Evaluation of Dietary Habits Among University Students in Konya, Turkey

Gulcin Algan Ozkok

Vocational School of Health Sciences Child Development Program, Selcuk University, Konya, Turkey

Email address: gulcin8751@hotmail.com

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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 nutrition (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 questionnaire forms filled with face-to-face interview method. Questionnaire form consisted of 26 questions aimed to determine demographic 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 nutritional 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 nutritional 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 according to the formula: BMI = kilo (kg) / height2 (m). 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 overweight. 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

### 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. Average Age, Height, Bodyweight, Monthly Income and Food Expenses of the Students (n=310).

| Features                     |       |
|------------------------------|-------|
| 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 average 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 | 31.795 | 0.000* |
| Female     | 32 25.6            | 81 64.8            | 12 9.6          | 125 100.0 |       |     |
| Total      | 42 13.5            | 207 66.8           | 61 19.7         | 310 100.0 |       |     |

*P<0.01
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 overweight (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 overweight, 9.6% (6.1% females and 14.4% males) were overweight and 1.8% (0.6% females and 3.4% males) were obese (18).

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 weight (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%) still 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.
Averagé 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 comparison, 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 B12 vitamin, biotin, carbohydrate (g), B2 vitamin and

| 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)    | 3.754 | .054 | 3.785 | .000** | -- | -- |
| Protein (g)      | 5.526 | .019* | -- | -- | 9327.0 | .001** |
| Protein (%)      | 1.598 | .207 | .583 | .560 | -- | -- |
| Fat (g)          | .006 | .938 | 1.741 | .083 | -- | -- |
| Fat (%)          | 3.106 | .079 | -- | -- | -- | -- |
| Saturated fat (g)| .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) | 13.798 | .000** | -- | -- | 9715.5 | .004** |
| Carbohydrate (g) | 7.110 | .008* | -- | -- | 8656.5 | .000** |
| Carbohydrate (%) | 4.083 | .044* | -- | -- | 10568.5 | .067 |
| Posa (g)         | 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 B6 (mg)  | 3.165 | .076 | 2.539 | .012* | -- | -- |
| Vitamin B12 (mcg) | 5.742 | .017* | -- | -- | 9253.5 | .000** |
| Vitamin B12 (g)  | 2.797 | .095 | 1.774 | .077 | -- | -- |
| Folate (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 | -- | -- |
| Potassium (mg)   | 114.0±61.64 | 95.1±49.94 | 104.5±56.80 | 5.122 | .024* | -- | -- | 9962.5 | .009** |
| Calcium (mg)     | 105.5±109.06 | 91.5±78.94 | 98.5±95.68 | 5.111 | .024* | -- | -- | 11654.5 | .650 |
| Magnesium (mg)   | 1.2±1.58 | 1.2±2.78 | .046 | .830 | -- | -- | 9287.5 | .001** |
| Sodium (mg)      | 305.0±243.97 | 260.7±186.95 | 282.9±218.12 | 3.366 | .068 | 1.797 | .073 | -- | -- |
| Potassium (mg)   | 2233.1±1445.25 | 1867.6±1222.12 | 2050.3±1348.65 | 6.100 | .014* | -- | -- | 10113.5 | .016* |
| Calcium (mg)     | 2094.5±1168.79 | 1918.6±1016.61 | 2006.6±1097.12 | 2.328 | .128 | 1.414 | .158 | -- | -- |
| Magnesium (mg)   | 622.7±381.26 | 553.4±357.73 | 588.0±370.71 | 1.630 | .203 | 1.650 | .100 | -- | -- |
| Phosphorus (mg)  | 239.9±268.08 | 216.4±162.74 | 228.1±221.71 | .659 | .418 | .934 | .351 | -- | -- |
| Iron (mg)        | 11.2±4.57 | 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
zinc, pantothenic acid, folate (p<0.01); B₃, 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 average daily energy intake was calculated as 2283.22 kcal / day for male students and 1568.56 kcal / day for female students (32).

