Received: 24 Jan 2024 | **Accepted:** 25 Mar 2024 **Genel Tıp Derg. Volume** 34/**Issue** 3 (June), 342-350
DOI: 10.54005/geneltip.1425054

ORIGINAL ARTICLE

Parents' Knowledge Level About New Food Fear and Food Allergies

Ebeveynlerin Yeni Besin Korkusu ve Besin Alerjileri Konusunda Bilgi Düzeyi

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How to cite ?

Molu B. Parents' Knowledge Level About New Food Fear and Food Allergies. Genel Tıp Derg. 2024;34(3):342-50.

ABSTRACT

Aim: This study aimed to investigate the prevalence of food neophobia among parents of primary school-aged children, identify common allergenic foods in children, and assess parents' knowledge about food allergies.
Material and Methods: A descriptive cross-sectional study was carried out with parents of students attending public primary schools in a district of the Central Anatolia region in Türkiye during the spring semester of the 2022-2023 academic year. The study was conducted with 341 parents of students selected by a simple random sampling method. Data were collected using a survey method, including a researcher-prepared data collection form and the 'Fear of New Food Scale.' Data were analyzed using the Kruskal-Wallis and Mann-Whitney U tests. Pearson correlation analysis was utilized for examining correlation relationships.
Results: The majority of parents displayed moderate food neophobia (85.4%), with milk and dairy products, eggs, strawberries and dyed sugar and chocolate being the most frequently reported allergenic foods for children. A significant proportion of parents (54.8%) lacked information about food allergies. The study reveals that as parents' knowledge of food allergy symptoms and prevention of allergic reactions increases, their burden as measured by the FNS score tends to decrease.
Conclusion: These findings have noteworthy implications for pediatric nursing practice, emphasizing the necessity for targeted interventions to educate parents about food allergies and promote safe practices in managing allergic reactions.

Keywords: Allergens, child, food neophobia, parents, primary school.

ÖZ

Amaç: Bu çalışmanın amacı, ilkokul çağındaki çocukların ebeveynleri arasında gıda neofobisinin yaygınlığını araştırmak, çocuklarda yaygın alerjen gıdaları belirlemek ve ebeveynlerin gıda alerjileri hakkındaki bilgilerini değerlendirmektir.
Gereç ve Yöntemler: Tanımlayıcı kesitsel bir çalışma, 2022-2023 eğitim-öğretim yılı bahar döneminde Türkiye'nin İç Anadolu bölgesindeki bir ilçede bulunan devlet ilkokullarına devam eden öğrencilerin ebeveynleri ile gerçekleştirilmiştir. Çalışma, basit tesadüfi örnekleme yöntemiyle seçilen 341 öğrenci velisi ile yürütülmüştür. Veriler, araştırmacı tarafından hazırlanan veri toplama formu ve 'Yeni Besin Korkusu Ölçeği'ni içeren bir anket yöntemi kullanılarak toplanmıştır. Veriler Kruskal-Wallis ve Mann-Whitney U testleri kullanılarak analiz edilmiştir. Korelasyon ilişkilerini incelemek için Pearson korelasyon analizi kullanılmıştır.
Bulgular: Ebeveynlerin çoğunluğu (%85,4) orta düzeyde gıda neofobisi sergilerken, süt ve süt ürünleri, yumurta, çilek ve boyalı şeker ve çikolata çocuklar için en sık bildirilen alerjen gıdalar olmuştur. Ebeveynlerin önemli bir kısmı (%54,8) gıda alerjileri hakkında bilgi sahibi değildir. Çalışma, ebeveynlerin gıda alerjisi semptomları ve alerjik reaksiyonların önlenmesi konusundaki bilgileri arttıkça, FNS skoru ile ölçülen yüklerinin azalma eğiliminde olduğunu ortaya koymaktadır.
Sonuç: Bu bulgular, ebeveynleri gıda alerjileri konusunda eğitmek ve alerjik reaksiyonları yönetmede güvenli uygulamaları teşvik etmek için hedeflenen müdahalelerin gerekliliğini vurgulayarak, pediatrik hemşirelik uygulamaları için kayda değer çıkarımlara sahiptir.

