

The effect of nutritional attitudes of mothers as health care professionals on their children's eating behaviors

O efeito das atitudes nutricionais de mães que trabalham como profissionais de saúde sobre os hábitos alimentares de seus filhos

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ABSTRACT

Objective

This study aimed to determine the effects of the attitudes of mothers as health care professionals and their sociodemographic characteristics on their children's eating habits.

Method

The data of this descriptive and cross-sectional study were collected between January and March 2022, using a web-based survey of 386 mothers.

Result

The mean age of the mothers was 32.88±4.96 years, and the mean age of the children was 38.78±18.24 months. Regarding educational status, 62.7% of the mothers were university graduates, while 54.4% were nurses. A significant and positive correlation was found between the sub-dimensions of the Mother's Attitudes towards the Feeding Process Scale and the Behavioral Pediatric Feeding Assessment scale ($p=0.000$). According to the multiple regression analysis, the main determinant of the picky eaters sub-dimension of the Behavioral Pediatric Feeding Assessment scale was the mother's occupation ($\beta=0.28$; 95% CI: 3.07, 6.50), the main determinant of the toddler refusal-general sub-dimension was negative affect during the meal ($\beta=0.38$; 95% CI: 0.19, 0.32), the main determinant of the older children refusal - general sub-dimension was negative affect during the meal ($\beta=0.30$; 95% CI: 0.16, 0.33), and the main determinant of the toddler refusal - textured foods sub-dimension was forced feeding ($\beta=0.48$; 95% CI: 0.41, 0.63).

Conclusion

The study found that problems related to mothers' attitudes toward the nutrition process were moderate and that these problems were mainly caused by mothers' attitudes toward inadequate/unbalanced nutrition. It was also found that the children had moderate problematic eating behavior and eating habits.

Keywords: Child. Eating habits. Health personnel. Mothers.

RESUMO

Objetivo

Este estudo teve como objetivo determinar os efeitos das atitudes das mães enquanto profissionais de saúde e das suas características sociodemográficas nos hábitos alimentares dos seus filhos.

Método

Os dados deste estudo descritivo e transversal foram recolhidos entre janeiro e março de 2022, através de um inquérito online aplicado a 386 mães.

Resultados

A média de idade das mães foi de $32,88 \pm 4,96$ anos, e a média de idade das crianças foi de $38,78 \pm 18,24$ meses. Relativamente ao nível de escolaridade, 62,7% das mães tinham formação universitária, enquanto 54,4% eram enfermeiras. Foi encontrada uma correlação significativa e positiva entre as subdimensões da Escala de Atitudes das Mães em relação ao Processo de Alimentação e a escala de Avaliação Comportamental da Alimentação Pediátrica ($p=0,000$). De acordo com a análise de regressão múltipla, o principal determinante da subdimensão "comedor exigente" da escala Avaliação Comportamental da Alimentação Pediátrica foi a ocupação da mãe ($\beta=0,28$; 95% CI: 3,07, 6,50), o principal determinante da subdimensão "recusa geral de bebês" foi a falta de apetividade durante a refeição ($\beta=0,38$; IC 95%: 0,19, 0,32), o principal determinante da subdimensão "recusa geral de crianças mais velhas" foi a falta de apetividade durante a refeição ($\beta=0,30$; IC 95%: 0,16, 0,33), e o principal determinante da subdimensão recusa de crianças mais velhas – alimentos texturizados foi a alimentação forçada ($\beta=0,48$; IC 95%: 0,41, 0,63).

Conclusão

O estudo concluiu que os problemas relacionados com as atitudes das mães em relação ao processo de alimentação eram moderados e que esses problemas eram causados principalmente pelas atitudes das mães em relação a uma alimentação inadequada/desbalanceada. Verificou-se também que as crianças tinham um comportamento alimentar e hábitos alimentares problemáticos moderados.

Palavras-chave: Criança. Hábitos alimentares. Pessoal de saúde. Mães.

