explicitly. New forms that might emerge in dietary habits will be continued after university education. This study is considered helpful in the issues of encouraging adequate and balanced diet in the youth of higher education and enhancing, developing and extending dietary conditions at universities and dormitories. This study was conducted to determine dietary habits of university students aged 17-35. Data in the study was collected through questionnaire forms from a total of 310 students selected using simple random sampling. The amount of energy taken in through diet is 2075.9±965.85 kcal/day in male students and 1681.6±865.36 kcal/day in female students. It was found that majority of the students skipped a meal and 16.8% of the students ate three main meals. Based on gender, the difference was found statistically significant between the intakes of vitamin B12, biotin, carbohydrate (g), vitamin B2 and zinc, pantothenic acid, folate ($p<0.01$), B1, iron and phosphor ($p<0.05$) as well as protein (g). It was discovered that the intake of vitamin K and phosphor by sample group exceeded 2/3 RDA. In general, it was seen that there were inequalities between genders in the use of varied food items and a deficiency was detected particularly in the intake of niacin, folate, calcium, iron (in females) and magnesium. To conclude, it was found that students do not have enough knowledge of adequate and balanced diet.

Keywords: University Student, Dietary Habits, Food Intake Frequency

1. Introduction

Nutrition is quite significant for university students as well as it is for all levels of society. Before university education, students' dietary habits shape according to eating habits of their family, but their life style changes when they begin university and this can also change their dietary habits. Changing dietary habits affect the physical and mental condition of the youth, which has an indirect effect on their school performance (1). When young people's dietary habits and patterns are examined, it is seen that they generally skip meals, especially breakfast and lunch; they consume a lot of snack and prefer take-away fast food; they don't eat enough fruit and vegetable and as a result of this nutrient diversity is limited and unbalanced; nutritional components consist of pulp, insufficient vitamins and minerals, energy, salt, fat and simple carbohydrates (2). Studies indicated that first-year students and students who stay at dormitory are in a critical period in terms of fat intake and weight gain (3). Most of the university students form a habit of consuming high calorie foods with high fat or sugar rate and low-fiber rate. These habits can have harmful consequences in long term (4). Studies conducted on dietary habits of university students in Turkey revealed that they have serious problems about nutrition; they usually don't pay attention to their diet and sometimes they skip meals, mainly breakfast; they consume bagel and tea and they regard getting full as nutriton (5, 6). Present study is aimed and conducted to determine dietary habits of university students.

2. Materials and Methods

In this descriptive study conducted to determine dietary habits of university students, general scanning method was used. Population of the study consists of 1532 first or second year students from Vocational School of Health, Faculty of

Health Sciences, Faculty of Science and Letters (Physic Department) in Selcuk University. As reaching the whole population is economical, 310 students are included in sampling by using proportional cluster sampling method. Study is initiated after getting necessary permission from Selcuk University Faculty of Medicine ethical comittee. Data was collected in 2008-2009 education season through quessionnaire forms filled with face-to-face interview method. Questionnaire form consisted of 26 questions aimed to determine demograhic features and dietary habits of students. Students were asked to record their personal food consumption during one day in order to detect their daily energy and nutrients consumption. To calculate the amount of energy and nutrional value gained through consumed foods and drinks, "Compter Supported Nutrition Program, Nourishment Information System (BeBis-5) designed specially to Turkey was used (7). Data was compared to "daily energy and nutrional intake levels recommended for Turkey" (8). When evaluating, recommended daily intake levels [(2/3=%67)±%33] were calculated as intersection points. Intake of those consuming 67-133% of recommended levels of energy and other nutrients was adequate; of those consuming <67% was inadequate and of those consuming >133% was excessive (9). For anthropometric measurements, students' body weight was measured by a 0.5 kg sensitive portable digital scale and their height was measured by standing feet together, head, buttocks and heels touching the wall in Frankfort horizantal plane (orbitales and the tragus are on the same line) (9,10). Body Mass Index a method often used for assessment of obesity was calculated with the formula: BMI = kilo (kg) / height2 (m). According to BMI values; <18.5 was accepted as underweight, 18.5–24.9 as normal, ≥25 as overweight, ≥30 as obesity (11). Collected data was statistically evaluated by SPSS 15.0 Program with chi-square test (X2), t test and Mann Whitney U test and statictical significance level was accepted as $p<0.01$. However, $p<0.05$ level was also referred when no difference was observed.