Anahtar Kelimeler: Alerjenler, çocuk, gıda neofobisi, ebeveynler, ilkokul.

Introduction

Food allergies pose a significant health concern, capable of triggering life-threatening reactions and impacting the well-being of both patients and their loved ones. Among allergic conditions prevalent in childhood, food allergies hold a prominent position (1).It affects approximately 10% of the pediatric population (2). Food allergies manifest as an abnormal immune system response to ingested food proteins (3). Even a small ingestion of allergenic food can lead to a diverse range of symptoms, ranging from mild manifestations like hives and gastrointestinal discomfort to severe anaphylaxis. Primary risk factors for food allergies include atopic dermatitis, asthma, and a family history of atopy. While there are around 170 identified allergenic foods, only a select few foods account for the majority of reactions (4). The specific allergenic foods commonly associated with allergic reactions in children may vary based on geographical location and individual sensitivities (3). However, some frequently reported allergenic foods in children include milk, eggs, peanuts, soy, wheat, fish, and shellfish. Notably, milk, egg, wheat, and soy allergies typically manifest during childhood, whereas peanut, nut, and seafood allergies can occur at any stage of life (5). Allergies to commonly consumed foods such as milk, eggs, wheat, and soy predominantly arise during childhood while allergies to peanuts, nuts, and seafood can manifest at any stage of life. It is worth noting that although fruits and vegetables are generally regarded as healthy and beneficial, some children may develop allergies

Peer-Review: Double anonymized - Two External
Plagiarism Checks: Yes - intihal.net
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Selcuk University Press
Genel Tıp Dergisi | e-ISSN: 2602-3741
https://dergipark.org.tr/tr/pub/geneltip
https://yayinevi.selcuk.edu.tr/

to specific varieties. Notably, less common allergenic fruits and vegetables that can trigger allergies in children include kiwi, banana, strawberry, avocado and tomato (6-7). Effective management of food allergies revolves around the meticulous avoidance of known allergenic foods and ensuring continuous access to life-saving epinephrine. The European Academy of Allergy and Clinical Immunology offers recommendations to prevent the onset of sudden food allergies in infants and young children (8). Given that milk, egg, wheat, and soy allergies often manifest during childhood, it is not uncommon for schools to have at least one student with a food allergy. While no specific studies have assessed the frequency of allergic reactions in schools within our country, research conducted in the United States revealed that at least one anaphylactic reaction occurred in 10% of 5,683 schools during the 2013–2014 academic year. Furthermore, approximately 18% of children with food allergies experienced at least one allergic reaction during their school years (9).Notably, a quarter of allergic reactions in schools were the first-time occurrence in children (U.S. Study, personal communication). One-quarter of allergic reactions in schools are first-time allergic reactions in children (9-10).

Indeed, it is believed that parents of children with food allergies often experience a heightened sense of apprehension towards foods available outside their homes. As a result, parents bear the weight of managing food allergies, which can cultivate fear and anxiety towards unfamiliar foods (11-12). In addition to established food allergies, parents' knowledge about new food fears is also important to consider. As new foods are introduced into a child's diet, there may be concerns about potential allergic reactions or adverse effects (13). It is essential to acknowledge that parents' level of knowledge about new food fears, such as concerns about food intolerances, sensitivities, or unfamiliar ingredients, can also impact their ability to make informed decisions about their child's diet (14). By addressing both food allergies and new food fears, healthcare professionals can provide comprehensive support and education to parents, ensuring the well-being and safety of their children. Understanding the attitudes surrounding food allergies is crucial to raising awareness and providing education to parents on this matter. The task of managing food allergies can prove particularly challenging for parents with primary school-aged children. Not only must they ensure the safety of their children, but they must also navigate social and school environments where allergens may be present.