INTRODUCTION

Nutrition is a significant phenomenon in the development, growth and overall health of individuals. Nutrition is necessary for the continuation of life and influences physical development [1]. Childhood is a period of rapid development. Nutrition is more important during this period than during other stages of life [2]. Since childhood eating habits continue into adulthood and eating plays a significant role in adult health, understanding children's eating habits and behaviors is essential [1]. Inadequate quality of nutrition during childhood may lead to negative results in children [3]. According to the World Health Organization, malnutrition is responsible for 45% of child deaths. Globally in 2020, it was estimated that 149 million children under the age of 5 were stunted (too short for their age), 45 million were too thin for their height, and 38.9 million were overweight or obese [4].

Nutritional disorders in children can lead to growth retardation and malnutrition [5]. Loss of appetite is a pediatric eating disorder characterized by an unwillingness to eat and is used to express various behavioral traits found in children, including moodiness, selectivity, reluctance and difficulty eating [6]. In a study conducted in Turkey, nutritional problems were detected in 40.8% of children between the ages of 1-6, according to statements made by their families [7]. Pediatric eating disorders are common in 25-40% of healthy children and 80% of children with growth retardation [8]. Approximately 20-30% of children have nutritional problems. Nutritional problems can be seen in obese children as well as in underweight children with insufficient weight gain [9]. Malnutrition can cause a child to regress in learning and in terms of their creativity and productivity and can also

lead to physiological disorders [8]. Social factors have an impact on the development of healthy eating behavior. Nutrition is affected by many factors, including gender, the sociocultural level, religious beliefs, ethnicity, genetics, and economic, emotional and psychological issues [10]. The consistency of the parents and providing a good example to the child in the preschool period are the most basic conditions allowing the child to gain healthy eating habits [2]. It has been reported that parental attitude may be a significant determinant of the eating problems that will occur later in their children [11]. Determining the risk of eating disorders, which is of ever increasing importance today, is vital in terms of reducing the eating disorders that may occur as children grow up [12]. Assessing the attitudes of parents regarding the feeding of their children is essential to understanding their feelings, thoughts and approaches in this regard [2]. In nearly all societies, mothers take primary responsibility for the care of their children. Working mothers, in particular, need greater levels of support. Today, the responsibilities inherent in being a woman have increased greatly, and the continued emphasis placed on motherhood is part of this process [1]. A previous study determined that the vast majority of working mothers with children in the 0-6 age group felt guilty about being employed. In addition, the mothers stated that they took on an excessive amount of responsibility and felt mental and physical fatigue [13]. Working mothers may be more stressed than housewives because they have difficulty balancing their responsibilities between work and home, and may feel that they cannot devote enough time to the care and feeding of their children [14,15]. This stress can result in the use of restrictive eating practices with regard to the child [16]. During the feeding process, the mother may experience different emotional and physical issues, particularly when confronted with specific difficulties. Tension, distress and uneasiness in mothers due to their own emotional problems may cause tension and uneasiness in their children. Due to this, a kind of action-reaction mechanism is activated, causing feeding to become increasingly difficult. A mother who becomes anxious or even angry as a result of perceiving the child's reluctance to feed as a negative and rejecting behavior, may end the feeding period sooner or later than necessary. This can lead the child to starve, feel angry and tired, experience emotional distress, and react in ways that make the mother even more nervous [11]. In addition, working mothers may think that they are feeding their children less healthy than required due to the hours spent in employment, and may experience anxiety about this [17]. A previous study has reported that children with full-time working mothers had less healthy eating habits [18]. It has also been reported that negative feelings in the mother, such as anxiety and depression, have negative effects on child nutrition [19,20]. It has been determined that the children of mothers who try to exert control during feeding, who use food for emotional regulation, and who are overbearing with regard to balanced eating generally exhibit avoidant eating behavior [21,22].

On the basis of this current knowledge, the present study aimed to determine (1) whether the attitudes of mothers as health care professionals regarding the feeding process affected the feeding behaviors of their children, and (2) whether there were socio-demographic variables affecting the mothers' child-feeding behaviors. For these purposes, answers were sought to the following research questions: Q1: Do working mothers' attitudes regarding the feeding process affect their children's eating behavior? Q2: Are there socio-demographic variables that affect children's eating behavior?

METHODS

This study had a descriptive and cross-sectional design. The sample size was determined using the formula for sample size calculation of an unknown population size. If the number of individuals in the study universe is unknown, the formula $n = (t^2 \times Pq)/d^2$ is used [23]. In the present

study, the sample size was calculated as 384 by using the sample size calculation for an unknown population size. The sample consisted of mothers as health care professionals (n=386) who agreed to participate, filled out the web-based questionnaires, and had children aged between 9 and 72 months. In the study, a 0.95% confidence interval, 5% standard deviation, and 50% unknown prevalence were used in the calculations.