The study on university students by Glodek and Gil (2012) indicated that average 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 average daily energy intake for male and female students was 2120±614 kcal and 1624±506 kcal, respectively (13). González Carrascosa et al. (2011) calculated average daily energy intake as 2,077kcal / day for male students and 1,035 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 adolescents 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) reported 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<0.001) (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 | N2 | p  |
|---------------|--------|------------|----------|-----------|----|----|
|               |        | N          | %        | n         |    |    |
| Energy (kcal) | Male   | 71         | 45.8     | 79        | 51.0 | 5 | 3.2 |
|               | Female | 71         | 45.8     | 73        | 47.1 | 11 | 7.1 |
|               | Total  | 142        | 45.8     | 152       | 49.0 | 16 | 5.2 |
|               | Male   | 29         | 18.7     | 61        | 39.4 | 65 | 41.9 |
|               | Female | 31         | 20.0     | 60        | 38.7 | 64 | 41.3 |
|               | Total  | 60         | 19.4     | 121       | 39.0 | 129| 41.6 |
| Protein (g)   | Female | 78         | 50.3     | 42        | 27.1 | 35 | 22.6 |
|               | Total  | 60         | 38.7     | 46        | 29.7 | 49 | 31.6 |
| A vit. (RE mcg) | Female | 60        | 38.7     | 46        | 29.7 | 49 | 31.6 |
|               | 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 |
|               | 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 |
|               | Total  | 36         | 11.6     | 47        | 15.2 | 227| 73.2 |
| B₂ vit. (mg)  | Female | 55         | 35.5     | 69        | 44.5 | 31 | 20.0 |
|               | Total  | 108        | 34.8     | 146       | 47.1 | 56 | 18.1 |
| Niasin (mg)   | Male   | 53         | 34.2     | 77        | 49.7 | 25 | 16.1 |
|               | Female | 101        | 63.2     | 46        | 29.7 | 8 | 5.2 |
|               | Total  | 198        | 63.9     | 99        | 31.9 | 13 | 4.2 |
| B₆ vit. (mg)  | Male   | 61         | 39.4     | 62        | 40.0 | 32 | 20.6 |
|               | Female | 74         | 47.7     | 64        | 41.3 | 17 | 11.0 |
|               | Total  | 135        | 43.5     | 126       | 40.6 | 49 | 15.8 |

*p<0.01
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 inequalities 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 that cereal is the main meal. Folic acid (folate) deficiency causes abnormal DNA synthesis. 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 Szcuzko (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 43% of male adolescents and 32.5% of female adolescents diet is inadequate in terms of iron component (38). Alanyali (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). Cetinkayak (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.

| Nutrient | Gender | Inadequate | Adequate | Excessive | X2   | P     |
|----------|--------|------------|----------|-----------|------|-------|
|          |        | N          | n        | %         | n    | %     |
| Folat (mg) | Male   | 151        | 97.4     | 4         | 2.6  | --    | --    | --    | --    | --    | --    | --    | --    |
|          | Female | 155        | 100.0    | --        | --   | --    | --    | --    | --    | --    | --    | --    | --    |
|          | Total  | 306        | 98.7     | 4         | 1.3  | --    | --    | --    | --    | --    | --    | --    | --    |
| B12 vit. (mg) | Male   | 59         | 38.1     | 94        | 60.6 | 2     | 1.3   |    |      |      |      |      |      |
|          | 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  |    |      |      |      |      |      |
|          | Female | 60         | 38.7     | 43        | 27.7 | 52    | 33.5  | 0.289 | 0.865 |      |      |      |      |
|          | Total  | 124        | 40.0     | 86        | 27.7 | 52    | 33.5  |      |      |      |      |      |      |
| Calcium (mg) | Male   | 99         | 63.9     | 49        | 31.6 | 7     | 4.5   |    |      |      |      |      |      |
|          | Female | 115        | 74.2     | 37        | 23.9 | 3     | 1.9   | 4.471 | 0.107 |      |      |      |      |
|          | Total  | 214        | 69.0     | 86        | 27.7 | 10    | 3.2   |      |      |      |      |      |      |
| Phosphor (mg) | Male   | 13         | 8.4      | 60        | 38.7 | 82    | 52.9  |    |      |      |      |      |      |
|          | Female | 20         | 12.9     | 65        | 41.9 | 70    | 45.2  | 2.632 | 0.268 |      |      |      |      |
|          | 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  |      |      |      |      |      |      |
|          | Female | 114        | 73.5     | 37        | 23.9 | 4     | 2.6   | 130.097 | 0.000* |      |      |      |      |
|          | 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
Among the three meals, breakfast and dinner is mostly consumed at home, lunch is consumed generally outside home. Average 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 comparison, 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.

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