When the literature is reviewed, the studies conducted by Hörold et al. (2023), Lim & Law (2023), Doğan et al. (2023), and Cardosa et al. (2023) primarily focus on parents' information needs, behavioral pursuits, fears and awareness about the prevention and management of food allergies in children (13-16). These studies shed light on different aspects of parents' experiences and concerns about food allergies. While previous studies have provided valuable information about parents' information needs, fears, and awareness of food allergies, the current study differs by focusing specifically on parents of primary school-aged children and assessing their knowledge about food allergies and their concerns when introducing new foods. This study aims to complement the existing literature on parents' experiences and needs in the prevention and management of food allergies in children.

Research questions

1. How do parents' fear levels about food allergies vary according to demographic factors?

2. What are parents' levels of the Food Neophobia Scale?

3. How is parents' knowledge about food allergies related to their level of concern about introducing novel foods to their children?

Methods

Study design

A descriptive cross-sectional study was used for this research.

Study location and duration

The study was conducted in a district in the Central Anatolia Region of Türkiye, specifically targeting parents of students enrolled in primary schools in the spring semester of the 2022–2023 academic year. Data collection was conducted through a survey between March 20 and June 2023.

Population and sample of the study

The target population for this study comprised four primary schools in a district of the Central Anatolia region in Türkiye, which collectively accommodated 2,600 students receiving official primary school education. The sample selection was based on the use of simple random sampling. This method was chosen to ensure that each member of the population, specifically the parents of primary school students, had an equal opportunity to be included in the sample. By employing this sampling technique, the researchers aimed to gather information that could be generalized to a larger population of parents within the district. To provide further context, the population consisted of 2,600 students aged between 7 and 10 years, enrolled in the 1st, 2nd, 3rd, and 4th grades across four selected primary schools. These schools were chosen through a simple random sampling method from a pool of 10 general primary schools located in the district center. The decision to focus on parents with children in these specific grade levels is a common practice in research studies. The initial sample size for this study was determined as 335 parents of students, based on a power analysis that considered a 95% confidence interval, 95% population representation, and an alpha level of 0.5%. G*Power 3.1.9.7. was used to calculate the minimum sample size to analyze. However, the actual number of participants in the study exceeded

this initial sample size, totaling 361 parents. These individuals were selected based on meeting the inclusion criteria and willingly agreeing to participate during the designated data collection period, following the acquisition of necessary permissions. The decision to include additional participants beyond the initial sample size of 335 was driven by factors such as enhancing statistical power and minimizing potential data loss. The inclusion criteria entailed being parents of primary school students and voluntary participation in the survey. Participants who declined to take part in the study for various reasons, such as time constraints, were excluded from the study, ensuring that only willing participants were included in the final sample. During the data collection process, 20 people participated in the survey, but they were not included in the analysis because they did not answer some questions in the data collection form. The study was completed with 341 participants.

Data collection tools

The data for this study were gathered through the utilization of two main data collection tools: a data collection form developed by the researcher and the 'New Food Fear Scale'. The study data were collected by the survey method. The duration of the survey was set to last 10–15 minutes.

Data collection form

The data collection form consisted of 15 carefully crafted questions that encompassed various aspects (11,14-16). These questions covered sociodemographic characteristics such as age, gender, family type, income level, parental education, parental occupation, and number of siblings. Additionally, the form included inquiries concerning information related to food allergies, including the child's food allergy status, duration of diagnosis, and any symptoms experienced by the parents due to food allergies. The form also inquired about the solutions and preventive measures taken by the parents to manage food allergies.

