

An Evaluation of Mothers' Feeding Attitudes and Anxiety in Preschool Children

Okul Öncesi Çocuklarda Annelerin Besleme Davranışları ve Kaygı Durum Değerlendirilmesi

Maksat JORAYEV¹, O Yelda TÜRKMENOĞLU¹, O Hasan DURSUN², O Ozan ÖZKAYA³

¹University of Health Sciences Turkey, Prof. Dr. Cemil Taşcıoğlu City Hospital, Clinic of Child Health and Diseases, İstanbul, Turkey ²University of Health Sciences Turkey, Prof. Dr. Cemil Taşcıoğlu City Hospital, Clinic of Child Health and Diseases, Division of Pediatric Nephrology, İstanbul, Turkey ³University of Health Sciences Turkey, Prof. Dr. Cemil Taşcıoğlu City Hospital, Clinic of Child Health and Diseases, Division of Pediatric Nephrology and Rheumatology; İstinye University Faculty of Medicine, Department of Pediatrics, Division of Pediatric Nephrology and Rheumatology, İstanbul, Turkey

ABSTRACT

Aim: The aim of this study was to determine the anxiety status as well as behaviors and attitudes of mothers about nutrition of their children.

Materials and Methods: Mothers of the children between 2 and 5 years of age, who thought that their children had feeding problems, were enrolled into the study. Beyond demographic characteristics, mothers were asked about their feeding behavior by using a child nutrition questionnaire. Body weight and body length measurements of the children were performed; body mass indexes (BMI) were calculated. Percentile (p) values depending on the age and gender were compared with the answers given to the questionnaire.

Results: The mean age of the two hundred and eighty-five children was 3.8 ± 1.0 years and 127 (44.6%) of them were girls. Two hundred and seventy six (96.8%) children had weight between 3 and 97 p whereas 9 (3.2%) children had body weight above 97 p; 47 (16.5%) children were overweighed and 30 (10.5%) children were obese. The mean responsibility grade of mothers about feeding their children was 35 points for children whose bodyweight were between 3 and 97 p, and 30 points for those with bodyweight above 97 p (p=0.010).

Conclusion: It was detected that 27% of the children whose mothers thought that their child had a feeding problem had BMI over normal range. Mothers do not have sufficient information that may constitute positive samples while feeding their children, and they should be informed about feeding attitudes and habits by healthcare professionals by considering body measures of the child.

Keywords: Child, feeding, scale, obesity, overweight

ÖΖ

Amaç: Bu çalışmada amaç, annelerin çocuklarının beslenmesi hakkındaki kaygı durumunu ve beslenme sırasındaki davranış ve tutumlarını belirlemektir.

Gereç ve Yöntem: Çocuğunda beslenme sorunu olduğunu düşünen, 2-5 yaş arasındaki çocukların anneleri çalışmaya alındı. Demografik özellikler dışında annelere beslenme davranışları hakkında çocuk beslenme anket soruları soruldu. Çocukların ağırlık ve kilo ölçümü yapıldı, vücut kitle indeksi (VKİ) hesaplandı ve bunların yaş ve cinsiyete göre hazırlanmış persentil (p) değerleriyle anket cevapları karşılaştırıldı.

Bulgular: İki yüz seksen beş çocuğun yaş ortalaması 3,8±1,0 yıl idi ve 127'si kız (%44,6) idi. Çocukların 276'sı (%96,8) ağırlıklarına göre 3-97 p arasında iken 9 (%3,2) çocuk ise >97 p idi. VKİ persentil değerlerine göre 47'sinin (%16,5) aşırı kilolu, 30'unun (%10,5) ise obez olduğu görüldü. Ağırlığa göre 3-97 p arasındaki çocukların annelerinde çocuklarını besleme konusunda gösterdikleri sorumluluklarının derecesinin ortalaması 35 puan, 97 p> olan çocukların annelerinde ise 30 puan olarak bulundu (p=0,010).

Sonuç: Çocuğunda beslenme sorunu olduğunu düşünen annelerin çocuklarının %27'sinin normalin üzerinde VKİ persentil değerleri olduğu görülmüştür. Annelerin çocuklarını beslerken olumlu örnek olabilecek davranışları tam olarak bilmedikleri ortaya koyulmuştur. Bu konuda sağlık çalışanlarının anneleri, çocuğun vücut ölçülerini de dikkate alarak beslenme tutum ve davranışları konusunda bilgilendirmeleri önerilmektedir.

