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Original Research

The relationship between family structure and eating attitudes in Turkish female university students

DilekErtugToker [1], CicekHocaoglu[2]

[1]MS, School of MehmetAkifErsoy, Trabzon, Turkey.
[2]Department of Psychiatry, Faculty of Medicine, Rize University, Rize, Turkey

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Corresponding Author:
CicekHocaoğlu,
Department of Psychiatry, Faculty of Medicine, Rize University
chocaoglu@superonline.com

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Abstract

Background:Among psychological factors, the emphasis is on family structure and the patient-family relations, and it's being claimed that the form of the relation that the patient has with her parents is effective on eating attitudes. The aim of this study was to assess the eating attitudes of the university students, to find out the relation between family structures and the sociodemographic variables which accompany this situation.
Methods: The sample size was of 372 female university students enrolled in the Karadeniz Technical University, School of Health Sciences in 2006/07 academic year, between the ages of 17 and 30 years. The instruments included: a Sociodemographic Questionnaire, Eating Attitudes Test (EAT-40), and Family Assessment Device (FAD).
Results: The mean age of subjects in the sample was 21.4±1.6 years, 3.2 % are single; 96.8% are living with parents. The mean score for EAT-40 was 16.5 ± 7.15 and the mean total score for FAD was 133.6±18.75. 4.83 % of the cases in the study scored higher than the cut-off point on the EAT-40. No significant difference could be found in terms of eating attitudes which variables such as age, marital status, level of income, the living place, the togetherness of the parents, maternal attitudes and number of sisters/brothers, are taken into consideration. FAD communication subscales level indicated significant difference between the groups according to family relations.
Conclusion: In the result of the research, since no relation between eating attitudes and family structure that it is essential to make both longitudinal studies and new researches with different variables.

INTRODUCTION

Eating behaviors evolve during the first years of life as biological and behavioral processesdirected towards meeting requirements for health and growth [1,2]. Parenting practices and parent-child interaction during feeding vary in the degree to which children are allowed some degree of autonomy in eating. In addition, parents' feeding practices are influenced by children's individual characteristics, including age, sex, weight status, and eating behavior [3]. Parental influence has been shown to be an intrinsic component in developing the eating attitudes of adolescent. This influence is manifested and shaped by a variety of diverse factors such as familial genetic predisposition, dietary choices as dictated by cultural preferences, the parents' own body shape and eating attitudes the degree of involvement and expectations of their adolescents eating behavior as well as the interpersonal relationship of parent and adolescent. It has been shown that maladaptive parental behavior has an important role in the development of eating disorders [3,4]. Parents play a pivotal role in the development of their energy intake, with research indicating that certain child feeding practices, such as exerting excessive control over what and how much children eat, may contribute to childhood overweight. Mothers are of particular interest on children's eating behavior, as they have been shown to spend significantly more time than fathers in direct interactions with their children across several

familial situations [5,6,7]. Authoritative styles of feeding are also characterized by the high demands or expectations placed on the child while eating. Unlike authoritarian parents, however, those with authoritative styles tend to be highly responsive to the child's eating cues and behaviors. Among psychological factors, the emphasis is on family structure, and the patient-family relations, and it's being claimed that the form of the relation that the patient has with his/her parents is effective on eating disorder attitudes [8,9]. It's expressed that the families of patients with eating disorders attitudes are less emphatic, less supportive and have higher expectations. Over preventing parents or others who have distant relationship with their children and prefer unwilling attitudes to their children may affect their children's eating attitudes in different ways. On the other hand, children in some families may think that they are alone, refused and not understood by their families [10]. Therefore, they may try to prove themselves and to establish an approval mechanism via physical characteristics. Eating attitudes is a sensitive sign of the relationship between parents and children and emotional case [11]. Patients define their parents 'distant and refusing'. Some findings indicate that there are problematic relations in their families [12]. Furthermore, findings reveal that more cases of familial problems and fights, depression, anxiety, alcoholism and any kind of eating disorder are being encountered within the families of patients with eating disorders attitudes and behaviors. Mostly familial problems take place among the reasons of eating disorder [9,10]. When the stories of bulimia nervosa diagnosed patients are investigated, problematic family relations are remarkable [11]. Clearly, therefore, a careful and alert approach to these eating disorders is important to prevent the developmental of full-blown anorexia or bulimia symptoms as well as the risky accompanying behaviors. It is important that the general practitioner evaluate disordered eating attitudes in the community [13,14,15]. This task involves monitoring, tracking trends and changes, and planning preventive and treatment programs [16]. The purpose of our study was to evaluate the relationship between family structure and eating attitudes in female university students.

