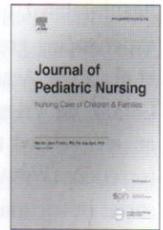




ELSEVIER

Contents lists available at ScienceDirect

## Journal of Pediatric Nursing

journal homepage: [www.pediatricnursing.org](http://www.pediatricnursing.org)

## The experiences of mothers of children with food allergy: A qualitative study

Cigdem Sari Ozturk<sup>a,\*</sup>, Ozlem Selime Merter<sup>b</sup>, Zeynep Kisecik Sengul<sup>c</sup>

<sup>a</sup> Gazi University, Nursing Faculty, Pediatric Nursing Department, Ankara, Turkey

<sup>b</sup> Firat University, Health Sciences Faculty, Nursing Department, Elazığ, Turkey

<sup>c</sup> Kirikkale University, Health Sciences Faculty Nursing Department, Kirikkale, Turkey

## ARTICLE INFO

## Keywords:

Child  
Family  
Food allergies

## ABSTRACT

**Background:** Food allergies adversely affect the quality of life of the child and family, as they require lifelong treatment and follow-up. This study aims to examine the experiences of mothers who have children with food allergies within the framework of the biopsychosocial-spiritual model.

**Methods:** This study, using a qualitative research design, was carried out with mothers of children followed up with food allergy in the pediatric allergy outpatient clinic of a university hospital between December 15, 2022 and January 05, 2023. Purposive sampling method was used in the study and semi-structured interviews were conducted with 12 mothers. All interviews were audio recorded and transcribed. Inductive thematic analysis method was used. The study was written based on the COREQ checklist.

**Findings:** Three themes, eight sub-themes, and 19 categories were identified: The effects of the disease on the physical health of the child and mother in the biological effects theme; psychosocial responses to disease, adaptation to treatment, future anxiety, coping strategies, and communication/interaction in the psychosocial effects theme; search for purpose-meaning in life and understanding belief/basic human values in the spiritual effects theme.

**Discussion:** It has been concluded that food allergies affect maternal health extensively, especially in the psychosocial field, and that it affects family relationships, the time that mothers spare for themselves, and physical and spiritual health.

**Application to practice:** The findings will be a guide for improving the quality of life of mothers followed up with food allergies and for the care and counseling support to be provided to mothers.

## Introduction

Food allergies occur in 8% of children worldwide. It is a growing public health problem in Western countries (Tang & Mullins, 2017). Children followed up with food allergies may experience many allergic comorbidities such as asthma, atopic dermatitis, and spring fever (Moen et al., 2019).

Food allergies are the hypersensitivity of the immune system to the protein in the food, which can affect the respiratory, cardiovascular, and gastrointestinal systems and the skin (Moen et al., 2019). Peanut, seafood, sesame, soy, egg, wheat, and milk are the most common allergens (Acaster, Gallop, de Vries, Marciniak, et al., 2020; Acaster, Gallop, de Vries, Ryan, et al., 2020; Halls et al., 2018; Ridd et al., 2019). It often requires lifelong treatment to prevent symptoms (Meltzer & Booster,

2016). Treatment includes avoiding food allergens (Peniamina et al., 2014). Eliminating these food allergens is not easy because allergens such as nut may be in many products or many allergens may be used as hidden ingredients (Moen et al., 2019). The most common food-induced anaphylactic reactions are nut and egg allergies and can rarely be life-threatening (Akuete et al., 2017; Chakrabarty & Chakrabarty, 2019).

Food allergies affects the health-related quality of life (HRQL) of the whole family, including the affected child, siblings and parents (Stensgaard et al., 2017). There are studies in the literature reporting that the social lives of these families are affected and their daily activities and social activities are restricted (Moen et al., 2019; Stensgaard et al., 2017). Additionally, constant monitoring of the child at school and home affects family quality of life (DunnGalvin et al., 2015; Feng & Kim, 2019). Studies indicate that mothers have a more significant influence on the

\* Corresponding author at: Gazi University, Nursing Faculty, Pediatric Nursing Department, Ankara, Turkey.