Anahtar Kelimeler: Çocuk, beslenme, ölçek, şişmanlık, aşırı kilolu

Address for Correspondence: Maksat JORAYEV MD, University of Health Sciences Turkey, Prof. Dr. Cemil Taşcıoğlu City Hospital, Clinic of Child Health and Diseases, İstanbul, Turkey Phone: +90 216 621 13 13 E-mail: drmaksattt@gmail.com ORCID ID: orcid.org/0000-0003-1225-4502 Received: 17.06.2021 Accepted: 03.11.2021

Presented in: The article was presented at the 2nd International Hippocratic Medicine and Health Sciences Congress held in İstanbul between 28-30 June 2019.

©Copyright 2022 by the Tekirdağ Namık Kemal University Faculty of Medicine / Namık Kemal Medical Journal published by Galenos Publishing House.

INTRODUCTION

The customs and traditions of each of the societies in the world, according to their cultures, affect the nutritional attitudes and behaviors in the family. Nutritional habits guided by various socioeconomic, cultural and educational influences are acquired in children in the early stages of life^{1,2}. The personality of the child is shaped in the pre-school period, and the acquisition of nutritional habits is generally based on these years, and these habits can cause nutritional problems that may affect later in life and may arise in the future^{2,3}.

The most important reason for inadequate and unbalanced nutrition is the lack of access to food. In addition, wrong and ongoing nutritional attitudes and behaviors are also an important reason. Growing children are frequently affected by inadequate and unbalanced nutrition problems, especially in the pre-school period, and a tendency to obesity is observed. Wrong and inappropriate eating habits gained during this period also carry important risks related to obesity and cardiovascular diseases in the future⁴⁻⁶.

In order for parents to evaluate their children's nutritional behaviors, various scales with objective characteristics have been developed for different age groups. Birch et al.⁷ developed the child feeding questionnaire for children aged five to nine years, to determine the attitudes, behaviors and beliefs of parents while feeding their children. Baughcum et al.⁸ applied a similar nutrition questionnaire for preschool children aged 2–5 years. These surveys are generally carried out to determine the parents' responsibility for their children's nutrition, eating pressure, restrictive behaviors, and perception levels of their children's weight⁷⁻¹⁰.

The aim of this study is to determine the anxiety of mothers about the nutrition of their pre-school children and their behaviors and attitudes during feeding, and to reveal the potential physical negativities that could be caused by the incompatibility between the mother and the child about nutrition.

MATERIALS AND METHODS

This cross-sectional study was conducted by using face-toface interview method among mothers with children aged 2-5 years, who applied to the pediatrics clinic of our hospital between October 2016 and December 2016 and thought that their children had a nutritional problem. A detailed history of the children was taken, their general examinations were carried out, weight and height measurements were performed, body mass index (BMI) was calculated, percentile (p) values were found and recorded for weight, height and BMI from tables created according to their age and gender. BMI <5 p was considered as underweight, BMI 5-85 p as ideal weight, BMI 85-95 p as overweight, and BMI >95 p as obese^{11,12}. The demographic characteristics of the mothers, their education level, socioeconomic status, and family income as above or below the minimum wage were classified, and nutritional questionnaire questions were asked in addition to their status. Mothers of children who were born at term and had normal birth weight (>2,500 g), and height and weight not below normal for age and gender (>3 p), and who did not have a known chronic disease were included in the study after obtaining the consent for the questionnaire form. Mothers of children with chronic liver, kidney, heart and neuromuscular diseases, being on continuous drug use, being born prematurely and with low birth weight (<2,500 g), and with height and/ or weight <3 p at the time of enrollment in the study and those who did not answer more than 10% questions in the questionnaire forms given to the mothers were excluded from the study.

Characteristics of the Questionnaire

The questionnaire we applied in our study included the feeding behaviors of mothers in preschool children and their evaluations about their children's nutrition. While 12 questions in the first part defined the demographic characteristics of the family, the remaining 33 questions (13-45) in the second part were about the nutritional survey. While 11 of these 33 questions were examining mothers' responsibilities in feeding their children, 7 of them were measuring the eating pressure that mothers put on their children. Two guestions evaluated the degree of mothers' dietary restrictions on their children, one question assessed mothers' perceptions of their children's weight, and one question evaluated mothers' levels of interest in their children's weight. Two of the remaining 11 questions were about the children's choice of food, 3 questions about the child's misbehavior that would negatively affect the child's eating habits, 5 questions about non-mother factors affecting the child's nutrition, and 1 question about the place of snacks in the child's nutritional life (Table 1)7-10. While two of the questions, questions 17 and 28, were multiple-choice type, the answers to the remaining 31 questions were prepared in a fivepoint Likert scale type (1: Never, 2: Rarely, 3: Sometimes, 4: Often, 5: Always).