3. Results and Discussion

Table 1. *Demographic Features of Students.*

Features	n=310	%
Gender		
Male	185	59.7
Female	125	40.3
Faculty – School		
Fac. of Health Sciences	28	9.0
Fac. of Science and Letters	130	41.9
Vocational Sch of Health Sci.	152	49.1
Socioeconomical Status		
Low	21	6.8
Middle	260	83.9
High	29	9.3

As it is seen in Table 1, 59.7% of the participants were male and 40.3% were female. It is possible to say that a balance is established in terms of gender. The students participated in the study were randomly selected and the sample was formed from 1st or 2nd grade students. In terms of socioeconomic status, students evaluated themselves mostly (83.9%) as middle level.

Table 2. *Avarage Age, Height, Bodyweight, Monthly İncome and Food Expenses of the Students (n=310).*

Features	$\bar{X}$
Age (year)	21.9±3.72
Height(cm)	169.0±14.48
Bodyweight (kg)	65.1±12.91
Monthly income (TL)	1621.6±1177.11
Monthly food expenses (TL)	326.0±298.73

Students from 1621.6 TL monthly income families stated that they spend an avarage of 326 TL per month for their personal nourishment (Table 2). Generally speaking, it can be said that students participated in the study are children of middle income families.

Table 3. *Gender and BMI Groups of Students.*

BMI (kg/m²)	< 18.5 Underweight		18.5 – 24.9 Normal		≥25.0 Overweight		Total		X2	P
Gender	n	%	N	%	N	%	N	%		
Male	10	5.4	126	68.1	49	26.5	185	100.0		
Female	32	25.6	81	64.8	12	9.6	125	100.0	31.795	0.000*
Total	42	13.5	207	66.8	61	19.7	310	100.0		

*p<0.01

According to BMI results, female students are mostly in underweight group (25.6%) while male students are mostly in overweight group (26.5%). The high rate of being overweight among male students is associated with physical inactivity. Besides, among normal weight group, the number of male students is more than the number of female students. There weren't any obese (≥30.0) students (Table 3). Ortiz-Moncada et al., (2012) reported that underweight group consisted of more female students (9.8%), while overweight group consisted of more male students (34.6%) according to the BMI results of their study (12). In their study on university students, Gan et al., (2011) also found that 14.3% of male students and 22.4% of female students were underweight. 14.0% of men were overweight but the rate of being overweight was 12.3% for women (13). According to the research findings of Seidler and Szczuko (2009), average BMI of the students was at a rate of 66.6% - 69.8% and there were no obese students (14). Likewise, in a study on this topic 9.5% of the participant students were underweight, 77.9% were normal and 12.6% were

overweight or obese (15). In parallel with these findings Avsar et al. (2013), stated that 76.5% of the students' body weight were "normal", 14.1% were "overweight" in terms of BMI and it was observed that almost all (91.7%) of the overweight students consisted of male students (16). Similarly, another study indicated that 8.6% of the students were underweight (BMI<18.5), 20% were overweight or obese (BMI<25) and also male students (24.01±3.17 kg/m²) were found more overweight than female students (20.98±2.87 kg/m2) (17). These findings are consistent with a recent study conducted by Huda & Ruzita (2010) on 264 male and 360 female students in Universiti Sains Malaysia which reported that 27.4% of the students (32.8% females and 20.1% males) were underweight, 9.6% (6.1% females and 14.4% males) were overweight and 1.8% (0.6% females and 3.4% males) were obese (18).