The New Food Fear (Food Neophobia) Scale

The Food Neophobia Scale (FNS), originally named "Food Neophobia Scale", was developed by Pliner and Hobden to examine the neophobic (fear of new foods) and neophilic (liking of new foods) states in humans, specifically to enable the measurement of fear of new foods with paper and pencil and to examine the relationships between fear of new foods assessed with this scale (17). The Turkish validity and reliability study of the scale was conducted by Uçar (18). The 7-point Likert-type scale consisting of ten items is organized in such a way that 1 point increases for each option from strongly disagree (1 point) to strongly agree (7 points). It ranges from 10-70 points (questions 1, 4, 6, 9, and 10 are reverse-scored). As the score obtained from the scale increases, the level of food neophobia increases. The adaptation of the FNS scale into Turkish for use in our country was studied by Uçar as a master's thesis in 2018 and published as a scale in 2021 (18-19).The scale adapted into Turkish by Uçar was used with the permission of the researcher. The Cronchbach alpha coefficient of the scale is 0.80. The Cronchbach alpha coefficient was 0.64 in our study. In this study, the FNS quartiles obtained from the participants were determined, and the scoring of the scale was determined as follows:

Between 10-33 points: neophilic group (negative attitude towards new foods)

Between 34 and 47 points: neutral group (group in the middle)

48–70 points: neophobic group (fear of new foods).

Collection of data

For this study, data collection was conducted utilizing a data collection form and a new food fear scale. The primary objectives were to ascertain the prevalence of food allergies among primary school children and to investigate the level of knowledge of parents about fear of new foods. Only participants who voluntarily agreed to take part in the study were included. To administer the questionnaire forms, the researchers reached out to the principals and teachers of primary school educational institutions within the district. Subsequently, the questionnaire forms were distributed by hand to the parents of the students. Prior to participation, comprehensive information about the study was provided to the parents, along with an informed consent form. This ensured that participants were well-informed and gave their explicit consent to be involved in the study. Using this methodological approach, the researchers aimed to collect reliable and understandable data about food allergies and parents' fear of new foods in the context of primary school children.

Data analysis

The data obtained from the study were evaluated on a computer using the SPSS 22.0 (Statistical Package for Social Sciences) program. Number and percentage distributions were used as descriptive statistics. Mean, standard deviation, minimum and maximum values were calculated for quantitative data. The Shapiro-Wilk-Wilk was applied for the normality test, and Kruskal-Wallis and Mann-Whitney U tests were used for non-normally distributed data. Pearson correlation analysis was utilized for examining correlation relationships. $p<0.05$ was considered statistically significant.

Ethical aspects of the research

Permissions were obtained from Selcuk University Faculty of Medicine Local Ethics Committee (xxxxx-E. xxx, xxx), xxxx Provincial Directorate of National Education (xxxx, E-xxxxx-xxx), and parents who agreed to participate in the study.

Results

Table 1 shows that the mean age of the children was 8.73 ± 0.97 years. It was found that 84.5% of the parents who participated in the study were the mothers of the children, 83.6% of them lived in a nuclear family,

Table 1. Mean scores of the FNS according to the socio-demographic characteristics of the parents who participated in the study (N = 341).