E-mail address: [cigdemsari@gazi.edu.tr](mailto:cigdemsari@gazi.edu.tr) (C.S. Ozturk).

health-related quality of life of children with food allergies, often experiencing greater anxiety and stress compared to fathers (Abrams et al., 2020; Acaster, Gallop, de Vries, Marciniak, et al., 2020; Acaster, Gallop, de Vries, Ryan, et al., 2020). Mothers, especially, may face anxiety related to meal times, household organization, and social interactions (Westwell-Roper et al., 2022). Maternal anxiety as caregivers, social restrictions due to allergies, and communication challenges surrounding family diets impact various aspects of maternal and family well-being (Herbert et al., 2017). Furthermore, literature reveals that mothers of children with food allergies encounter physical health issues like insomnia and pain, as well as spiritual health challenges such as a sense of purposelessness (Moen et al., 2019; Pandya, 2020). Food allergies can affect both the child and the family across biological, psychosocial, and spiritual health domains, thus influencing health-related quality of life.

It is very important to evaluate the experiences of mothers in food allergies that affect the health-related quality of life of the child and family (Sampige & Frankel, 2023). There are qualitative studies in the literature either in terms of mental health (Abrams et al., 2020) or in terms of needs and the support to be provided (Chooniedass et al., 2020) in mothers of children followed up with food allergies. However, any research examining the experiences of mothers with a model could not be found. This study aims to examine the experiences of mothers who have children with food allergies within the framework of a biopsychosocial-spiritual model.

### Theoretical framework

This study aims to determine the effects of the disease, treatment, and care process of food allergy on the health-related quality of life of mothers through in-depth interviews. Health-related quality of life is a multifaceted concept that includes the physical, social and psychological functions of an individual. The biopsychosocial-spiritual model was used in our study because chronic diseases affect individuals and their caregivers in all aspects such as biological, social, and psychological, and also overlap with the concept of quality of life. Thanks to this model, it will be possible to reveal how the experiences of mothers affect all areas of health with a holistic care approach. The interview questions of the study were prepared based on the biopsychosocial-spiritual model developed by Sulmasy (2002) (Sulmasy, 2002). The adaptation of the study to the biopsychosocial-spiritual model is shown in Fig. 1. The research questions are below. The semi-structured interview form prepared according to the model is included in Supplementary file1.

### Interview questions

- ✓ How did the food allergy affect your child physically?
- ✓ How did your child's disease affect your physical health?
- ✓ How did the disease affect you psychosocially?
- ✓ How did the disease affect you spiritually?
- ✓ What are the effects of food allergy on your life in general?

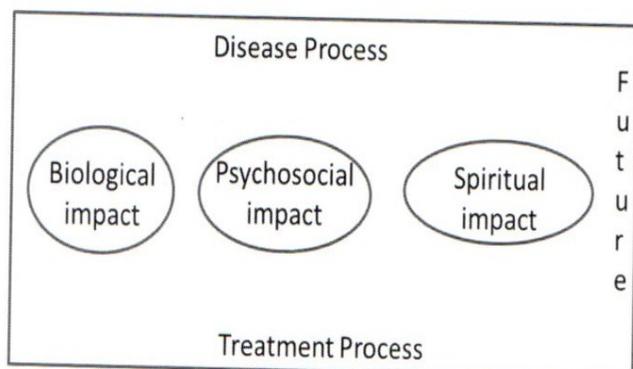


Fig. 1. The adaptation of the study to the biopsychosocial-spiritual model.

### Method

#### Design

This study was conducted in a descriptive qualitative research design with the mothers of children who came to the pediatric allergy outpatient clinic of a university hospital for the follow-up and treatment of food allergy. Qualitative research design was preferred in this study because food allergies require lifelong follow-up and treatment, develop against various allergens, and mothers' experiences are subjective. This study was conducted and written in line with the Consolidated Criteria for Reporting Qualitative Studies (COREQ).