METHODS

Subjects

The study includes 372 cases, students of Karadeniz Technical University School of Health Sciences in 2006/07 academic year, 60 of whom are first grade, 101 of whom are second grade, 90 of whom are third grade and 121 of whom are fourth grade students.All studentsagreed to participate bysigning the informed consent form were included in the studyand their ages ranged between 17 to 30 years old. Since 28 students refused to participate in the study, they were excluded from it.

Measures

Sociodemographic Questionnaire*:*

Subjects are asked to fill out a form including questions on their age, education, marital status, economic status and family history.

Eating Attitudes Test (EAT-40)

The EATis widely used and accepted standardized self-report measure of symptoms and concerns characteristic of eating disorders including attitudes, behaviors. The original EATdeveloped by Garner and Garfinkel (1979) as a self assessment scale to measure the symptoms of anorexia nervosa was six-point multiple choice likert type scale with 40 items. It has been shown to be reliable and valid for eating disorders. The cut-off**value** of the scale is accepted as 30 point. It has been shown to be valid and reliable also for Turkish patients [17].

Family Assessment Device (FAD)

It was formed with 36 items and developed by Gulerce (1996) to measure the communication unity, management, competence and emotional context. It is a 10 graded scale, the answers of which are going from "just like ours" to "just opposite ours". As a result of the safety analysis, Cronbach alpha safety coefficient of the scale was found 70. The minimum score is 1 and the maximum score is 5 to get from each item of FAD. Therefore, when all the items are matched, the maximum FAD total score (FAD-Individual) is 180. Arithmetic average is calculated and it is multiplied with the item number of each subscale for the subscales, one item of which is voided or which cannot be pointed. In other words, the completion process according to the distribution of these values is done with subscales instead of the whole test, and the total score is calculated by adding corrected subscale scores. In this case, the minimum total FAD crude score is 31 and calculated score may be 36. The last item which is unnumbered and not added to the grading is for only interpretation [18].

Ethics

Our study was carried out according to the Helsinki Declaration II. It was exempt from review since it involved no risks to the participants. Written informed consent was obtained from each subject. Subjects were free to withdraw from the study at any time for any reason. All subjects provided informed consent for their evaluation and participation in the research.

Application

The sample of this descriptive study is done with 372 female students of School of Health, Karadeniz Technical University, in 2006- 2007 Academic Year. The information about the purpose and the method of the study was given to this sample group. They certified the study by filling in an informed form. Sociodemographic Questionnaire, EAT-40 and FAD were respectively given the students in the school.

Statistical analysis

SPSS for Windows 10.0 was used for the evaluation of the data obtained in this study. Descriptive statistics were indicated as ± standard deviation for continuously measured variables and observation number was indicated as % for categorical variables. Whether there is a significant difference or not in terms of EAT-40 and FAD subscales were investigated with Mann Whitney U test between two independent groups. When there were more than two groups, they were investigated with KruskalWallis test variance analysis. In the case where the result of Kruskal Wallis test statistic was seen significant, Kruskal Wallis multiple comparing test was used to determine the groups causing the difference. Whether there is a statistically significant linear relation between the age, EAT-40 and FAD subscale was investigated by using Spearman Correlation test. Quantitative data are presented the level of significance was accepted as $p<0.05$.

RESULTS

372 university students with ages varied from 17 to 30 years were taken into the study. The mean age of subjects in the study was 21.4±1.6 years. While the mean weight of participants was56.0± 7.64 kg, the mean height was 1.63± 0.06 m. Among the cases the rates of the ones who live with their parents, who live far from their parents and whose parents got divorced are 96.8 %, 1.1 % and 2.2 % respectively. The distribution of the cases according to their mother's characteristics and father's characteristics are given in Table 1.

EAT-40 mean score of 372 cases participating in the study was 16.5 ± 7.15, while the score intervals vary from 5.0 to 62.0. On the other hand, FAD total score mean was 133.6±18.75, while the score intervals have been found 51.0 and 130.0. The distribution of the scores obtained from EAT-40, FAD total and subscales are shown in Table 2.