				FNS Total Score
Socio-demographic characteristics		n	%	Median [IQR]
Parent of the child	Mother	288	84.5	41.0 (7.75)
	Father	53	15.5	42.0 (7.50)
p	0.496*			
Gender of the child	Girl	203	59.5	40.0 (6.0)
p	Boy 0.010*	138	40.5	42.0 (10.0)
Family type	Nuclear family	285	83.6	41.0 (9.0)
	Extended family	52	15.2	43.0 (3.0)
	Fragmented family	4	1.2	39.0 (9.0)
p	0.477**			
Income level	Income less than expenditure[1]	91	26.7	40.0 (9.0)
	Income equals expenditure [2]	188	55.1	41.5 (5.0)
	Income more than expenditure[3]	62	18.2	37.5 (8.0)
p	0.001** 2>3			
Mother's education	Literate[1]	2	0.6	41.5 (7.0)
	Primary school[2]	59	17.3	42.0 (5.0)
	Middle school[3]	73	21.4	44.0 (7.0)
	High school[4]	135	39.6	40.0 (7.0)
	Associate[5]	26	7.6	47.0 (3.0)
	License[6]	40	11.7	39.0 (7.0)
p	Master-Doctorate[7] 0.001 ** 5>3>2>1>4>6>7	6	1.8	36.0 (0.0)
Father's education	Literate[1]	-	-	-
	Primary school[2]	21	6.2	42.0 (1.50)
	Middle school[3]	85	24.9	40.0 (11.0)
	High school[4]	113	33.1	40.0 (5.50)
	Associate[5]	57	16.7	43.0 (8.0)
	License[6]	45	13.2	43.0 (5.50)
p	Master-Doctorate[7] 0.001 ** 5=6>2>3=4>7	20	5.9	36.0 (0.00)
Mother occupation	Civil servant[1]	46	13.5	37.0 (7.0)
	Worker[2]	10	2.9	41.0 (14.75)
	Self-employment[3]	42	12.3	41.0 (2.25)
	Retired[4]	-	-	-
p	Not working[5] 0.011 ** 5=3=2>1	243	71.3	41.0 (9.0)
Father occupation	Civil servant[1]	74	21.7	41.5 (9.0)
	Worker[2]	126	37.0	42.0 (5.0)
	Self-employment[3]	122	35.8	41.0 (7.25)
	Retired[4]	9	2.6	40.0 (16.0)
p	Not working[5] 0.011 ** 5=3=2>1	10	2.9	45.0 (3)
Number of siblings	Only child[1]	33	9.7	36.0 (5.50)
	A sibling[2]	127	37.2	41.0 (9.0)
	Two siblings[3]	110	32.3	42.5 (7.25)
p	Three siblings and above[4] 0.002 ** 3>1	71	20.8	40.0 (7.0)
Age of child		**Mean±Sd** 8.73± 0.97		

*Mann Whitney U test, **Kruskal Wallis test. FNS: Food Neophobia Scale.

Table 2. Parents' New Food Fear Scale Scores

Quartiles	FNS Score	n	%
Neophilic (Low)	10-33	16	4.7
Neutral (Moderate)	34-47	292	85.4
Neophobic (High)	48-70	33	9.9
Total	10-70	341	100.0

FNS: Food Neophobia Scale. n: number. %: percentage.

Table 3. Parents' knowledge about food allergy

Features related to food allergy		n	%
Child's food allergy status	Yes	49	14.4
	No	292	85.6
Foods that children with food allergies are allergic to	Milk and dairy products	14	28.6
	Eggs	11	22.4
	Wheat	1	2.0
	Lentil	1	2.0
	Peanuts	3	6.1
	Tomato	1	2.0
	Strawberry	8	16.3
	Fish	2	4.1
	Bal	1	2.0
	Food-dyed candy and chocolate	7	14.3
Number of days since diagnosis for children with food allergy	1-6 months	7	14.3
	7-12 months	12	24.5
	13-23 months	4	8.2
	24 months and above	26	53.1
Parental knowledge of food allergy symptoms	Hives and very itchy raised skin patches	58	17.0
	Red swollen skin	32	9.4
	Itchy watery or swollen eyes	23	6.7
	Runny nose and sneezing	26	7.6
	Throat swelling	15	4.4
	Wheezing, coughing a lot, difficulty breathing	68	19.9
	Vomiting and diarrhea	31	9.1
	I don't know	88	25.8
Parents' knowledge on food allergy testing	Diagnosed by skin test	40	11.7
	Diagnosed with a blood test	39	11.4
	Diagnosed with both skin and blood tests	75	22.0
	I don't know	187	54.8
The solution parents turn to when their children develop food allergies	I'll call an ambulance	113	33.1
	I'll take him/her to the hospital myself	212	62.2
	I keep an epinephrine syringe with me and administer it to the child in case of allergy	5	1.5
	Do nothing, wait for the allergy reaction to pass	11	3.2
Knowledge of the prevention of allergic reactions in the child	Yes	293	85.9
	No	48	14.1
Solutions for parents to prevent a possible allergic reaction in the child	I read food labels and try to keep my child away from allergenic foods	279	81.8
	If we are going to eat out, I inform the person preparing the food about the food my child is allergic to	45	13.2
	I adorn my child's arm with an informative bracelet that imparts knowledge about the specific foods to which my child is allergic	17	5.0

n:number. %: percentage.