Interviews to collect the study data between 15 January and 31 March 2022 could not be held face-to-face in the same physical environment due to the ongoing COVID-19 pandemic. Therefore, a link to the questionnaires prepared online in Google Forms was sent to the mothers via email and online platforms such as Facebook, WhatsApp, and LinkedIn. Only mothers with children aged between 9 and 72 months were included in the study. The reason for this was that the criteria for implementation of the Mother's Attitudes towards the Feeding Process Scale (MATFPS) could only be applied to mothers with children between 9-72 months who had completely switched to supplementary food. The link to Google Forms was first sent to healthcare professional mothers from the groups where the researchers were present. Then they were asked to send this link to other healthcare professional mothers they knew. The mothers who volunteered to participate in the study filled out the form by clicking the link. The necessary information about the purpose and scope of the study and how it would be conducted was included on the first page of the online data collection tool. After the mothers who had agreed to participate in the study read the form and confirmed that they were participating voluntarily, they were able to access the subsequent pages.

The data collection tool consisted of three parts. The first part of the interview form was prepared by the researchers and consisted of 11 questions about the introductory characteristics of mothers and children. The second part included the Behavioral Pediatric Feeding Assessment Scale (BPFAS). The original BPFAS consists of 35 items. Of the items, 25 address the child's nutritional status, while 10 of them are related to the person responsible for the child's nutrition [24]. The Turkish adaptation of the BPFAS was performed by Önal et al. [12] on the 25 items related to the child's nutritional status. Item 25 was not included in the adaptation of the scale. For the Turkish version of the scale, which has 24 items, the Cronbach's α was found to be .88. In this study, cronbach's alpha was found to be =0.95. The five-point Likert-type scale has four sub-dimensions. There are seven items in the picky eaters sub-dimension, five items in the toddler refusal-general sub-dimension, five items in the toddler refusal - textured foods sub-dimension, and seven items in the older children refusal - general sub-dimension. Statements in the scale are rated between 1 and 5 (1=Never, 2=Seldom, 3=Occasionally, 4=Frequently, 5=Always). High scores on the scale indicate an increased presence and severity of nutritional problems and unhealthy eating habits.

The third part of the interview form included the Mothers' Attitudes toward the Feeding Process Scale (MATFPS) was included. the MATFPS is a five-point Likert type scale, developed by Dilsiz and Dağ [25]. It consists of 27 items and five sub-dimensions. The scale includes "Negative Affective State during Meals" (items 1, 2, 3, 4, 5, and 6), "Attitudes Toward Inadequate/Imbalanced Nutrition" (items 7, 8, 9, 10, 11, 12, 13, 14), "Negative Nutrition Strategies" (items 15, 16.,17.,18.,19. items), "Force Feeding" (20.,21,22.,23. items), "Reaction to Others' Opinions" (24., 25., 26., 27. items). The scale is answered as follows: never (1), rarely (2), occasionally (3), usually (4) and always (5). The increase in scores on each sub-dimension and the overall scale score indicates that problems related to mothers' attitudes toward the feeding process are also increasing (12b). The Cronbach's alpha coefficient of the scale was reported as 0.91. [25]. In this study, cronbach's alpha was found to be =0.89.

The study data were analyzed using the IBM®SPSS® Statistics 21 software. In the analysis of basic descriptive data, numbers, percentages and means were used. Before analyzing the data, assumptions of normality, covariance (homogeneity of variance), linearity and multicollinearity between independent variables were tested. In the process of normality analysis, the skewness and kurtosis values were evaluated. For the multicollinearity test, the correlation values were analyzed to ensure that there was no multicollinearity between the predictive variables. Since all values of the predictor variables were found to be less than 0.8, which is within an acceptable range for a correlation coefficient, it was assumed that no predictor was multicollinear. Furthermore, tolerance and the variance inflation factor were used to control possible multicollinearity between predictive variables. Then, linear regression analysis was performed for the BPFAS with MATFPS, considering the sub-dimensions of the MATFPS (negative affect during the meal, attitudes about insufficient/unbalanced feeding, negative feeding strategies, forced feeding, and reaction to the viewpoints of others), the mother's age, occupation, education level, age of the child, gender, time of starting solid food, and who cared for the child while the mother was at work as independent variables. The significance level was taken as $p < 0.05$.