Approval for this study was obtained from the Ethics Committee of Health Sciences University Turkey, İstanbul Okmeydanı Training and Research Hospital (27.09.2016/523). Table 1 shows which scales the questions in the questionnaire belong to.

Statistical Analysis

The data obtained as a result of the research were evaluated in the SPSS 16.0 software. While evaluating the data collected with the survey questions, charts showing absolute and percentage numbers were prepared for each question. While analyzing the study data, the conformity of the parameters to the normal distribution was evaluated with the Shapiro-Wilks test. In addition to descriptive statistical methods (mean, standard deviation, frequency), while comparing the quantitative data, the Student's t-test was used for the comparison of normally distributed parameters between two groups, and the Mann-Whitney U test was used for the comparisons of non-normally distributed parameters between two groups. The chi-square test or Fisher exact test statistics were used to compare categorical variables. The correlation between the variables was determined with the pearson or Spearman's correlation coefficient. Significance was evaluated at the p<0.05 level.

RESULTS

Five of the 305 mothers who initially participated in the study were excluded from the study because they did not complete the questionnaire. Fifteen cases with a weight or height <3 p after the measurements were also excluded from the study, and the remaining 285 children and their mothers were included in the study. The mean age of all children was 3.8 ± 1.0 years,

Table 1. Nutritional questionnaire items and related scales							
Item no							
13 (S)	Do you think your child does not eat as well as other children?						
14(S)	Do you think you cannot feed your child well?						
15 (S)	Do you feel worried that your child cannot be fed without you?						
16 (F)	Do you think your child eats better when parents or siblings are together?						
17 (S)	Does anyone other than you feed your child?						
18 (F)	Do other people have similar problems while feeding your child?						
19 (S)	Do you think you are not a good mother when your child does not finish his/her meal?						
20 (A)	Even if the health professionals say that your child has normal weight, do you still think that he/she is insufficient?						
21 (F)	Do you think your child has less appetite when angry or upset?						
22 (C)	Does your child choose food?						
23 (Y)	Do you turn on the TV for your child during meals?						
24 (Y)	Do you play with your child to feed him/her?						
25 (C)	Is it difficult to get your child to eat new foods?						
26 (S)	Is it helpful to eat with father when starting new foods?						
27 (S)	Have you ever prepared different foods when there is food he/she does not like?						
28 (S)	How many different foods do you prepare in one meal when your child does not like it?						
29 (S)	Do you feel successful when your child finishes his/her meal?						
30 (S)	Do you help when your child does not finish his/her food?						
31 (S)	During the meal, would you let your child choose from the foods that comes to the table?						
32 (K)	Do you promise for after-meal dessert to get your child to eat healthy foods?						
33 (K)	When your child is grumpy, do you give him/her food or sweets that he/she will like?						
34 (D)	Would you let the elders come to the house to bring snacks for your child?						
35 (B)	Do you force your child to eat more by punishing them or curtailing their privileges?						
36 (F)	Do you think your child eats better when they are with other children?						
37 (B)	Do you invite other children to the house so that your child can eat better						
38 (F)	Do you think your child is better fed by people other than you?						
39 (B)	Do you force your child to finish his/her meal so he can have dessert after meal?						
40 (B)	Would you spoon-feed your child so he/she can finish what's on his/her plate?						
41 (B)	When you can't get your child to eat, do other people in the house take on this task?						
42 (Y)	Does your child sit at the table with you?						
43 (B)	When your child leaves the table, do you follow him to finish his/her meal?						
44 (B)	Do you let your child play with toys at mealtimes?						
45 (A)	Do you think your child eats too much?						
S: The degree of re restrict their child habits during mea	sponsibility that mothers have for feeding their children, B: The degree of eating pressure put by mothers on children, K: The degree of mothers' behavior to ren's food intake, A: Perceptions of mothers about their children's weight, C: Children's choice of food, Y: Misbehaviors that will negatively affect the child'ss eating Is, F: Non-mother factors affecting the child's nutrition, D: The place of snacks in the child's nutritional life						

 3.7 ± 1.0 years in girls and 3.8 ± 1.0 years in boys. There was no statistically significant difference between the two groups in terms of mean age (p=0.328). While the number of children in families ranged from 1 to 6, the median number of children in families was 4. Demographic characteristics of the children included in the study and their mothers are given in Table 2.