#### Participants

The study was carried out in the pediatric allergy and immunology outpatient clinic of a university hospital between 15 December 2022 and 05 January 2023. Diagnosis and treatment of children were carried out in two polyclinics: the pediatric allergy and immunology department and immunology outpatient clinic. Polyclinic service was provided five days a week.

Purposive sampling method was used in the study. The high prevalence of atopic dermatitis in the region where the study was conducted was also reflected in the study results. Therefore, qualitative research design was preferred. There is no definite rule regarding the number of people to be included in the research in qualitative research. In-depth interviews aim to reach data saturation (Wilson, 2015). Interviews were held with 12 mothers and data collection process was stopped after reaching data saturation.

Inclusion criteria of mothers in the study:

- 1) Agreeing to participate in the study,
- 2) Having a child between the ages of 0–6 who is followed up with the diagnosis of food allergy,
- 3) Not having communication problems and physical/mental health problems.

#### Recruitment

Participants were recruited from the pediatric allergy and immunology outpatient clinic at a university hospital. Before the study, institutional permission was obtained and the pediatric allergy and immunology outpatient nurse was informed about the study. The outpatient nurse informed the mothers who met the study criteria about the study. Written consent was obtained from the mothers who agreed to participate in the study, and they were asked to fill out the descriptive characteristics form in the outpatient clinic. The outpatient nurse directed the participants to the second researcher, and the second researcher had face-to-face interviews with each mother in the room of the outpatient nurse.

#### Data collection

Data collection took place during semi-structured interviews conducted by the second researcher. Five experts reviewed and provided feedback on the semi-structured interview questions. The questions were revised based on their feedback.

The interviews were conducted in a quiet, calm environment where there would be no interruptions to the interview and at a time convenient to the mother. Each interview lasted approximately 45–60 min. The notes taken at the end of the interview were reviewed with each mother. A voice recorder was used during the interviews. Mothers were informed of the purpose of the study and signed a consent form before the voice recordings were made. A questionnaire was used to determine the descriptive characteristics of mothers and children. It was filled by mothers before the interview.

All members of the research team were faculty members in the field

of pediatric nursing. Researchers have published articles on children's allergy and skin health in various areas of children's health. There are also studies conducted by researchers using different patterns of qualitative research methods. There was no relationship between the researcher conducting the interview and the participants.

**Ethical considerations**

Necessary permission was obtained from the Non-Interventional Clinical Research Ethics Committee of a state university (2022/15–40) and the relevant hospital. Each participant completed an informed consent form before the interviews, explaining the purpose of the study, its usefulness, the time for the interview, and that an audio recording device would be used. They were informed that they could withdraw from the study at any time without providing a reason. The names of the participants were kept confidential, and the pediatric allergy and immunology outpatient nurse was identified with codes (M1, M2, and M3...). The research was conducted in accordance with the principles of the Declaration of Helsinki.

The data of the study were shared with three qualitative researchers. Data was stored on encrypted devices and was password protected. Transcripts were shared with three qualitative researchers via password-protected e-mail for cross-checking in data analysis. Information stored on university computers, personal computers or laptops, hard disks, and memory sticks were protected using passwords found only in the first author. Hard copies or written materials of the data were stored in a secure cabinet in a locked room to ensure ethical guidelines were followed and were not allowed to be accessed by others.

**Data analysis**

The data obtained from the interview form were analyzed using inductive thematic analysis. First, the audio recordings were transcribed and coded sentence by sentence. Later, themes that could explain these codes under certain categories were found. Six phases of thematic analysis outlined by Braun and Clarke were followed (Braun & Clarke, 2006). Thematic analyses were conducted independently by three researchers to ensure consistency of the data. The opinions of two experts who were not involved in the study were sought to ensure the validity of the data. Researchers and experts were required to be experienced in qualitative work and to have at least one Science Citation Index-Expanded article on the research method.