RESULTS

Table 1 shows the socio-demographic characteristics of the sample. The mean age of the mothers participating in the study was 32.88 ± 4.96 years, and the mean age of the children was 38.78 ± 18.24 months. Among the mothers participating in the study 62.7% were university graduates, 54.4% were nurses, 100.0% worked 36-40 hours a week, 100.0% had spouses who also worked, and

Table 1 – Distribution of socio-demographic characteristics of mothers as health care professionals and their children (n=386).

Characteristics	M±SD	n	%
Maternal age (years)	32.88±4.96		
Educational status			
High school		82	21.2
University		242	62.7
Postgraduate		62	16.1
Occupation			
Midwifery		147	38.1
Nurse		210	54.4
Physician		29	7.5
Family type			
Nuclear family		386	100.0
Employment status of spouses			
Working		386	100.0
Weekly working time			
36-40 hours		386	100.0
Child age (months)	38.78±18.24		
Child gender			
Girl		199	51.6
Boy		187	48.4
Number of children			
1-2		386	100.0
Time of starting solid food			
Before six months		81	21.0
After six months		305	79.0
Caregiver while the mother was at work			
Caregiver		272	70.5
Kindergarten		114	29.5

Note: M: Mean; SD: Standard Deviation.

100.0% lived in a nuclear family (Nuclear family: family consisting of parents and children). It was determined that 51.6% of the mothers had a daughter, 100.0% had one or two children, 79% had started supplementary food after six months, and 70.5% of the children were taken care of by a caregiver while the mother was at work.

Table 2 shows the mean scores for the scales. The MATFPS sub-dimension mean scores were found to be 15.53 ± 5.70 for the negative affect during the meal sub-dimension, 25.65 ± 7.09 for the attitudes about insufficient/ unbalanced feeding sub-dimension, 11.42 ± 4.71 for the negative feeding strategies sub-dimension, 6.44 ± 3.80 for the forced feeding sub-dimension, and 10.33 ± 4.01 for the reaction to the viewpoints of others sub-dimension. The BPFAS sub-dimension mean scores were found to be 18.87 ± 4.45 for the picky eaters sub-dimension, 11.99 ± 3.89 for the toddler refusal-general sub-dimension, 9.10 ± 4.09 for the toddler refusal – textured foods sub-dimension, and 17.12 ± 4.63 for the older children refusal – general sub-dimension.

Table 2 – The mother's attitudes towards the feeding process scale and the behavioral pediatric feeding assessment scale mean scores (n=386).

Variables / Sub-dimension	Min-Max*	M	SD	Skewness	Kurtosis
Mother's attitudes towards the feeding process scale					
Negative affect during the meal	6-30	15.53	5.70	0.447	-0.532
Attitudes about insufficient/unbalanced feeding	8-40	25.60	7.09	-0.310	-0.607
Negative feeding strategies	5-25	11.42	4.71	0.846	0.307
Forced feeding	4-20	6.44	3.80	1.911	2.912
Reaction to the viewpoints of others	4-20	10.33	4.01	0.412	-0.563
Behavioral pediatric feeding assessment scale					
Picky eaters	8-33	18.87	4.45	0.269	-0.075
Toddler refusal-general	5-23	11.99	3.89	0.799	0.023
Toddler refusal- textured foods	5-22	9.10	4.09	1.131	0.696
Older children refusal - general	7-34	17.12	4.63	0.777	0.655

Note: *These are the lowest and highest values obtained in this study. High scores on the scales indicate that eating problems are increasing and that the mother's attitudes towards the feeding process are problematic. M: Mean; SD: Standard Deviation.

As a result of the correlation analysis, significant and positive strong correlations were observed between the sub-dimensions of the BPFAS and the MATFPS ($p=0.000$). In addition, significant and negative correlations were observed between early-stage food refusal, early-stage refusal of textures, late-term food refusal and maternal education, maternal profession and initiation of supplementary food ($p<0.001$) (Table 3).