Table 4. Correlation relationship between parents' knowledge about food allergies and the FNS Total Score

	FNS Total Score	
	r	p
Parental knowledge of food allergy symptoms	-0.160*	0.003
Parents' knowledge on food allergy testing	0.008	0.879
Knowledge of the prevention of allergic reactions in the child	-0.109*	0.045

***** Pearson Correlation analysis. Correlation is significant at the 0.02 level (2- tailed).

and 55.1% of them had an income equal to their expenses. It was also found that families with male children had more fear of new foods. Families with equal income levels had higher levels of fear of new foods than families with higher income levels. It was determined that the significant difference between mothers' education levels was caused by mothers with associate degree education. The significant difference between the father's education level was caused by the father's associate degree education level. Non-working mothers had a higher level of fear of new foods than civil servant mothers. Non-working fathers had a higher level of fear of new foods than retired fathers. Families with three children had higher levels of fear of new foods than families with one child.

According to the fear of novel food scale scores, 4.7% of the participants were neophilic, 85.4% were neutral, and 9.9% were neophobic. The mean FNS score was 41.21±6.11 (Table 2).

In the study, 85.6% of the children did not have a food allergy. Among those with food allergies, 28.6% were allergic to milk and dairy products, 22.4% to eggs, 16.3% to strawberries, and 14.3% to food-dyed sugar and chocolate. When asked about the number of days since the diagnosis of food allergies, 53.1% responded that it had been 24 months or more. When parents were asked about their knowledge of symptoms of food allergies, 25.8% said they had no knowledge, 19.9% said they had symptoms such as wheezing, coughing a lot, and difficulty breathing, and 17.0% said they had symptoms such as hives and very itchy skin spots. 54.8% of the parents reported that they had no knowledge about food allergies, and 22.0% reported that they could be diagnosed by both skin and blood tests. Among the solution that parents would use when their children had food allergies, 62.2% said that they would take the child to the hospital immediately, and 33.1% said that they would call an ambulance. 85.9% of parents think that allergic reactions caused by food allergies can be prevented. To prevent a possible food allergic reaction in a child, 81.8% of the parents reported that they read food labels and kept their child away from allergenic foods (Table 3).

The correlation between parents' knowledge of their children's food allergy symptoms, allergy testing, how to prevent allergic reactions, and FNS scores is shown in Table 4. There is a statistically significant but weak negative correlation between parental knowledge of food allergy symptoms and the FNS total score. The negative correlation indicates that as parental knowledge about food allergy symptoms increases, the FNS score tends to decrease. In other words, parents with higher levels of knowledge about food allergy symptoms tend to experience a lower burden related to their children's food allergies. There appears to be a statistically significant but weak negative relationship between parents' knowledge about preventing allergic reactions in their children and the FNS total score. A negative correlation indicates that FNS scores tend to decrease as parents' knowledge about preventing allergic reactions in their children increases. In other words, parents who have a higher level of knowledge about preventing allergic reactions may experience less burden regarding their children's food allergies.

Discussion

Food allergies have become a growing global concern, affecting individuals of all ages. Among the population, children are particularly susceptible to food allergies, placing parents in a pivotal role when it comes to managing and addressing these allergies (8). To develop effective strategies that support children with food allergies and ensure their safety in both school and home environments, it is crucial to comprehend parents' attitudes towards food allergies and their levels of fear towards unfamiliar foods (1).

This study endeavors to investigate the attitudes of parents with primary school-aged children towards food allergies as well as their experiences with fear of novel foods. The concerns surrounding food allergies can significantly impact the daily lives of parents and their children, influencing dietary choices, social interactions and overall quality of life (20).Parents' attitudes towards food allergies and their associated fears hold great influence over the management and prevention of allergic reactions. A positive and well-informed attitude can prompt proactive measures, including the implementation of appropriate dietary restrictions, education of caregivers and school personnel, and ensuring access to emergency medications. Conversely, negative attitudes or heightened levels of fear can lead to excessive restrictions, social isolation and unnecessary anxiety for both parents and children (21).

