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The Breakfast Habits of Female University Students

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Abstract: The purpose of this study is to determine the breakfast habits of female university students. The population of the study was comprised of undergraduate students at the School of Home Economics, Ankara University. The sample consisted of 145 students who willingly agreed to participate in the study. The present study is based on state determination model. The data for the study was collected through questionnaire form and assessed via SPSS 11.5. The average age of the students was 21.87 ± 1.44 . Eighty two point seven percent of the students had normal body weight according to body mass index and 2.8% of them were married. It was observed that 49.0% of the students lived with their parents; 32.4% in a dormitory (24.8% in state-owned ones / 7.6% in private ones) and 18.6% with their friends. Forty five point five percent of the students stated that they had three meals a day. The rate of the students who had regular breakfast was 44.8%. The leading cause for skipping breakfast was lack of time (20.7%).

Key words: Breakfast habits, female university students, nutrition

INTRODUCTION

Transition from childhood to adulthood is a process characterized by a number of physiological, psychological and social changes. Observed during that period, physical growth and rapid increases in development, as well as changes in life styles and nutrition of youngsters, have an influence not only on their nutrition but also on meal patterns. Youngsters' participation in sport activities, disorders in pregnancy and eating behaviors, implementation of strict diets, drinking alcohol and smoking result in requirements for certain nutrients (Spear, 2002; Anonymous, 2006).

Regular meal pattern is an important factor in ensuring the physiological balance of the body for all age groups. Decreases in the number of meals result in less use of nitrogen, more absorption of glucose and glycogen synthesis and increases in fat storage and synthesis. This, in turn, leads to metabolic disorders. Therefore, it is suggested that one consume food in at least three meals a day by taking daily living conditions into account (Kilic and Sanlier, 2007).

The most crucial meal is breakfast. Approximately twelve hours pass between dinner and breakfast. Since the body continues to operate even during sleep, it uses all the food in the process. As a result of night hunger, a hungry person's blood sugar is at the lowest level at the time of breakfast. Therefore, not enough energy reaches the brain when it is deprived of breakfast in the morning (Anonymous, 2006; Merdol, 2001). Studies suggest that a sufficient level of blood sugar regulates a number of brain and behavioral functions including learning and recollection (Jacoby *et al.*, 1998; Smith, 1993). Having a breakfast increases power and stability, leading

students to be provided with a more efficient training (Matthys *et al.*, 2007; Schlundt *et al.*, 1992). Due to the fact that the brain cannot get enough energy when breakfast is skipped in the morning, individuals suffer from such problems as fatigue, headache, attention and perception deficit (Merdol, 2001; Pekcan and Baltaoglu 1988). Without breakfast, the body uses its own stores and loses its resistance to diseases (Duyff, 2002; Merdol, 2001). Breakfast consumption is important for nutritional balance in all population groups (Aranceta *et al.*, 2001).

It was reported that an insufficient breakfast and bad food choices might have a negative effect on the remaining part of the day and lead to obesity in the long term (Ortega *et al.*, 1998). A study concluded that breakfast consumption has an important impact on nutritional status; obese girls are more likely to skip breakfast than their normal peers and are at higher risk for growth deficits and health problems (AL-Oboudi, 2010). The purpose of the present study is to determine the breakfast habits of female university students.

MATERIALS AND METHODS

The population of the study was comprised of undergraduate students at the School of Home Economics, Ankara University. The sample consisted of 145 students who willingly agreed to participate in the study. The data for the study was collected through questionnaire form and interviews. Body weight and height of the female students were measured and their Body Mass Index (BMI) was calculated. [BMI = body weight (kg)/height (m²)]. Those with a BMI of <18.5 kg/m² were considered as "underweight"; those with a BMI of

18.5-24.9 kg/m² as “normal”; those with a BMI of “25.0-29.99 kg/m² as “slightly overweight ” (Pekcan, 2008). The data was assessed through Statistical Package for the Social Sciences (SPSS 11.5). Furthermore, the data was presented in tables with absolute and percentage values. Arithmetic means and standard deviations ($\bar{X} \pm S$) were calculated wherever necessary.

RESULTS AND DISCUSSION

Descriptive data: The students who participated in the study varied in age from 20-27, making their average age 21.87±1.44. Twenty six point two percent of the students studied Child Development and Education; 24.8% Handicrafts and Nutritional Sciences and 24.2% Family and Consumer Sciences. Forty six point two percent of the students were third grades; 43.5% fourth and 10.3% were second. The majority of the students stated that they lived at home with their parents (49.0%); 24.8% at state-owned dormitory; 18.6% with their friends and 7.6% in private dormitory. Ninety seven point two percent of the students were single (Table 1).