Table 3 – Bivariate correlations between some of the characteristics of the parents and children, and the children's eating behaviors and maternal attitudes towards the feeding process (n= 386).

Variables	Picky eaters	Toddler re-fusal – general	Toddler refusal – textured foods	Older children r efusal – general
Maternal age				
r	-0.046	-0.113*	-0.046	0.004
p	0.371	0.027	0.365	0.942
Educational status				
r	-0.101*	-0.197**	-0.216**	-0.201**
p	0.048	0.000	0.000	0.000
Occupation				
r	0.022	-0.243**	-0.188**	-0.228**
p	0.673	0.000	0.000	0.000

Table 3 – Bivariate correlations between some of the characteristics of the parents and children, and the children's eating behaviors and maternal attitudes towards the feeding process (n= 386).

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Variables	Picky eaters	Toddler re-fusal – general	Toddler refusal – textured foods	Older children r e-fusal – general
Child age				
r	0.108*	-0.042	-0.038	0.099
p	0.033	0.411	0.454	0.051
Child gender				
r	-0.030	-0.138**	-0.031	-0.039
p	0.557	0.007	0.545	0.440
Caregiver while the mother was at work				
r	0.041	-0.110*	-0.051	0.003
p	0.422	0.031	0.317	0.957
Time of starting solid food				
r	-0.163*	-0.411**	-0.355**	-0.465**
p	0.001	0.000	0.000	0.000
Negative affect during the meal				
r	0.408**	0.732**	0.559**	0.671**
p	0.000	0.000	0.000	0.000
Attitudes about insufficient/ unbalanced feeding				
r	0.276**	0.547**	0.355**	0.500**
p	0.000	0.000	0.000	0.000
Negative feeding strategies				
r	0.415**	0.681**	0.648**	0.670**
p	0.000	0.000	0.000	0.000
Forced feeding				
r	0.405**	0.651**	0.725**	0.641**
p	0.000	0.000	0.000	0.000
Reaction to the view points of others				
r	0.273**	0.561**	0.511**	0.544**
p	0.000	0.000	0.000	0.000

Note: **p* is significant at the $p < 0.05$ level, ***p* is significant at the $p < 0.001$. r: Spearman Correlation Analysis.

Multiple regression analysis was used to determine the predictive capacity of the negative affect during the meal, attitudes about insufficient/ unbalanced feeding, negative feeding strategies, forced feeding, and reaction to the viewpoints of others sub-dimensions of the MATFPS, and sociodemographic characteristics such as maternal age, education, occupation, child age, gender, caregiver while the mother was at work, and time of starting solid food according to the four sub-dimensions of the BPFAS. Table 4 shows the significant results of the analyses. The modeled independent variables explained 26% of picky eaters ($F=10.996$; $p < 0.001$). The effects of the mother's occupation, negative affect during the meal and negative feeding strategies on the picky eaters sub-dimension score were found to be statistically significant ($p < 0.05$), and the best positive predictor was the mother's occupation. For every 1 unit increase in the mother's occupation, picky eaters increased by 0.28 points. The modeled independent variables explained 65% of toddler refusal-general ($F=54.246$; $p < 0.000$). The effect of the child's age, gender, time of initiation of supplementary food, negative affect during the meal, negative feeding strategies, and forced feeding on the toddler refusal-general sub-dimension score was found to be statistically significant ($p < 0.05$), and the best positive predictor was the negative affect during the meal. For every 1 unit increase in the negative affect during the meal, toddler refusal-general increased by 0.38 points. Modeled

independent variables explained 58% of toddler refusal – textured foods ($F=40.347$; $p<0.001$). The effect of the mother’s age, the child’s age, negative affect during the meal, attitudes about insufficient/ unbalanced feeding, negative feeding strategies and forced feeding on the toddler refusal – textured foods sub-dimension score were found to be statistically significant ($p<0.05$). Considering the β value, forced feeding was the best positive predictor of the toddler refusal – textured foods. For every 1 unit increase in forced feeding, toddler refusal – textured foods increased by 0.48 points. The modeled independent variables explained 60% of older children refusal – general ($F=43.400$; $p<0.000$). The effect of the mother’s age, time of initiation of supplementary food, negative affect during the meal, negative feeding strategies and forced feeding on the older children refusal - general sub-dimension score was found to be statistically significant ($p<0.05$), and the best positive predictor was the negative affect during the meal. For every 1 unit increase in the negative affect during the meal, older children refusal – general increased by 0.28 points (Table 4, Figure 1).