While the number of mothers with two or less children was 176, the number of mothers with three or more children was 109. When these two groups were analyzed in terms of the distribution of children with 3-97 p and >97 p, no significant difference was found (p=0.758). Considering the income levels of the families, it was found that the income of 108 families (44.2%) was below the minimum wage, and the income of 177 families (45.8%) was above the minimum wage. There was no statistically significant difference between children with 3-97 p and >97 p in terms of weight according to their income level (p=0.889).

The weight, height and BMI percentile distributions of the children included in the study are shown in Table 3. Of the 285 children included in the study, 276 children (96.8%) were between 3-97 p in terms of weight, while the number of children >97 p was 9 (3.2%). Among the girls and boys, the distribution of those with 3-97 p and >97 p for weight was similar (p=0.522). Children included in the study were additionally classified according to their BMI percentile

Table 2. Demographic characteristics of the children and their mothers included in the study					
Mean±SD (min-max					
Mean age of children 3.8 ± 1.0					
Children's weight (kg)	15.9 <u>+</u> 3.4	(10.0-28.0)			
Height (cm)	100.1±9.0	(80-130)			
BMI (kg/m²)	15.8 <u>+</u> 2.1	(13-25)			
Mean age of mothers	34.0±6.5				
	n	0/0			
Girl/boy	127/158	%44.6/55.4			
Age group (according to the age to be tur	ned)				
2 years	42	18.3			
3 years	65	22.8			
4 years	91	31.9			
5 years	77	27.0			
Educational status of mothers					
Illiterate	13	4.6			
Primary school	114	40			
Middle school	38	13.3			
High school	77	27			
University	43	15.1			
Working status/housewife 72/213 25.3/74.7					
BMI: Body mass index, SD: Standard deviation, min: Minimum, max: Maximum					

values. According to the BMI percentile values of the children, 30 (10.5%) were obese and 47 (16.5%) were overweight (Table 3).

Questionnaires were asked to the mothers about the nutrition of their children. While the number of mothers who let the child choose the food they wanted on the table was 217 (76.2%), 171 (60.0%) stated that they considered themselves successful when their children finished the food. 196 (68.8%) of them stated that they prepared different food when children did not like the food. 77.5% of them were helping their children when they did not finish their meal. Although health professionals said that their children were of normal weight, the number of mothers who thought that their children's weight was always insufficient was 14 (4.9%). Three (33.3%) of 9 mothers whose children had a weight of >97 p still thought that their children's weight was insufficient, contrary to what health professionals said. While the number of mothers who thought that their children ate more than necessary was 48 (16.9%), this perception was not present in 33.3% of those with obese children. 43.5% of the mothers stated that they did not punish their children for not eating more or they did not reduce their children's privileges.

Table 3. Weight, height and BMI percentile distributions of the children included in the study						
Weight percentiles						
3-10	64	22.5				
10-25	65	22.8				
25-50	36	12.6				
50-75	65	22.8				
75-90	30	10.5				
90-97	16	5.6				
Height percentiles						
3-10	51	17.9				
10-25	73	25.6				
25-50	50	17.5				
50-75	60	21.1				
75-90	25	8.8				
90-97	17	6.0				
>97	9	3.2				
BMI percentiles						
<5	41	14.4				
5-15	20	7.0				
15-25	36	12.6				
25-50	56	19.6				
50-75	36	12.6				
75-85	19	6.7				
85-95	47	16.5				
>95	30	10.5				
BMI: Body mass index						

65.6% of them promised their children for after-meal dessert in order to make them eat the food which would be good for their children, but the children did not want to eat. 53.0% of them stated that they often or always played games with their children in order to feed them, 56.2% of them stated that they often or always watched television while feeding their children. Regarding the place of snacks in the child's diet, 47.3% of the mothers stated that these snacks were included in the child's diet every day.