An evaluation of students according to BMI indicated that 82.7% of them were within normal limits; that 14.5% of them were underweight and 2.8% of them were slightly overweight. The mean of the BMI values was 20.84±2.36 kg/m². In a study on university students, it was observed that 65.4% of the students were within normal limits in terms of their body weight (Saglam and Yurukcu, 1996). Among the bad nutritional habits widely encountered nowadays, skipping a meal prevents an individual from having an adequate and balanced nutritional order. As can be concluded from Table 2, the rate of the students consuming two meals a day is 50.3% whereas that of the students consuming three meals a day is 45.5%. These groups are followed by those who consume only a meal (2.8%) and four and more (0.7%). A study reported that 51.0% of the students skipped meals (Yilmaz, 2002). Regular breakfast consumption can have a multitude of positive health benefits, yet young people are more likely to skip breakfast than any other meal (Pearson *et al.*, 2009).

Forty four point eight percent of the students stated that they had breakfast twice or three times a week; 44.1% of them every day and 11.1% of them only at weekend. Different studies suggested different rates of students having a regular breakfast. Thirty five point four percent in the study conducted by Tanaka *et al.* (2008), 60.7% in the one by Tuncay (2008), 34.8% in the one by Yaman and Yabanci (2006), 65.5% in the one by Demir *et al.* (2006), 42.0% in the one by Budak *et al.* (2005), 34.4% in the one by Mazicioglu and Ozturk (2003) and 19.1% in the one by Sahinoz *et al.* (1999) Saglam and Yurukcu (1996) found that 55.6% of the students had breakfast whereas Vanelli *et al.* (2005) reported that 22.0% of the students skipped it. Nicklas *et al.* (2000), Nicklas *et al.* (1998) and Elmacioglu (1995) discovered respectively

Table 1: General information about the students (n = 145)

Sociodemographic characteristics	s	%
Age		
20	15	10.3
21	58	40.0
22	35	24.1
≥23	37	25.6
Department		
Nutritional Sciences	36	24.8
Child Development and Education	38	26.2
Family and Consumer Sciences	35	24.2
Handicrafts	36	24.8
Class		
Second	15	10.3
Third	67	46.2
Forth	63	43.5
Residence		
At home with parents	71	49.0
State-owned dormitory	36	24.8
At home with friends	27	18.6
Private dormitory	11	7.6
Marital status		
Married	4	2.8
Single	141	97.2
BMI (kg/m²)		
Underweight	21	14.5
Normal	120	82.7
Slightly overweight	4	2.8

Table 2: Information about students' daily meals (n = 145)

	s	%
The number of meals		
One	4	2.8
Two	73	50.3
Three	66	45.5
Four and above	2	1.4
Frequency of having a breakfast		
Everyday	64	44.1
Twicethree times a week	65	44.8
Weekend	16	11.1
Causes for skipping breakfast		
Never skipped	64	44.1
Not feeling hungry	9	6.2
Waking up late	25	17.2
Lack of time	30	20.7
Disliking eating early in the morning	16	11.1
Inability to find appropriate food	1	0.7
Whom to have breakfast with		
Alone	22	15.2
With certain members of the family	41	28.3
The whole family	19	13.1
With friends	63	43.4

that 19.0%, 37.0% and 32.0% of the students skipped breakfast. Similarly, Yilmaz (2002) reported that 61.0% of the female students skipped breakfast. Breakfast consumption improves school attendance and enhances the quality of the students' diets (Pollitt and Mathews, 1998).

Among the reasons specified as to why the students skipped breakfast were lack of time (20.7%), getting up late (17.2%), disliking eating early in the morning (11.1%), not feeling hungry (6.2%) and inability to find appropriate food (0.7%). In their study, Sahinoz *et al.* (1999) found

that the primary reason for skipping breakfast was lack of time. Another study concluded that the reasons for skipping breakfast were being late for school in the morning (45.2%), getting up late in the morning (30.7%) and having no appetite (26.3%) (Yaman and Yabanci, 2006). The present study found that 43.4% of the students had breakfast with their friends whereas 28.3% of them did so with certain members of family (Table 2). In another study, 51.0% of the males and 48.0% of the females stated that they had breakfast with certain members of their family (Shaw, 1998).

The leading place where students had breakfast during weekday and at weekend (58.6%, 71.7 %) was home. Other places were dormitory (24.1%), school (3.4%) and pastry shop (2.9%). In their study, Yaman and Yabanci (2006) found that 44.4% of the university students had breakfast at home while 24.1% of them did so at school canteen. Gulec *et al.* (2008) found that 70.3% of the students who lived in a dormitory had breakfast at dormitory canteen while 21.0% of them did so at school canteen. Furthermore, Nicklas *et al.* (1998) reported that 75.0% of the students had breakfast at home.

It was observed that weekday breakfast took place between 5.30 am and 1.00 pm whereas the students had their weekend breakfast between 8.00 am and 2.00 pm.