Table 4 – Multiple linear regression model for predicting children's eating behaviors, some socio-demographic data and nutritional attitudes (n=384).

Variables	Model	Unstandardized Coefficients		Standardized Coefficients	t	p	95% CI		R ²
		B	SD	β			Lower	Upper	
Picky eaters	Constant	12.200	1.728		7.060	0.000*	8.802	15.598	0.26
	Occupation (Reference: Midwifery)								
	Physician	4.791	0.871	0.28	5.497	0.000*	3.077	6.504	
	Nurse	0.357	0.436	0.04	0.819	0.413	- 0.500	1.215	
	Negative affect during the meal	0.216	0.055	0.27	3.911	0.000*	0.107	0.325	
	Negative feeding strategies sub-dimension	0.222	0.075	0.23	2.949	0.003*	0.074	0.369	
Toddler re-fusal-general	Constant	2.875	1.029		2.795	0.005*	0.852	4.898	0.65
	Child age	-0.017	0.007	-0.08	-2.321	0.021*	-0.032	-0.003	
	Child gender (Reference: Boy)	0.747	0.239	0.09	3.122	0.002*	0.276	1.217	
	Time of starting solid food (Reference: After six months)	0.888	0.326	0.09	2.724	0.007*	0.247	1.530	
	Negative affect during the meal	0.264	0.033	0.38	8.025	0.000*	0.199	0.329	
	Negative feeding strategies	0.100	0.045	0.12	2.238	0.026*	0.012	0.188	
	Forced feeding	0.289	0.049	0.28	5.902	0.000*	0.192	0.385	
Toddler refusal - textured foods	Constant	1.452	1.190		1.220	0.223	-0.888	3.4791	0.58
	Maternal age	0.065	0.031	0.07	2.116	0.035*	0.005	0.125	
	Child age	-0.029	0.009	-0.13	-3.377	0.001*	-0.046	-0.012	
	Negative affect during the meal	0.119	0.038	0.16	3.117	0.002*	0.044	0.193	
	Attitudes about Insufficient/ Unbalanced Feeding	-0.059	0.029	-0.10	-2.023	0.044*	-0.116	-0.002	
	Negative feeding strategies	0.184	0.052	0.21	3.557	0.000*	0.082	0.286	
	Forced feeding	0.525	0.057	0.48	9.281	0.000*	0.414	0.636	
Older children refusal - general	Constant	4.469	1.316		3.395	0.001*	1.881	7.057	0.60
	Maternal age	0.085	0.034	0.09	2.498	0.013*	0.018	0.151	
	Time of starting solid food (Reference: After six months)	2.215	0.417	0.19	5.309	0.000*	1.394	3.035	
	Negative affect during the meal	0.248	0.042	0.30	5.887	0.000*	0.165	0.331	
	Negative feeding strategies	0.181	0.057	0.18	3.166	0.002*	0.069	0.294	
	Forced feeding	0.257	0.063	0.21	4.106	0.000*	0.134	0.380	

Note: *p is significant at the $p<0.05$ level. B: unstandardized regression coefficients; R²: variance explained; SE B, standard error of B; t: Student's t; β : standardized regression coefficients.

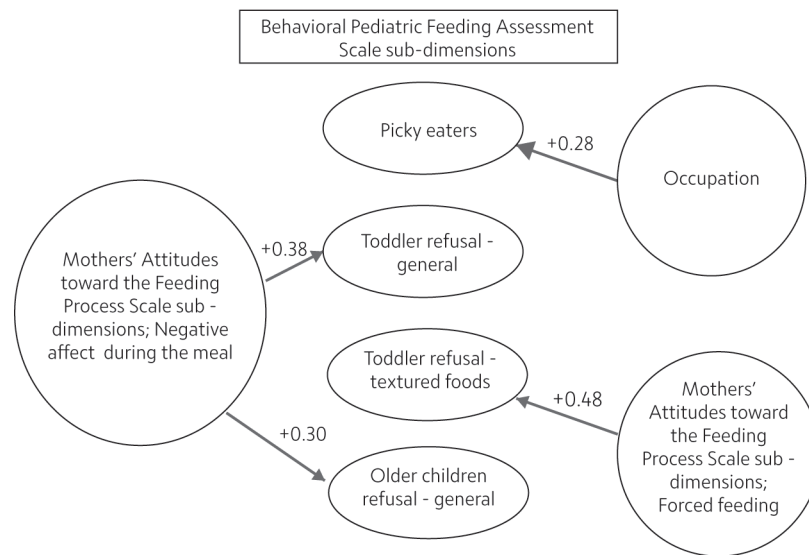


Figure 1 – Determined by linear regression.