The number of the participants who take 30, cut-off score of EAT-40 in all cases, and over it is 18 (4.83%), while the number of the cases under 30 is 354 (95.17%). The distribution of FAD total and subscales scores according to EAT-40 cut-off score are shown in Table 3.

There were no significant differences between the groups who have EAT-40 total scores under 30 and over 30 in terms of their grade, marital status, economic situation, and location ($p>0.05$). Between the groups whose total eating attitudes scores is under 30 and over 30 no significant differences were determined in terms of parents living together, mother's characteristics and number of siblings ($p>0.05$). However, the distribution of father's characteristics between the groups was found significant ($p= 0.040$). The distribution of socio-demographic characteristics according to EAT-40 cut-off score is shown in Table 4.

There were no significant differences between FAD total and subscales and the level of student's eating attitudes according to mother's characteristics ($p>0,05$). On the other hand, according to the father's characteristics, there is no significant difference in terms of the scores obtained from FAD subscales, communication, unity and competence, and the level of student's eating attitudes, while the points obtained from FAD subscales, management, indicate meaningful difference depending on father's characteristics ($p=0,034$). The distribution of the scores obtained from EAT-40, FAD total and subscales according to father's characteristics are shown in Table 5.

FAD communication subscales level indicated significant difference between the groups according to family relations ($p< 0.01$). The distribution of the scores obtained from family relations, EAT-40, FAD total and subscales are shown in Table 6.

DISCUSSION

The findings obtained from this study in which the relation between eating attitudes of university students and their family structures indicate that there is not a relation between eating attitudes and family structure. Whether family relations have potential preparing effect for eating disorder is disputable. Any single or definite family structure cannot be seen necessary or sufficient reason in the emergence of eating disorder [19]. However the study on anorexic patients done by Tozzi et al. (2003) indicated that more than 1/3 of anorexic patients pointed their spoiled family structures as the most important factor in the emergence of their eating disorder [20]. Besides, as a result of a study done by Kugu et al. (2002) on 21 students having eating disorder diagnosis with SCID- I (The Structured Clinical Interview for DSM-IV Axis I Disorders), it was determined that they perceived some family functions such as communication in the family, unity and emotional context more problematic [21]. Due to the fact that the sample group in the study is formed with the students who do not have eating disorder

Table 1. The Distribution of Familial Characteristics

	(N=372)	%
Togetherness of Parents		
Living Together	360	96,8
Separated	4	1.1
Divorced	8	2.2
Characteristics of Mother		
Authoritarian	72	19.4
Refusing	6	1.6
Over Preventive	130	34.9
Loose	17	4.6
Unstable and inconsistent	63	16.9
Perfectionist	71	19.1
Receptive, reassuring, and Democratic	13	3.4
Characteristics of Father		
Authoritarian	123	33.1
Refusing	14	3.8
Over Preventive	96	25.8
Loose	9	2.4
Unstable and inconsistent	11	2.9
Perfectionist	83	22.4
Receptive, reassuring, and Democratic	36	9.7

Table 2. The Distribution of the Scores Obtained from EAT-40, FAD Total and Subscales

Scales	Mean	(Standard Deviation)	Minimum	Maximum
EAT- Total	16.5	7.15	5.0	62.0
Communication	34.5	7.05	11.0	45.0
Unity	29.2	4.69	9.0	39.0
Management	30.1	5.57	12.0	39.0
Competence	21.8	4.61	5.0	61.0
Emotional Context	17.9	3.46	5.0	25.0
FAD Total	133.6	18.75	51.0	160.0

Table 3. The Distribution of FAD Total and Subscales Scores According to EAT-40 Cut-off Score

	EAT**<30 (N=354)**	EAT **≥30 (N=18)**	**p**
Communication	34.4±7.02	36.0±7.78	0.244
Unity	29.3±4.66	28.8±5.24	0.898
Management	30.1±5.52	29.8±6.66	0.974
Competence	21.8±4.68	22.7±2.63	0.578
Emotional Context	17.9±3.51	17.9±2.55	0.771
FAD- Total	133.4±18.77	135.2±18.86	0.506