Table 4. *Places Where Students Mostly Consume Their Foods.*

Place of meal consumption	Morning		Noon		Night	
	N	%	n	%	N	%
At home	157	50.6	64	20.6	192	61.0
At school cafeteria	18	5.8	41	13.2	19	6.1
At Canteen	61	19.7	87	28.1	10	3.2
At school/bringing from home	1	0.3	2	0.7	1	0.3
Out	34	11.0	92	29.7	83	26.8
Not eating	39	12.6	24	7.7	5	1.6
Total	310	100.0	310	100.0	310	100.0

Students eat their breakfast mostly at home (50.6%), and canteen follows with a rate of 19.7%. Students have their lunch mostly out (29.7%) and at canteen with a rate of %28.1. They eat dinner mostly at home (61.0%). Those who eat dinner out follow this with a rate of 26.8% (Table 4). The results of other studies are also similar in terms of place of eating a meal. It is revealed that students have their breakfast and dinner mainly at home and eat lunch outside home (1.16). Contrary to the present study, Ermis et al. (2015), discovered in their study that most frequently used places by students to eat main meal and snacks are "school, dormitory, canteen and school cafeteria" (53.6%). "Home" (37.5) and "restaurant, café, bakery" (9%) follow them. On the other hand, when snack variable is examined most popular place is "school, dormitory, canteen and school cafeteria" (69.2%), second popular is "restaurant, café, bakery" (22.8%) and the last is "home" (8%) (19). Facilities related to time and socioeconomic circumstances such as personal preferences, course schedule, place quality, house distance can be the reason of the difference between study findings.

Table 5. *Skipping A Meal Situation of Students (n=310).*

Meals	Usually skip the meal		Sometimes skip the meal		Total	
	N	%	N	%	N	%
Morning	117	37.7	71	22.9	188	60.6
Noon	81	26.1	52	16.8	133	42.9
Night	14	4.5	12	3.8	26	8.3

It is discovered that most of the participant students skip a meal and only 16.8% of them have three main meals. Breakfast is found to be the most skipped meal. 60.6% of the students stated that they either have no breakfast or sometimes skip this meal (Table 5). Among university students, skipping a meal is a mostly common habit (6).

Gan et al. (2011) reported in their study that most of the participants (73.8% male and 74.6% female) skip at least a meal a day and the most skipped meal is breakfast (13). A similar tendency is reported in the study of Omidvar and Begum (2014). They also observed that 52.1% of adolescents and 49% of adults can skip breakfast a few times a week (20). In their study, Cetin and Sarper (2013) reported that 51.1% of the medical faculty first-year students and 60.4% of sixth-year students eat three meals a day. The rate of the students who stated that they have five and more meals is 8.6% for first-year and 5.0% for sixth-year students (21). In the study conducted by Shi, Lien, Kumar, and Holmboe-Ottesen (2005), it is found that 76% of the students regularly eat three meals a day, but 8.1% of those who live in the city and 3.4% of those who live in the country have breakfast once to three times a week or less (22). Findings of the study by Akcam Oluk et al., (2011) indicated that morning meal is the most (44.0%), and night meal is the least (2.0%) skipped meal (23). It is also seen in the study by Ayhan et al., (2012) that the most significant (44.6%) main meal for the students is dinner ($p<0.05$) and breakfast was observed as the most skipped main meal (58.2%) (16). The habit of eating breakfast regularly is linked to low blood cholesterol level and low body wieght (24). The study conducted by Ermis et al., (2015) indicated that the significance of breakfast, lunch and dinner for students are 58.1%, 14.9% and 27% respectively. Moreover, only one-fourth of the students (23.9%) don't skip any meals but most students (76.1%) stil skip a meal (19). According to the results of the study by Erten (2006), more than half of the students (51.6%) eat three main meals, 42.0% of them eat two and 6.4% eat only one main meal. When their snack food consumption is examined, 43.6% of the students have a snack only once a day and 28.0% of the students skip snacks (1). Findings of the studies conducted by Ulas et al., (2013), Tumerdem et al., (1985), Vancelik et al., (2006) and Gulec et al. (2008), also support this study (25,26,27,28). On the contrary breakfast is accepted as the most significant meal and it has 95% consumption rate in some European countries (29). Different findings of the studies reveal that skipping a meal is a commonly observed problem among university students. However, the students should be informed about that three meals should be consumed regularly to have a healthy and balanced diet and if they eat less or unbalanced, it will affect metabolism in a negative way (30). The reason why students skip a meal can be caused by the temporal, psychological and socioeconomic differences related to university life.