The FNS, according to the socio-demographic characteristics of the parents

Parental food neophobia can be influenced by various sociodemographic characteristics, as discovered in the study conducted by Torres et al. (2020) (22). The findings of this study indicate that families with male children tend to exhibit higher levels of fear towards unfamiliar foods, thereby shedding light on a potential gender-related disparity in parental attitudes towards food allergies and the introduction of novel foods.Unfortunately, there is a scarcity of studies in the literature specifically addressing this observation. In a qualitative study by Gallarger et al. (2012), a mother of a 13-year-old boy expressed deep concern and fear regarding her child's food allergies (23). Similarly, another study revealed that some adolescents with peanut allergies found it disconcerting that their parents worried about them and sought to exert control over their lives (24). Unlike the study, in 2023 Białek-Dratwa & Kowalski found that the risk of nutritional problems, including food neophobia, was not associated with age or gender in Polish children (25). These studies collectively highlight that parents tend to experience food fears related to allergies and express worries about their children's well-being (26-27). The implications of these findings may suggest that families with male children exhibit

greater concerns compared to families with female children. Consequently, parents may approach new experiences, including trying unfamiliar foods, with heightened caution.

In the study, it was observed that the level of fear towards new foods tends to increase in parents with equal income levels, those with an associate's degree education whether they are employed or not, and those with multiple children. It is worth noting that the impact of demographic factors may vary across studies. Contrary to our findings, some studies have reported higher food neophobia among individuals with lower levels of education (28) while similar to our study, higher levels of neophobia have been observed among individuals with higher levels of education (29). Several studies have emphasized the significant role parents play in shaping children's eating habits (30-32). Furthermore, it has been highlighted that food allergies can instill anxiety in parents, consequently influencing the child's nutrition and care (33). Children's eating behaviors are greatly influenced by the behaviors and reactions of those around them as they observe and imitate these actions. Moreover, studies have found a correlation between higher levels of neophobia in mothers and the highest levels of neophobia in children (34). Therefore, reinforcing healthy eating habits during childhood becomes a crucial strategy for reducing parental food neophobia. Additionally, parents themselves are expected to maintain adequate eating habits as well.

Parents' New Food Fear Levels

In the study, the majority of parents (85.4%) were classified under the neutral category, indicating a moderate level of food neophobia. These individuals exhibit a balanced stance towards new foods, neither strongly embracing nor strongly avoiding them. They generally display openness to trying unfamiliar foods albeit with a hint of hesitation or caution when confronted with unfamiliar food choices. Previous studies have also yielded similar findings, highlighting the varying levels of neophobia experienced by parents (18, 22, 28, 35).

Parents' knowledge about food allergies

The study reveals a potential knowledge gap among parents regarding food allergies, with a significant proportion (54.8%) expressing a lack of understanding. However, there is evidence that a notable percentage (22.0%) of parents are familiar with diagnostic approaches such as skin and blood tests for food allergies. In terms of intervention strategies, the majority of parents (62.2%) indicated their proactive approach of seeking medical attention promptly at a hospital, while a significant percentage (33.1%) acknowledged the need to contact emergency services for immediate assistance. This highlights the importance of timely medical intervention in managing food allergy emergencies. A substantial majority of parents (85.9%) expressed belief in the preventability of allergic reactions caused by food allergies, demonstrating a willingness to adopt preventive measures. Additionally, a significant proportion (81.8%) reported actively reading food labels and ensuring their children avoid allergenic foods, indicating proactive efforts to mitigate the risk of allergic reactions. These findings emphasize the crucial role of parental engagement in establishing a safe food environment for children with food allergies. It is worth noting that existing literature also highlights the significance of providing parents with education on food allergy management and the importance of adopting a multidisciplinary approach involving healthcare professionals to address new food fears (30, 32, 34). Such efforts aim to enhance parental knowledge and equip them with the necessary skills to effectively navigate the challenges associated with food allergies.