Table 4. The Distribution of Sociodemographic Characteristics According to EAT-40 Cut-off Score

	Groups	EAT< 30		EAT ≥ 30		p
		(N=354)	%	(N=18)	%	
Mother-Father	Living together	343	96.9	17	94.4	0.454
	Separated	11	3.1	1	5.6	
Mother's Characteristics	Authoritarian	68	19.2	4	22.2	0.832
	Refusing	6	1.7	0	0	
	Over preventive	123	34.7	7	38.9	
	Others	157	44,4	7	38.9	
Father's Characteristics	Authoritarian	117	33.1	6	33.3	**0.040**
	Refusing	13	3.7	1	5.6	
	Over Preventive	87	24.6	9	50.0*	
	Others	137	38,7	2	11.1*	
Number of Siblings	One child	13	3.7	2	11.2	0.175
	Two siblings	126	35.6	8	44.4	
	More than two	215	60.7	8	44.4	

*The difference between <30 group is significant (p<0.05).

Table 5. The Distribution of the Scores Obtained from EAT-40, FAD Total and Subscales Dimensions According to Father's Characteristics

	Authoritarian (n=123)	Refusing (n=14)	Over Preventive (n=96)	Others (n=139)	p
Eating attitudes	16.9±7.79	17.9±8.38	17.5±8.14	15.2±5.36	0,095
Communication	34.2±6.96	30.7±7.74	34.8±6.61	34.9±7.31	0.136
Unity	29.1±4.42	26.0±6.16	29.6±4.67	29.5±4.68	0.116
Management	30.3±5.49	25.3±6.49†,‡,¶	30.3±4.69	30.2±5.93	0.034
Competence	21.8±3.51	20.3±5.31	22.4±5.54	21.6±4.68	0.517
Emotional Context	17.6±3.51	15.6±4.48‡,¶	18.1±3.42	18.3±3.26	**0.023**
FAD Total	133.0±17.43	117.8±23.75†,‡,¶	135.2±16.76	134.4±20.06	**0.008**

† The difference between the authoritarian group is significant (p<0.001).
‡ The difference between the over preventive group is significant (p<0.05).
The difference between others group is significant (p<0.01).

Table 6. The Distribution of the Scores Obtained from Family Relations, EAT-40, FAD Total and Subscales

		Very good	Good	Medium or bad	p
Family Relations	**Eating Attitude**	16.3±6.48	16.4±7.17	18.0±10.48	0.859
	Communication	37.1±5.53	32.3±7.31†	27.1±6.30†,‡	<0.001
	Unity	30.2±4.20	28.8±4.18†	25.4±7.02†	<0.001
	Management	32.0±4.50	28.7±5.45†	23.6±5.76†,‡	<0.001
	Competence	23.0±4.45	21.2±3.86†	17.2±5.17†,‡	<0.001
	Emotional Context	18.7±3.06	17.3±3.30†	15.3±4.67†,‡	<0.001
	FAD Total	140.9±14.69	128.3±16.60†	108.5±21.81†,‡	<0.001

† The difference between very good group is statistically meaningful (p< 0.05).
‡ The difference between good group is statistically meaningful (p< 0.05)