Eleven of the questionnaire questions examined mothers' responsibilities in feeding their children. This scale reflected the mother's control over the child's nutrition and her feeling responsible for the portions and for preparing a healthy diet. The degree of mothers' responsibility for feeding their children (11 questions; 55 points in total), the degree of eating pressure that mothers placed on their children (7 questions; 35 points in total), child nutrition and non-mother factors (5 questions; total 25 points) were evaluated among working and nonworking mothers. While there was no statistically significant

difference between the mean level of non-maternal factors. it was observed that the mean levels of eating pressure and mother's responsibility scales were statistically lower in working mothers (p=0.027, p=0.021, respectively) (Table 4).

It was evaluated whether the mothers' responsibility and eating pressure scales were different in the mothers of children with a weight of 3-97 p and >97 p. The total score of the degree of mothers' responsibility in feeding their children was found to be lower in mothers having children with >97 p than in the other group and this was statistically significant (p=0.010), but no statistical significance was found in the comparison of the total score of the degree of eating pressure that mothers put on their children (p=0.123) (Table 5).

A positive and moderate correlation was found between the total score of the mothers' responsibility scale to feed their children and the total score of the mothers' eating pressure scale on their children (r: 0.485; p=0.000).

Table 4. Comparison of eating pressure, mother's responsibility and non-mother factors in child nutrition according to mother's employment status

	Housewife		Working mother				
	Mean <u>+</u> SD	Median (min-max)	Mean±SD	Median (min-max)	р		
Eating pressure	18.8±4.8	19 (7-30)	17.3±4.9	17 (7-28)	0.027		
Mother's responsibility	34.2 <u>+</u> 6.1	34 (16-91)	32.4 <u>+</u> 5.2	32 (22-44)	0.021		
Non-mother factor in child nutrition	12.5 <u>+</u> 2.8	13 (4-20)	12.6 <u>+</u> 2.6	13 (7-19)	0.790		
n: Independent group t-stest SD: Standard deviation min: Minimum may: Maximum							

Table 5. Comparison of the median values of mother's responsibility and eating pressure scale scores according to the weights						
	Weight (p)	Total scale score medium value	р			
Mathew's responsibility	3-97 p	34	0.010			
Mother's responsionity	>97 p	30				
Fating processo	3-97 p	18	0 1 2 2			
Eating pressure	>97 p	16	0.123			

Table 6. Comparison of mother's responsibility and eating pressure scales with mother's education level and working status								
			Total scale score		Mother's working	Total scale score		

	Mother's educational level	n	medium value	р	status	nedium value	р
	Literate	13	36		Housewife	34	
	Primary school graduate	114	34	0.003			0.013
responsibility	Secondary school graduate	38	35		Working	32	
,	High school graduate	77	33				
	University graduate	43	31				
	Literate	13	21		Housewife	19	
	Primary school graduate	114	18				
Eating pressure	Secondary school graduate	38	19	0.004	Working	17	0.049
	High school graduate	77	17				
	University graduate	43	17				

When the mother's education level was compared with the mothers' responsibility scale total score for feeding their children and the mothers' eating pressure scale total score on children, it was found that the score decreased as the education level increased. It was seen that the group of mothers who felt most responsible and made pressure to eat were literate, while the group of mothers who felt the least responsibility and did not make pressure to eat were university graduates (p=0.003 and p=0.004, respectively). When the mother's occupation (housewife/working) and the mothers' responsibility scale total score for feeding their children and the eating pressure scale total score on their children were compared, it was found that both scale scores were lower in working mothers (p=0.013 and p=0.049, respectively) (Table 6).

Mothers' responsibility and eating pressure were evaluated in the groups formed according to BMI percentile values. While the median value of mothers' responsibility scale was 32.5 in the group with BMI >95 p, it was 35 in the group with BMI <5 p. In this paired comparison, the mean values of the mothers' responsibility scale were found to be statistically significantly higher in the underweight group than those in the obese group (p=0.044). No statistically significant difference was found in other pairwise comparisons (p>0.05).

Eating pressure, mother's responsibility and non-mother factors in child nutrition were evaluated according to weight, weight percentile, BMI and BMI percentiles. When non-mother factors in eating pressure and child nutrition were evaluated, there was no statistical significance (p>0.05). BMI was found to be statistically significant in the mother's responsibility scale (r: -0.12, p=0.046). However, the same significance was not found in the BMI percentile (r: -0.10, p=0.095) (Table 7).