Note: Only statistically significant pathways with $p < 0.001$ are shown, along with the β .

DISCUSSION

Behavioral eating disorders in children occur as a result of the interaction of the child, parents, and the environment [26,27]. Pediatric eating disorders are classified as selectivity, general food refusal in young children, textured food refusal in toddlers, and general food refusal in older children [12]. This study, which examined the effects of mothers as health care professionals' attitudes about the feeding process on their children's eating behaviors, first determined the mean scores of the BPFAS and the MATFPS. When the MATFPS sub-dimension mean scores were examined, it was found that the mothers had moderate problems in feeding their children, and these problems were mostly in their attitudes regarding the inadequate/unbalanced nutrition sub-dimension. These mothers may have thought that they could not feed their children in accordance with their maternal instincts due to their long working hours, work full-time and shift work, and as a result, they may have developed a specific attitude towards inadequate/unbalanced nutrition. No similar study has been found in the literature on mothers as health care professionals. However, in a study conducted with 217 mothers with children aged between 9 and 72 months, it was determined that the mothers had moderate problems in their attitudes towards feeding, and they scored high in the attitudes towards inadequate/unbalanced nutrition sub-dimension [2]. It has been reported that mothers forcing the child to eat and thus making meal times into an experience that children do not like may cause food refusal in the child [2,28]. It is thus considered essential for the health of children whose mothers are health workers that do not act to compel their children to feed. When the BPFAS sub-dimension mean scores were examined, it was found that the children displayed moderately problematic eating behaviors. In a similar study, it was found that children had moderately problematic eating behaviors and eating habits [2]. Mothers have a lot of influence on their children's eating behavior. However, mothers employed in health care have to engage in shift work, work full-time and long working hours. Managing both work and domestic responsibilities may cause more stress for working mothers compared to mothers who stay at home [14]. This stress can lead to different feeding practices, such as taking a restrictive attitude to regulating the child's nutrition [16]. This may lead to problems in the eating behavior and nutritional habits of the children of mothers who

work as health care professionals. It is important for fathers, who share a life together at home, to help their wives, who are healthcare professionals and work full-time, especially with childcare. If such mothers receive support especially from fathers regarding child nutrition, this may help them better regulate their children's eating habits, and help their children gain healthier nutritional habits.

As a result of the correlation analysis, it was concluded that, as the negative attitudes of the mothers about the feeding process increased, so the problematic eating behaviors of their children also increased. It has been stated that family attitudes have an effect on healthy and adequate nutrition and that the mother's diet affects the child's diet [2,29]. A previous study found that mothers who had problems at mealtimes were generally more likely to try to persuade their child to eat, use threats and engage in force-feeding. The results of the present study suggest that the nutritional problems in the children were caused by the mothers' inadequate strategies regarding their children's mealtime behaviors. These strategies range from being too flexible to being too strict. Turkish mothers, traditionally, have been more likely to use inadequate strategies to get their children to eat more and more frequently (during the day and even at night) [30]. This situation was also observed in the present study. As the mother's education level and the time of starting supplementary food increased, the problematic eating behaviors and problematic nutritional habits decreased. Many factors, including the family environment, parental eating habits, socioeconomic status, the media, etc. affect children's eating behaviors [25]. This result shows that the increase in the knowledge of mothers as health care professionals was reflected in their child-feeding behavior. Previous studies have found that as the education level of mothers increases, they apply healthier eating habits to their children, while mothers with "picky" children tend to be weaker, younger, and have a lower education level [27,31]. In the literature, the awareness of parents about nutrition is considered the most significant factor in the transformation of behavioral malnutrition into positive behaviors and outcomes in children [29,32].