**Validity, reliability, and rigour**

For the reliability of this study, the components of the qualitative rigour, namely Credibility, Transferability, Dependability and Confirmability, were considered (Creswell & Miller, 2000; Elo et al., 2014).

**Credibility:** Interview transcripts were transcribed separately. An online meeting was held for the interview records and the similarities/differences were evaluated. The data were translated from Turkish into English by a team of translators independent of the research to ensure the credibility of the study. The Turkish and English texts were compared and the study was finalized.

**Transferability:** Demographic characteristics of families and children are given. In this way, readers are given the opportunity to evaluate whether it is applicable to their own studies or populations.

**Dependability:** Expert opinion was received regarding the interview questions and their contents. A pre-application was conducted to ensure reliability.

**Confirmability:** For each interview question, backup questions were asked to clarify that question. At the end of the interview, a summary was given to each mother and her approval was expected. Citations were made from different children to increase confirmability.

**Results**

The mean age of the mothers was  $32.42 \pm 4.41$  and 42% of them had

a bachelor's degree. Half of the children were girls and the mean age was  $3.67 \pm 1.82$  years. Most of the children (66%) were diagnosed with atopic dermatitis and the rest with proctocolitis. The mean follow-up of the children after diagnosis was  $2.42 \pm 1.37$  years (Table 1). All children were given a diet, and antihistamines and ointments were used in the treatment of children followed up with a diagnosis of atopic dermatitis.

**Themes**

The themes of this study were formed within the framework of the biopsychosocial-spiritual model. Since the parameters in the model interact with each other, there may be some overlap in the sub-themes. The three areas of health are the same as the main themes of the study, namely biological, psychosocial, and spiritual health. In this study, three themes, 8 sub-themes, and 19 categories were determined. The effects of the disease on the physical health of the child and mother in the biological effects theme; psychosocial responses to disease, adaptation to treatment, future anxiety, coping strategies, and communication/interaction in the psychosocial effects theme; search for purpose-meaning in life and understanding belief/basic human values in the spiritual effects theme. Table 2 details the themes and subthemes that emerged after the interview.

**Biological effects**

The physical effects of the disease experienced by the family and the effects on the physical health of the mother depending on the disease and treatment process were included in this context.

*"Itching and rashes became a part of our lives"* Physical effects of the disease: All mothers stated that their children had a condition characterized by itching and rash. While bloody mucus stool is typical in children with allergic proctocolitis, all mothers reported insomnia and restlessness in their children during the attack periods.

*"We first noticed the food allergy with the rash on his body. Itching has gradually increased and itching is now an indispensable part of our lives..."* (Participant 1).

*"She/he was irritable and crying all the time after breastfeeding. She/he had mucus stools..."* (Participant 12).

*"I'm sleepless and my body aches."* The effects of the disease and

**Table 1**  
Sociodemographic characteristics of mothers and their children.

Sample	Mother's age (year)	Child age (year)	Diagnosis	Time since diagnosis (year)
Participants 1	32	6	Atopic dermatitis	4
Participants 2	29	3	Atopic dermatitis	1
Participants 3	37	4	Proctocolitis, atopic dermatitis	2
Participants 4	27	5	Atopic dermatitis	3
Participants 5	33	2	Atopic dermatitis	1
Participants 6	36	5	Proctocolitis	3
Participants 7	27	2	Proctocolitis	2
Participants 8	37	4	Atopic dermatitis	2
Participants 9	28	1	Atopic dermatitis	1
Participants 10	40	5	Atopic dermatitis	4
Participants 11	34	6	Atopic dermatitis	5
Participant 12	29	1	Proctocolitis	1