DISCUSSION

In our study, according to BMI measurements of the children of mothers who thought their children had eating problems, it was determined that 10.5% of were obese, and 16.5% were overweight. In recent years, obesity and being overweight in children stand out as a remarkable problem at the rates between 1.5% and 20% in different countries and in age groups¹³⁻¹⁶. In a study conducted in the age group of 5-6 years in our country, the frequency of being overweight was detected to be 8.3% and the frequency of obesity was $10.1\%^{17}$. In another study, it was reported that the prevalence of being overweight was 8.6% and the frequency of obesity was 6.6% in the age group of 1-5 years¹⁸. It is thought that being overweight and obesity have increased in the childhood age group in recent years.

It is suggested that the way parents feed their children has an effect on the development of obesity. One of the methods that examines parents' responsibilities regarding their children's nutrition, controlling habits, attitudes and beliefs is the parental feeding style questionnaire. The main purpose of this type of survey is to reveal what directs eating habits and why parents use the methods they use. The survey questions we used in our study, on the other hand, were prepared in line with the data obtained from studies conducted in this direction so far, and they tried to descriptively define mothers' feeding attitudes⁷⁻¹⁰. The parental feeding questionnaire developed by Wardle et al.9 for children aged 2-9 years was also validated in our country¹⁹. Our study included different questions, the most important of which was the degree of responsibility that mothers showed in feeding their children. It was observed that mothers having children with a weight above normal had a lower mean of responsibility scale than mothers of children with a weight within the normal range.

In some studies, it has been shown that overweight children are under less pressure to eat, but children with low BMI are under more pressur to eat^{15,20,21}. In our study, however, no significant difference was found in the comparison of the mean scores on the scale of eating pressure created by mothers on children. In some studies, it has been shown that excessive controlling and restrictive behaviors of parents in children's nutrition increase the risk of overeating and obesity in children. In a study, it was determined that childhood obesity was related to parental nutritional behaviors, controlling children's food choices (for example; restricting snack foods) had negative consequences, and children consumed these foods excessively when they had the opportunity. The theoretical relationship between child nutrition practices and body weight stems from the prediction that parents

Table 7. The correlation of mother's eating pressure, responsibility, and non-mother factors in child nutrition with the child's weight and BMI percentiles									
		Weight (kg)	Weight percentile	BMI (kg/m²)	BMI percentile				
Enting prossure	r	0.04	-0.01	0.04	0.01				
	р	0.509	0.985	0.813	0.526				
Mather's responsibility	r	-0.04	-0.07	-0.12	-0.10				
worner's responsionity	р	0.484	0.234	0.046	0.095				
Non mother feators	r	-0.01	-0.05	-0.08	-0.04				
Non-mother factors	р	0.993	0.427	0.153	0.438				
r: Correlation coefficient; Spearman's correlation test, BMI: Body mass index									

are likely to control the child's nutrition if they believe the child is at risk of gaining excess weight. In the literature, it is stated that excessive controlling behaviors of parents about nutrition lead to irregularities in caloric intake and weight gain in children. It is claimed that excessive control of nutrition causes the child to ignore hunger and satiety signs and increase the tendency to obesity^{21,22}. It is thought that avoiding restrictive behaviors in the nutrition of the child will contribute to the prevention of the risk of being overweight and obesity²³.

Parents' inability to evaluate their children's weight correctly also prevents them from directing them to a healthy diet. In some studies, it has been shown that families are not aware of that their children's weight is above normal²⁴⁻²⁶. In our survey, when the mothers were asked whether they thought that their children's weight was still insufficient even if health personnel said that the weight of their children was within normal limits, 14 (4.9%) mothers still thought that their children's weight was insufficient despite the doctor's indication, and this rate was 33% in the mothers of obese children. It was thought that the perception disorders of these mothers regarding the weight of their children might be an important cause of obesity in children. It has been shown that parents are not aware of that their children are overweight and do not perceive this situation as a health threat²⁶. In solving this problem, parents' visual perceptions of their children's weight are of great importance.

It is important in terms of proper nutrition whether the nutrition of the child is according to the wishes of the child or the wishes of the family. Families affect children's eating habits not only by the food they offer them, but also by the way they are fed²⁷. Families trying to feed the child by playing games to feed their children, distracting the child with television or moving musical visual content, and giving rewards affect the child's eating habits in the opposite direction²⁸. In our study, it was seen that the majority of mothers tried similar methods. In order for the child to eat healthy, it is recommended that the family sit at the table and eat together. It has been shown that allowing the child to make his/her own choices by enabling the child to plan his own meals is a necessity for the child's adherence to nutrition and proper eating habits that will be formed in the future, and it has been reported that these children consume less food when they take their own starter food at the meal²⁹.