Table 6. *The Avarage amount of The Students' Energy and Nutrients İntake (daily) Based on Gend.*

Energy Nutrients	Male (n=185)	Female (n=125)	Total (n=310)	Levene's Test		t test		Mann Whitney U Test	
				F	p	T	p	MWU	p
Energy (kcal)	2075.9 ±965.85	1681.6±865.36	1878.7±936.55	3.754	.054	3.785	.000**	--	--
Protein (g)	72.4±41.36	57.8±33.77	65.1±38.39	5.526	.019*	--	--	9327.0	.001**
Protein (%)	14.7±5.10	14.4±4.62	14.5±4.86	1.598	.207	.583	.560	--	--
Fat (g)	80.0±48.58	70.3±49.46	75.1±49.18	.006	.938	1.741	.083	--	--
Fat (%)	34.6±9.88	36.7±11.37	35.6±10.68	3.106	.079	-1.663	.097	--	--
Saturated fat (g)	24.8±16.06	22.2±17.26	23.5±16.69	.657	.418	1.356	.176	--	--
Monounsaturated fatty acid (g)	24.9±15.00	21.5±14.72	23.2±14.94	.963	.327	2.050	.041*	--	--
Polysaturated fatty acid (g)	24.8±20.86	21.9±18.95	23.3±19.95	.038	.846	1.276	.203	--	--
Cholesterol (mg)	217.4±185.46	153.1±130.52	185.3±163.31	13.798	.000**	--	--	9715.5	.004**
Carbohydrate (g)	253.3±123.41	197.0±99.39	225.1±115.36	7.110	.008*	--	--	8656.5	.000**
Carbohydrate (%)	50.5±9.46	48.9±10.96	49.7±10.25	4.083	.044*	--	--	10568.5	.067
Posa (g)	19.8±11.54	17.6±8.74	18.7±10.28	6.266	.013*	--	--	11025.0	.211
Water soluble pulp (g)	6.3±3.60	5.3±2.75	5.8±3.24	8.672	.003*	--	--	10148.0	.018
Water nonsoluble pulp(g)	12.8±7.70	11.0±5.74	11.9±6.84	5.360	.021*	--	--	10623.5	.078
Vitamin A(RE mcg)	1282.6±2200.04	1130.6±1286.03	1206.6±1800.64	1.849	.175	.742	.458	--	--
Carotene (mg)	1.8±1.51	2.2±2.34	2.0±1.97	12.916	.000**	--	--	11717.0	.708
Vitamin E (mg)	20.0±14.70	17.2±14.47	18.6±14.63	.182	.670	1.678	.094	--	--
Vitamin B_1 (mg)	.7±.37	.6±.32	.7±.35	3.165	.076	2.539	.012*	--	--
Vitamin B_2 (mg)	1.2±.70	1.0±.57	1.1±.65	5.742	.017*	--	--	9253.5	.000**
Vitamin B_6 (mg)	1.1±.64	1.0±.59	1.0±.62	2.797	.095	1.774	.077	--	--
Vitamin B_{12} (mcg)	4.3±7.71	2.2±2.25	3.2±5.77	13.346	.000**	--	--	9287.5	.001**
Biotin (mcg)	32.0±20.43	23.7±13.60	27.9±17.81	13.989	.000**	--	--	9173.0	.000**
Pantothenic acid (mg)	4.1±2.12	3.4±1.83	3.7±2.01	4.854	.028*	--	--	9545.0	.002**
Niasin (mg)	9.3±5.73	8.5±6.20	8.9±5.98	.644	.423	1.199	.231	--	--
Folate (mcg)	114.0±61.64	95.1±49.94	104.5±56.80	5.122	.024*	--	--	9962.5	.009**
Vitamin C (mg)	105.5±109.06	91.5±79.84	98.5±95.68	5.111	.024*	--	--	11654.5	.650
Vitamin D (mcg)	1.2±1.58	1.2±3.75	1.2±2.87	.046	.830	-.023	.982	--	--
Vitamin K (mcg)	305.0±243.97	260.7±186.95	282.9±218.12	3.366	.068	1.797	.073	--	--
Sodium (mg)	2233.1±1445.25	1867.6±1222.12	2050.3±1348.65	6.100	.014*	--	--	10113.5	.016*
Potasium (mg)	2094.5±1168.79	1918.6±1016.61	2006.6±1097.12	2.328	.128	1.414	.158	--	--
Calsium (mg)	622.7±381.26	553.4±357.73	588.0±370.71	1.630	.203	1.650	.100	--	--
Magnesium (mg)	239.9±268.08	216.4±162.74	228.1±221.71	.659	.418	.934	.351	--	--
Phosphor (mg)	1124.6±702.59	943.7±508.17	1034.1±618.81	3.539	.061	2.597	.010*	--	--
Iron (mg)	12.0±9.57	10.0±6.25	11.0±8.13	1.644	.201	2.204	.028*	--	--
Zinc (mg)	11.3±8.13	8.6±5.30	10.0±6.99	8.564	.004*	--	--	9393.0	.001**
Iodine (mcg)	40.5±24.46	39.1±26.14	39.8±25.28	.051	.822	.501	.617	--	--
Nutritional Water (g)	1225.8±781.13	1057.0±564.77	1141.4±685.72	3.738	.054	2.180	.030*	--	--
Drunk Water (g)	1114.9±1040.67	1063.6±969,08	1089.2±1004.21	1.771	.184	.449	.654	--	--