Correlation relationship between parents' knowledge about food allergies and the FNS Total Score

The study reveals that as parents' knowledge of food allergy symptoms and prevention of allergic reactions increases, their burden measured by the FNS score tends to decrease. This suggests that parents with higher levels of knowledge experience a lower burden when managing their children's food allergies. The findings are in line with previous literature highlighting the positive impact of parental knowledge on reducing burden and improving the management of food allergies in children, including studies by Hörold et al. (2023), Lim et al. (2023), and Cardoso et al. (2023) (13-14, 16). These studies emphasize the importance of providing comprehensive information and addressing parents' information-seeking behaviors and needs to improve their ability to effectively prevent and manage food allergies.

Limitations

The research is a cross-sectional study and is limited to the verbal statements of the participants. Data was collected by the survey method. The use of a single scale in the study and not using another scale limits the study.

Implications for practice

These findings underscore the importance of pediatric nurses in providing valuable education to parents, promoting strategies for allergen avoidance, and supporting effective management of food allergies. By implementing evidence-based recommendations, nurses can empower parents to ensure the safety and well-being of their children who are affected by food allergies. Nurses play a crucial role in educating parents about new food fears and food allergies. They should assess parents' knowledge levels, provide accurate information, clarify misconceptions, teach avoidance strategies, demonstrate emergency response, collaborate with other healthcare professionals, offer emotional support and promote community resources. By doing so, nurses empower parents to effectively manage their children's food allergies and ensure their overall well-being. Moving forward, future research should focus on evaluating the effectiveness of educational interventions and

developing standardized protocols for pediatric nursing practice in the management of food allergies. This will contribute to enhancing the quality of care and support provided to children and their families facing the challenges of food allergies.

Conclusion

In conclusion, the findings of the study shed light on several important aspects. Firstly, it revealed that the majority of parents displayed a moderate level of food neophobia (85.4%), indicating a balanced inclination towards trying new foods. The study also identified the most common allergenic foods in children, which included milk and dairy products, eggs, and strawberries, as well as food dyed sugar and chocolate. Furthermore, the study uncovered a significant knowledge gap among parents, with 54.8% reporting a lack of awareness about food allergies. This highlights the need for targeted education and information dissemination to bridge this crucial gap in parental understanding. Raising awareness of food allergies and addressing new levels of food fear among parents of primary school-aged children requires a multifaceted approach combining political and economic measures. Policymakers and stakeholders can create a safer and more inclusive environment for children with food allergies by implementing the following recommendations:

Governments should invest in educational programs targeting parents, teachers, school staff, and healthcare professionals to improve their understanding of food allergies. This would involve providing education on symptom recognition, emergency response procedures, and the importance of allergen avoidance. Strict regulations on allergen labeling for packaged foods should also be imposed, ensuring clear and standardized labeling that includes common allergens and cross-contamination risks. Additionally, governments should try to make epinephrine auto-injectors more accessible and affordable. Schools should develop comprehensive food allergy management policies, collaborating with relevant stakeholders to create allergen-free meal options, safe food handling practices, and individualized allergy management plans. Lastly, stakeholders should collaborate to raise awareness, share information, and advocate for the needs of children with food allergies. By implementing these measures, society can better support children with food allergies. Increased awareness, education, and support will create an environment where these children can thrive, ensuring their safety, participation, and overall well-being.

Declaration: This study has not been published anywhere before.

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

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

Ethical considerations: Permissions were obtained from Selçuk University Faculty of Medicine Local Ethics Committee (29.03.2023-E.480855, 2023/152), Konya Provincial Directorate of National Education (11.04.2023, E-83688308-605.99-74212673), and parents who agreed to participate in the study.

Author Contributions: Concept–; Design –B.M.; Supervision-B.M.; Resources –B.M; Materials –B.M. ; Data Collection and / or Processing - B.M. ; Analysis and / or Interpretation --B.M,; Literature Search - B.M,; Writing- B.M,; Critical Review - B.M,; Other- B.M.

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