It has been suggested that low income level and socioeconomic status cause the child to be fed with fast-consuming highcalorie foods and to be overweight³⁰. It has been shown that the risk of obesity is lower for the children of parents with higher education levels¹⁵. In our study, it was observed that higher education level decreased mother's responsibility and eating pressure, and this was low in mothers with obese children. It has been reported that the children of mothers with longer working hours are also at higher risk of being overweight³¹. In our study, it was observed that the responsibility and eating pressure scale scores of working mothers were lower than those of non-working mothers. It is thought that the reason for this may be that the working hours were not long or that the children were fed by another adult at home.

Study Limitations

Our study includes several limitations. First, the children included in the study were not evaluated in terms of food allergies. Second, the weight, height and BMI of the families were not evaluated.

CONCLUSION

As a result, the foundations of future nutritional habits are largely provided by the gains in the age period of 2-5 years. The data obtained in our study show that mothers do not fully know the behaviors that can be positive examples while feeding their children and they continue to make common mistakes in the society, such as finishing the meal completely, replacing undesired meals with acceptable ones. The decrease in the excessive pressure for eating, which will negatively affect the future nutrition style, with the level of education, and the decrease in the awareness of the responsibility for feeding the child with the education level show that the society's awareness should be raised and they should be educated on this issue.

Ethics

Ethics Committee Approval: Approval for this study was obtained from the Ethics Committee of Health Sciences University Turkey, İstanbul Okmeydanı Training and Research Hospital (27.09.2016/523).

Informed Consent: Informed consent was obtained from the patient.

Peer-reviewed: Externally peer-reviewed.

Authorship Contributions

Surgical and Medical Practices: M.J., Concept: M.J., Y.T., H.D., O.Ö., Design: M.J., Y.T., H.D., O.Ö., Data Collection or Processing: M.J., Analysis or Interpretation: M.J., Y.T., H.D., O.Ö., Literature Search: M.J., Y.T., H.D., O.Ö., Writing: M.J., Y.T.

Conflict of Interest: No conflict of interest was declared by the authors.

Financial Disclosure: The authors declared that this study received no financial support.

REFERENCES

- Bruss MB, Morris JR, Dannison LL, Orbe MP, Quitugua JA, Palacios RT. Food, culture, and family: exploring the coordinated management of meaning regarding childhood obesity. Health Commun. 2005;18:155-75.
- Scaglioni S, Salvioni M, Galimberti C. Influence of parental attitudes in the development of children eating behaviour. Br J Nutr. 2008;99(Suppl 1):S22– 5.
- Warkentin S, Mais LA, Latorre MDRDO, Carnell S, Taddei JAAC. Parents Matter: Associations of Parental BMI and Feeding Behaviors With Child BMI in Brazilian Preschool and School-Aged Children. Front Nutr. 2018;5:69.
- Attree P. Low-income mothers, nutrition and health: a systematic review of gualitative evidence. Matern Child Nutr. 2005;1:227-40.
- Kröller K, Warschburger P. Associations between maternal feeding style and food intake of children with a higher risk for overweight. Appetite. 2008;51:166-72.
- Faith MS, Scanlon KS, Birch LL, Francis LA, Sherry B. Parent-child feeding strategies and their relationships to child eating and weight status. Obes Res. 2004;12:1711-22.
- Birch LL, Fisher JO, Grimm-Thomas K, Markey CN, Sawyer R, Johnson SL. Confirmatory factor analysis of the Child Feeding Questionnaire: a measure of parental attitudes, beliefs and practices about child feeding and obesity proneness. Appetite. 2001;36:201-10.
- Baughcum AE, Powers SW, Johnson SB, Chamberlin LA, Deeks CM, Jain A, et al. Maternal feeding practices and beliefs and their relationships to overweight in early childhood. J Dev Behav Pediatr. 2001;22:391-408.
- Wardle J, Guthrie CA, Sanderson S, Rapoport L. Development of the Children's Eating Behaviour Questionnaire. J Child Psychol Psychiatry. 2001;42:963–70.
- Musher-Eizenman D, Holub S. Comprehensive Feeding Practices Questionnaire: validation of a new measure of parental feeding practices. J Pediatr Psychol. 2007;32:960-72.
- WHO Multicentre Growth Reference Study Group. WHO child growth standards: length/height-for-age, weight-for-age, weight-for-length, weight-for-height and body mass index-for-age: method and development. Geneva: World Health Organization; 2006.
- Neyzi O, Saka HN, Kurtoğlu S. Anthropometric studies on the Turkish population--a historical review. J Clin Res Pediatr Endocrinol. 2013;5:1-12.
- Ogden CL, Fryar CD, Hales CM, Carroll MD, Aoki Y, Freedman DS. Differences in Obesity Prevalence by Demographics and Urbanization in US Children and Adolescents, 2013–2016. JAMA. 2018;319:2410–8.
- 14. de Onis M, Blössner M, Borghi E. Global prevalence and trends of overweight and obesity among preschool children. Am J Clin Nutr. 2010;92:1257-64.
- 15. Ek A, Sorjonen K, Eli K, Lindberg L, Nyman J, Marcus C, et al. Associations between Parental Concerns about Preschoolers' Weight and Eating and Parental Feeding Practices: Results from Analyses of the Child Eating Behavior Questionnaire, the Child Feeding Questionnaire, and the Lifestyle Behavior Checklist. PLoS One. 2016;11:e0147257.