According to the results of multiple regression analysis, which was significant in the study, it was determined that the best positive variable predicting picky eaters, which is a sub-dimension of the BPFAS, was the mother's occupation. The study found that picky eaters was higher in children whose mothers were physicians than in children whose mothers were midwives. The picky eaters sub-dimension of the scale includes questions about the child's consumption of fruit, meat, fish and vegetables. The reason for this result may be that mothers who are physicians have a greater desire to feed their children in a balanced way, and as a result, children become more food-selective. It has been reported in previous studies that mothers' awareness of nutrition may lead to an authoritarian approach to feeding their children [33]. However, when parents or other caregivers force children to eat certain foods that they believe are good and nutritious, children's interest in those foods can decrease, and excessive control of children's eating has an adverse effect on normal weight gain and healthy eating behaviors [11].

The present study found that negative affect during the meal was the best positive predictor of toddler refusal-general. The toddler refusal-general sub-dimension of the scale includes questions about the child's behavior during mealtimes (whines or cries at mealtimes, throws tantrums at mealtimes, spits out food, etc.). The present study determined that negative and strict behaviors towards the child during mealtime increased behaviors such as spitting out food and having a temper tantrum. Mothers with negative moods or inadequate/unbalanced feeding strategies may feel more helpless and hopeless in the face of the situations they encounter during mealtimes. The children of these mothers are likely to eat more slowly and reach a sense of being full at an early stage. Similarly, these children may not enjoy eating. The findings of the present study are consistent

with the literature showing that mothers' negative attitudes toward feeding may be associated with negative eating behaviors in their children [34, 35]. Mothers as health care professionals should not adopt a coercive attitude when feeding their children.

It was found that forced feeding was the best positive predictor of toddler refusal – textured foods. The toddler refusal – textured foods sub-dimension of the scale includes questions about swallowing food during meals (difficulty in chewing food, retching at mealtimes and shortness of breath, etc.). The forced feeding sub-dimension items include expressions such as “I threaten my child to make him/her eat”, “I scare him/her”, “I shout”, “I get angry”. The study determined that when the mothers as health care professionals tried to force-feed their children, the child had difficulty swallowing food. Mothers as health care professionals may feel that they cannot adequately control their child's feeding due to having to work shifts; they may thus worry about their child's nutrition and try to force their children to eat. However, methods such as coercion, intimidation and punishment make children angrier, especially children with no appetite, and lead to a lack of success in feeding them [36]. A previous study determined that children who were forced to eat exhibited more selective eating behaviors than other children [37]. There should thus be no debates or telling-off during mealtime, and the child should not be warned, punished or compared with other children while at the table.

The study found that negative affect during the meal was the best positive predictor of older children refusal – general. The older children refusal – general sub-dimension of the scale includes questions that concern general eating behaviors (arguing about what to eat and what not to eat, preferring liquid foods instead of solid foods, etc.). The negative affect during the meal sub-dimension of the scale includes questions about mothers feeling tired, helpless and hopeless when feeding their children. The present study determined that being in a negative emotional state during mealtime adversely affected the general eating behaviors of the children. Approaches such as ensuring that the eating environment is stress-free and comfortable, not being in a rush while feeding the child, not forcing the child to finish the meal, and asking which food the child wants to eat first have a positive effect on the child's nutrition [28,37,38]. A previous study found that feeding the child with love and patience makes a positive difference, and it has been stated that encouraging the child positively affects the child's willingness to eat [39].

CONCLUSION

The study revealed that the feeding attitudes of mothers as health care professionals may be related to the eating behaviors of their children aged 9-72 months. Understanding children's eating habits and behaviors are essential for a child's health. Mothers employed in health care need to increase their knowledge about healthy nutrition and child nutrition, and how they approach it. It is also important to understand eating behaviors in childhood, particularly at a time when obesity and malnutrition are common, to determine the tendency to overeating or loss of appetite, to anticipate any problems that may occur due to these in the future, and to take the necessary precautions against them.

Data collection could not be carried out fact-to-face in the same physical environment due to the COVID-19 pandemic. The data were limited to the answers given by the mothers who agreed to participate to the questions in the data collection tools. The attitudes of the mothers participating in the study towards feeding are limited to the characteristics measured by the MATFPS, and the children's eating habits are limited to the characteristics measured by the BPFAS.

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