Table 3: The places where students have breakfast

The places where students have breakfast	Weekday		Weekend	
	s	%	s	%
Home	85	58.6	104	71.7
Dormitory	35	24.1	39	26.9
Pastry shop	4	2.9	2	1.4
School	5	3.4	-	-
Total	129	89.0	145	100.0

A review of the frequency at which the students consumed food and beverages during breakfast (Table 4) suggested that the most widely consumed beverage was tea (71.0%) whereas the one never consumed was ayran (81.4%). It makes one happy to observe that cheese (86.2%), the source of calcium included in Turkey's traditional breakfast culture and vegetables, the source of vitamin C and fiber, were widely consumed during breakfast. The consumption of breakfast cereal was discovered to be at a very low level (28.3%). Nevertheless, studies concluded that cereal consumed at breakfast provided more fiber, iron, folic acid and zinc and less fat, sodium, sugar and cholesterol, compared with the nutrients in foods eaten during non-cereal breakfasts (Albertson *et al.*, 2008).

Studies on university students determined that the leading beverage consumed at breakfast in the morning

Table 4: The frequency at which the students consume food and beverages during breakfast

Food and beverages (n=145)	Often		Sometimes		Never	
	s	%	s	%	s	%
Black tea	103	71.0	31	21.4	11	7.6
Milk	10	6.9	80	55.2	55	37.9
Ready-to-drink juice	10	6.9	59	40.7	76	52.4
Coffee	9	6.2	29	20.0	107	73.8
Other herbal teas	9	6.2	42	29.0	94	64.8
Ayran (a drink made of yogurt and water)	9	6.2	18	12.4	118	81.4
Acidic beverages	7	4.8	25	17.3	113	77.9
Freshly-squeezed juice	-	-	68	46.9	77	53.1
Cheese	125	86.2	20	13.8	-	-
Bread	115	79.3	28	19.3	2	1.4
Vegetable (tomato, pepper, cucumber etc.)	98	67.6	38	26.2	9	6.2
Olive	90	62.1	48	33.1	7	4.8
Egg	53	36.6	71	49.0	21	14.4
Jam	39	26.9	74	51.0	32	22.1
Honey	21	14.5	91	62.7	33	22.8
Bagel	14	9.7	106	73.1	25	17.2
Toast	14	9.7	101	69.6	30	20.7
Soup	13	9.0	33	22.8	99	68.2
Savory pastry	12	8.3	107	73.8	26	17.9
Butter	12	8.3	74	51.0	59	40.7
Salami-sausage	11	7.6	90	62.1	44	30.3
Sesame seed paste with molasses	10	6.9	66	45.5	69	47.6
Pastry	8	5.5	107	73.8	30	20.7
Cake, etc.	8	5.5	65	44.8	72	49.7
Sausage	8	5.5	95	65.5	42	29.0
Biscuit, etc.	6	4.2	46	31.7	93	64.1
Margarine	5	3.5	30	20.7	110	75.8
Breakfast cereal	5	3.5	36	24.8	104	71.7

Table 5: Problems experienced by the students when they skipped breakfast

Problems (n = 81)	Experienced		Not experienced	
	s	%	s	%
Feeling hungry	61	75.3	20	24.7
Weariness	58	71.6	23	28.4
Fatigue	40	49.4	41	50.6
Attention deficit	39	48.1	42	51.9
Headache	29	35.8	52	64.2
Dizziness	26	32.1	55	67.9
Blackout	25	30.9	56	69.1
Feeling cold	22	27.2	59	72.8
Shivering	8	9.9	73	90.1
Throbbing	6	7.4	75	92.6
Perspiration	2	2.5	79	97.5

was tea (Demir *et al.*, 2006; Mazicioglu and Ozturk, 2003; Saglam and Yurukcu, 1996) whereas the leading food was cheese Yaman and Yabanci, 2006; Mazicioglu and Ozturk, 2003; Sahinoz *et al.*, 1999; Saglam and Yurukcu, 1996). These findings support those of the present study.

As can be concluded from Table 5, feeling hungry (75.3%) ranked first among the problems experienced when the breakfast was skipped, followed by weariness (71.6%), attention deficit (48.1%), fatigue (49.4%), headache (35.8%), dizziness (32.1%), blackout (30.9%) and feeling cold (27.2%). A study found that those who skipped breakfast experienced reduced performance, cold and shivering (Yilmaz, 2002). In their study, Wesnes *et al.* (2003) discovered that memory and attention were deteriorated when breakfast in the morning was skipped. Another study on university students reported that such problems as hunger, weariness, fatigue and attention deficit were experienced when breakfast was skipped (Sevindi *et al.*, 2007).

Conclusion: It is essential that high school students have a healthy diet not only because they will be healthier but also because they will be a decent role model for the next generations. Regular breakfast make a great contribution to the food insufficiently consumed in one's daily diet and have a positive impact on success. Family members play a key role in making students get into the habit of having a breakfast. It is necessary to teach the culture of having a breakfast together with family members from early on. Specialists need to inform individuals of all ages about the importance of breakfasts and enable them to change their behaviors in a positive manner.

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