- Gupta N, Goel K, Shah P, Misra A. Childhood obesity in developing countries: epidemiology, determinants, and prevention. Endocr Rev. 2012;33:48-70.
- Yabancı N, Şimşek I, İstanbulluoğlu I, Bakır B. Ankara'da bir anaokulunda şişmanlık prevelansı ve etkileyen etmenler. TAF Prev Med Bull. 2009;8:397-404.
- Santas F, Santas G. Prevalence of pre-school children for overweight/ obesity in Turkey. World J Pediatr. 2018;14:77-83.
- Özçetin M, Yılmaz R, Erkorkmaz Ü, Esmeray H. Ebeveyn besleme tarzı anketi geçerlik ve güvenirlik çalışması. Türk Ped Arş. 2010;45:124-31.
- 20. Jansen PW, Roza SJ, Jaddoe VW, Mackenbach JD, Raat H, Hofman A, et al. Children's eating behavior, feeding practices of parents and weight problems in early childhood: results from the population-based Generation R Study. Int J Behav Nutr Phys Act. 2012;9:130.
- Rollins BY, Loken E, Savage JS, Birch LL. Effects of restriction on children's intake differ by child temperament, food reinforcement, and parent's chronic use of restriction. Appetite. 2014;73:31-9.
- 22. Anzman SL, Birch LL. Low inhibitory control and restrictive feeding practices predict weight outcomes. J Pediatr. 2009;155:651–6.
- Johannsen DL, Johannsen NM, Specker BL. Influence of parents' eating behaviors and child feeding practices on children's weight status. Obesity (Silver Spring). 2006;14:431-9.
- Jeffery AN, Voss LD, Metcalf BS, Alba S, Wilkin TJ. Parents' awareness of overweight in themselves and their children: cross sectional study within a cohort (EarlyBird 21). BMJ. 2005;330:23-4.
- Chaimovitz R, Issenman R, Moffat T, Persad R. Body perception: do parents, their children, and their children's physicians perceive body image differently? J Pediatr Gastroenterol Nutr. 2008;47:76–80.
- Campbell MW, Williams J, Hampton A, Wake M. Maternal concern and perceptions of overweight in Australian preschool-aged children. Med J Aust. 2006;184:274-7.
- Horne PJ, Tapper K, Lowe CF, Hardman CA, Jackson MC, Woolner J. Increasing children's fruit and vegetable consumption: a peer-modelling and rewardsbased intervention. Eur J Clin Nutr. 2004;58:1649–60.
- Arslan P. Çocukluk ve Adölesan Çağı Şişmanlığın Diyet Tedavisi İlkeleri. The Turkish Journal of Endocrinology and Metabolism. 2003;3(Suppl 2):27-32.
- 29. Fisher JO, Mitchell DC, Smiciklas-Wright H, Birch LL. Parental influences on young girls' fruit and vegetable, micronutrient, and fat intakes. J Am Diet Assoc. 2002;102:58–64.
- Bammann K, Gwozdz W, Pischke C, Eiben G, Fernandez-Alvira JM, De Henauw S, et al. The impact of familial, behavioural and psychosocial factors on the SES gradient for childhood overweight in Europe. A longitudinal study. Int J Obes (Lond). 2017;41:54–60.
- Anderson PM, Butcher KF, Levine PB. Maternal employment and overweight children. J Health Econ. 2003;22:477-504.