diagnosis, they may contradict the studies done byTozzi and Kugu. Objective studies related to family structures of those having eating disorder pointed out different results. Methodological differences during data collection and the differences in the source of the information can be uttered as the reasons of this. Kent and Clopton (1992) pointed that the conflict in the family is in high level by referring the information from the patients. However, the information from the families indicated that there were not so many problematic situations in the families [22]. All these results show that, beyond the reports from the families, it is a necessity to perform studies based on observing families more closely. Some long time observations done by Borucke, Vandereyken and Vertommen indicated that the families of the cases having eating disorder are not very different from those of control groups. Nevertheless, these families showed that they were limited in some communication skills such as expressing indefinite statements [23]. 4.83 % of the cases participating in our study 30 cut-off score and over from EAT-40. When the literature is evaluated, there is a correspondence between our study and others, but the percentage of the cases who got 30 cut-off score and over from eating attitude test is lower in comparison with the results of some other studies. The reason of this thought that the students participating in our study are the students of Health School and they have been educated on eating since the first grade. Any significant differences were not determined in terms of their grades and eating attitude level in our study. In literature, there are some findings referring that eating disorder is frequently observed in middle and higher income groups [24,25,26,27]. When the studies mostly done on applied patients are looked over, it is obvious that eating disorder is not only seen in middle and higher socioeconomic groups but also in all socioeconomic groups [28]. Recent studies point that both anorexia or bulimiasymptoms can be observed in all socioeconomic groups equally [29]. Even though some studies in literature put forward the idea that eating disorder may be related to higher or lower socioeconomic situation, this idea has not been proved efficiently yet [30]. Significant difference was not determined in eating attitudes in different income groups in our study. It is understood that middle and higher income groups have a higher percentage than the lower income group when the cases that got EAT- 40 cut-off score and over are evaluated inside the group. Being in the middle or higher income group is not a definite factor, but it can be thought as a variance affecting eating attitude. In our study significant difference was not determined in eating attitudes in terms of the locations of the cases. In literature, it is seen that not only from rural parts but also from cities patients apply to the hospitals due to eating disorder [28,31]. When the cases who got more than EAT- 40 cut-off scores are evaluated, the cases living in the city have a higher percentage than others (38, 9 %). The data cause to think living in a big city is a risk factor for eating disorder. Family relations are one of the most important factors in eating disorder [30]. According to Rastam and Gilberg (1991), in the families of children and adolescents having anorexia nervosa there are more death, separation, psychological disorder, alcohol use, and gambling than those of control group [32].

In our study there is not a significant difference in terms of the level of eating attitude between the students whose parents live together and those whose parents are separated. The reason why the results of our study are different from others in literature is that we studied with the cases who did not have eating disorder diagnosis. However, FAD management subscales are higher in the cases whose parents live together than those whose parents whose parents are divorced or separated. Management, subscales of FAD, is related to structural organization in the family, deciding, behavioral control, discipline, norms, roles and the flexibility of structural process.

In our study significant difference was not determined in terms of the points obtained from the levels of eating attitude according to mother's attitude. However, when the students who got cut-off score and over from EAT-40 were evaluated in the group itself, 38.9 % of them defined their mothers as over preventive. The data have correspondence with literature. There is no significant difference in the points in the level of eating attitude in terms of father's attitude. However, when the students who got cut-off score and over from EAT-40 were evaluated, 50.0 % of them defined their fathers as over preventive. Eating is a sensitive sign of parents-children relation and emotional case [33].We face many effects of the families which cannot be ignored while studying many psychological problems. However, to make these data more significant, it is thought that larger and more subjective studies are needed. It is remarkable that family and social relations may be destroyed in the cases having eating disorder and they have unwillingness to communicate with others [34]. Being socially introvert, lack of confidence against others are some characteristics determined in the cases that were diagnosed with eating disorder. These characteristics affect the relation levels of the patients negatively. People who have social phobia avoid social relations because they are usually busy with their physical appearance and feel ashamed of it [35]. Eating attitudes between groups was found similar in terms of family relations, social relations and satisfaction level in the evaluation of psychosocial process. Apart from this, when the relation between FAD used in our study and psychological function was

evaluated, it was determined there were differences with all subscales of FAD. When family relations were evaluated, all FAD subscales scores of the group whose family relations are very good significantly higher than those whose family relations are good, medium, or bad. Similarly those scores of good group are significantly higher than those of medium and bad group. When social relations are evaluated, it was determined that there are differences between all subscales of FAD and the groups. Accordingly, the scores which the group whose social relations are very good took significantly higher scores than those whose social relations are good medium and bad. Similarly, the same scores of good group are significantly higher those of medium and bad group.

This study had some limitations. The most concerning point would be that this study has a cross-sectional design, which may be inadequate to explain association between eating attitudes and family functioning was found one would not be able to determine whether family functioning influenced the development of eating pathology or if eating pathology affected family functioning. Another limitations, which did not allow us to reach significant conclusions, was our relatively small sample and given that the women in this study were healthy university students, the association between eating disorder diagnosis and family environment cannot be appropriately assessed. As a result, some studies in literature support the relation between eating attitude and family structure in this study, while some findings opposing this can be found. It is understood that eating attitude should be looked over by searching its frequency in sample groups with the thought that it depends on the culture and family functions should be studied as risk factors in those who have eating disorder. Therefore, studies to be in larger sample groups with different methods can enlighten the subject.

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