**p<0.01 *p<0.05

Avarage amount of daily energy and nutrients intake based on gender of the study population has been counted as 2075.9±965.85 kcal/day for male students and 1681.6±865.36 kcal/day for female students. As a result of the statistical comparision, it is found, as expected, that male students have significantly (p<0.01) more daily energy than female students have. Apart from protein (g), the difference among B_{12} vitamin, biotin, carbohydrate (g), B_2 vitamini and

zinc, pantothenic acid, folate ($p<0.01$); B_1, iron and phosphorus ($p<0.05$) consumption based on gender was found statistically significant (Table 6). In a research on young people, Yaycı et al. (1993) determined that male students have average 1870±670 kcal and female students have average 1422±558 kcal energy a day (31). In a study on Chinese adults, Karim (2000) reported that avarage daily energy intake was calculated as 2105±418 kcal for males and 1530±373 kcal for females (32).

The study on university students by Glodek and Gil (2012) indicated that avarage daily energy intake was 2283,22 kcal / day for male students and 1568,56 kcal / day for female students (33). Gan et al. (2011) stated in their study that avarage daily energy intake for male and female students was 2120±614 kcal and 1624±506 kcal, respectively (13). González Carrascosa et al. (2011) calculated avarage daily energy intake as 2,077kcal / day for male students and 1.635 kcal/day for female students in their study (34). Findings of the studies conducted in other countries are also similar to those results. When this study is compared to the study by Duman (2007), it can be seen that male students' energy intake amount is similar (2578±656.9 kcal) (35). In their study, Bas et al. (2005) reported that energy intake amount of females and males aged 12-19 are calculated as 1964±723 kcal and 1804±486 kcal, respectively (36). When the results are compared to the study by Bas et al. (2005), it can be seen that energy intake of female adoescents is similar to the present study but energy intake of male adolescents is higher. According to the study by Yabancı (2004), energy intake of males is 2360.5±806.4 kcal/day and energy intake of females is 2249.8±823.1 kcal/day (37). When this study is examined, it is seen that energy intake for males is similar to the present study, but the amount for females is quite higher. In his study, Gumus (2009) repoted that daily energy intake by diet is 1837.1±461.09 kcal / day for male students and 1154.5± 361.48 kcal/day for female students. It is seen that energy intake of males are quite higher than females students' and this difference is found statistically significant ($p<0001$) (38). When compared to the study by Gumus (2009), energy intake by diet is found inadequate both for males and females in the present study (38). As the necessary calorie amount that university students should spend is regarded same as the amount for workers with a job requiring moderate workforce, students' calorie intake is under the desired level.

Table 7. *Evaluation of Students' Daily Energy and Nutrients Consumption Based on Gender according to RDA.*

Nutrient	Gender	Inadequate		Adequate		Excessive		X2	p
		N	%	n	%	n	%		
Energy (kcal)	Male	71	45.8	79	51.0	5	3.2		
	Female	71	45.8	73	47.1	11	7.1	2.487	0.288
	Total	142	45.8	152	49.0	16	5.2		
Protein (g)	Male	29	18.7	61	39.4	65	41.9		
	Female	31	20.0	60	38.7	64	41.3	0.083	0.960
	Total	60	19.4	121	39.0	129	41.6		
A vit. (RE mcg)	Male	78	50.3	42	27.1	35	22.6		
	Female	60	38.7	46	29.7	49	31.6	4.863	0.088
	Total	138	44.5	88	28.4	84	27.1		
E vit. (mg)	Male	48	31.0	39	25.2	68	43.9		
	Female	63	40.6	36	23.2	56	36.1	3.308	0.191
	Total	111	35.8	75	24.2	124	40.0		
K vit. (mg)	Male	20	12.9	23	14.8	112	72.3		
	Female	16	10.3	24	15.5	115	74.2	0.565	0.777
	Total	36	11.6	47	15.2	227	73.2		
B_2 vit. (mg)	Male	55	35.5	69	44.5	31	20.0		
	Female	53	34.2	77	49.7	25	16.1	1.118	0.572
	Total	108	34.8	146	47.1	56	18.1		
Niasin (mg)	Male	97	62.6	53	34.2	5	3.2		
	Female	101	63.2	46	29.7	8	5.2	1.268	0.530
	Total	198	63.9	99	31.9	13	4.2		
B_6 vit. (mg)	Male	61	39.4	62	40.0	32	20.6		
	Female	74	47.7	64	41.3	17	11.0	5.875	0.053
	Total	135	43.5	126	40.6	49	15.8		

*p <0.01

Table 7. *Cont.*

Nutrient	Gender	Inadequate		Adequate		Excessive		X2	P
		N	%	n	%	n	%		
Folat (mcg)	Male	151	97.4	4	2.6	--	--	--	--
	Female	155	100.0	--	--	--	--		
	Total	306	98.7	4	1.3	--	--		
B_{12}vit. (mg)	Male	59	38.1	94	60.6	2	1.3	75.225	0.000*
	Female	81	52.3	33	21.3	41	26.5		
	Total	140	45.2	127	40.9	43	13.9		
C vit. (mg)	Male	64	41.3	43	27.7	48	31.0	0.289	0.865
	Female	60	38.7	43	27.7	52	33.5		
	Total	124	40.0	86	27.7	100	32.3		
Calsium (mg)	Male	99	63.9	49	31.6	7	4.5	4.471	0.107
	Female	115	74.2	37	23.9	3	1.9		
	Total	214	69.0	86	27.7	10	3.2		
Phosphor (mg)	Male	13	8.4	60	38.7	82	52.9	2.632	0.268
	Female	20	12.9	65	41.9	70	45.2		
	Total	33	10.6	125	40.4	152	49.0		
Magnesium (mg)	Male	118	76.1	31	20.0	6	3.9	9.199	0.011**
	Female	94	60.6	47	30.3	14	9.0		
	Total	212	68.4	78	25.2	20	6.5		
Iron (mg)	Male	22	14.2	59	38.1	74	47.7	130.097	0.000*
	Female	114	73.5	37	23.9	4	2.6		
	Total	136	43.9	96	31.0	78	25.2		
Zinc (mg)	Male	58	37.4	58	37.4	39	25.2	2.512	0.285
	Female	45	29.0	64	41.3	46	29.7		
	Total	103	33.2	122	39.4	85	27.4		

*p < 0.01 **p < 0.05

Vitamin K and phosphorus intake of the students in the sampling is found to exceed the 2/3 RDA values. According to RDA, K vitamin intake for both groups is more (73.2%) than the usual amount. Vitamin K deficiency is not common among people. It is known that more than half of the vitamin K amount in human body is provided from the intestines. It is also found in many animal and vegetative foods. In relation to purchasing power, students consume green leafy vegetables, legumes, tea and coffee which are rich in vitamin K (39). Generally speaking, some inequalties in certain nutrients use between genders are determined, especially niacin, folate, calcium, iron (for females) and magnesium deficiency is observed (Table 7). Iron deficiency can be related to the fact taht cereal is the main meal. Folic acid (folate) deficiency causes abnormal DNA synthesis. Thus blood cells are negatively affected in case of its deficiency. Pregnant women can develop Spina Bifida (split spine) in folic acid deficiency. Thus female students with inadequate folic acid intake are under a risk of having disabled baby. In the study by Pinto (2015), female students aged between 19 and 25 are observed to have quite inadequate folate intake (40). According to the result of their study, Seidler and Szczuko (2009) stated that students' vitamin D, copper, calcium and fibre intake is low (22%-63.4%) but sodium, phosphorus, vitamin A and B12 intake is excessive (143.6%-481%) according to RDA (14). Besides, Gumus (2009) reported that 4.3% of male adolescents and 32.5% of female adolescents diet is inadequate in terms of iron component (38). Alanyalı (1990) conducted a research on adolescents and found that 40.5% of females and 15.7% of males were anemic. Iron intake of females was also found under the required daily level (41). In present study and Gumus's study (2009), calcium intake was inadequate for all of the participant adolescents (100%). In face-to-face interviews with students, it is determined that they don't drink milk daily and they consume other dairy products little or sometimes owing to financial causes (38). Cetinkaya (2010) reported that 25% of students drink a glass of milk, 5% two glasses, 3% three glasses and 67% of them don't drink milk (42).

4. Conclusion

Guidance and councelling is considered as useful to provide adequate and balanced nutrition, improve, develop or extend nutrition facilities in universities and dormitories. This study is conducted to determine dietary habits of university students aged 17-35. According to the result of the study, 59.7% of the participants are male and 40.3% are female. Thus a balance is provided in terms of gender. The difference between BMI average values of the two genders is found significant ($p<0.01$). None of the students is obese (≥ 30.0). It is discovered that most of the students skip meals, only 16.8% of them eat three meals a day and breakfast is the most skipped meal (60.6%). Also it is revealed that dinner is regularly consumed and not skipped.

Among the three meals, breakfast and dinner is mostly consumed at home, lunch is consumed generally outside home. Avarage amount of daily energy and nutrients intake based on gender of the study population has been counted as 2075.9±965.85 kcal/day for male students and 1681.6±865.36 kcal/day for female students. By means of statistical comparision, it is found, as expected, that male students have significantly ($p<0.01$) more daily energy than female students have. Based on gender, the difference was found statistically significant between the intakes of vitamin B12, biotin, carbohydrate (g), vitamin B2 and zinc, pantothenic acid, folate ($p<0.01$), B1, iron and phosphor ($p<0.05$) as well as protein (g). When RDA values are taken into consideration, it is seen that calorie intake levels of the students are under the desired levels. In respect to these findings, dietary habits and knowledge of university students should be research at certain intervals should be researched, studies should be conducted to enrich dietary variety in menus of dormitories, school cafeterias and canteens. To provide adequate and balanced nutrition among the youth, it is recommended that healthy food consumption should be increased and further studies should be conducted on the factors determining the food selection.

Acknowledgements

The abstract of this study was displayed as a poster presentation at 11th Food Congress dated 10-12 October 2012 in Hatay, Turkey. In the study, the doctorate thesis by Gulcin ALGAN titled “Fruit Consumption among University Students and the Relationship between Fruit Consumption and Sour or Sweet Taste Preferences” was referred as a primary source.

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