**Table 2**  
Themes, sub-themes, and categories of the study.

Themes	Sub-themes	Categories
Biological/ physical effects	Effects on child's physical health	Itching, skin rash Loss of appetite Urinary disorder (mucous stool, diarrhea) Sleeplessness
	Effects on mother's physical health	Sleeplessness Fatigue Ache
Psychosocial effects	Reactions to the disease	Shock, denial, anxiety
	Adaptation to treatment	Adaptation/attention to the diet Difficulty in the continuation of treatment (drug and diet)
	Future anxiety	Academic concerns Health concerns
	Coping strategies	Mother's faith in themselves Support of healthcare professionals
	Communication and interaction	Self-communication of the individual Communication/interaction with family members Communication/interaction with the community
Spiritual effects	Better understanding of the meaning and purpose of life	The meaning and purpose of life/basic human values Belief

treatment on the mother's physical health: All mothers reported that they felt the most insomnia and stress-related pain during the disease.

*"I get upset when my child itches and my body aches."* (Participant 2).

*"As I thought about my child's allergy and what we should pay attention to, sleeplessness started and has been going on for years."* (Participant 9).

#### Psychosocial effects

The theme included five sub-themes: psychosocial responses to disease, adaptation to treatment, future anxiety, coping strategies, and communication/interaction.

*"When I first saw the rash on her/his body, I was shocked and blamed myself."* Psychosocial Responses to Disease: The mothers mentioned that they experienced stages such as shock, denial and self-blame when they saw the symptoms of the disease and were diagnosed. All of the mothers stated that they felt anxious during the treatment period.

*"When I saw the rash and the doctor said it was a food allergy, I was shocked and couldn't accept it. I asked her/him if she/he was sure."* (Participant 5).

*"I was shocked to see her crying and mucous stool after feeding my baby. I blamed myself a lot because it was due to my milk."* (Participant 12).

*"It was like a horror movie when I was thinking about how to feed my child."* Adaptation to Treatment: Families reported that it was difficult to learn alternative foods, pay attention to the child's diet, do research on the allergen food, and support growth. They also reported that school-aged children were affected by the side effects of medications such as antihistamines and had problems with adherence to treatment.

*"My child is allergic to eggs. Many foods contain eggs. We had a very difficult time about how we would do it, what we would prefer. Now that I have learned what to give my child, my child has also started to learn. But, it was a very difficult time."* (Participant 10).

*"Creams and antihistamines have been very effective in reducing itching and rashes. I was constantly thinking about whether the effects of drugs affect adaptation to treatment."* (Participant 8).

*"I am concerned about my child's health and school life."* Future Anxiety: Mothers worried about their children's ability to take care of themselves when they grow up. In addition, they thought that their children's academic performance might suffer if there were episodes of

illness in school and because of the side effects of diet and/or medication.

*"My child is still young, but when she goes to school or university, I worry if she will be able to pay attention to her diet because of her circle of friends."* (Participant 11).

*"When my child itches, he gets distracted and may have trouble sleeping. I am worried that this may affect school success. Also, since antihistamines cause drowsiness, he/she cannot do his/her homework and my anxiety increases."* (Participant 1).

*"Being a mother means being strong for your child."* Coping Strategies: The mothers emphasized that they had the greatest strength to cope with the shock they experienced when they first heard about the disease. The mothers emphasized that their greatest strength was the feeling of motherhood and that it was important to be aware of this feeling and not to be afraid in coping. All mothers reported that support from healthcare professionals was the greatest coping resource.

*"During this period, my biggest source of coping was myself. I am a mother. It is what it is. Only I can handle it for my child."* (Participant 8).

*"I said to myself that I will not be afraid and I will overcome it, and it happened..."* (Participant 7).

*"It's like we've given up on our private life."* Communication/Interaction: This theme includes the time mothers devote to themselves, their relationships with family members, and their communication interactions with the community. All mothers reported that the time they had for themselves was limited because of the disease. Eliminating the allergenic food from the diet resulted in all family members not consuming the food. This had a negative impact on family relationships. It has been reported that spouses also spend less time with each other. Regarding the mothers' communication with the outside world, they emphasized that when their friends and neighbors invited them for dinner, they could not attend because of the possibility that the child would eat the food that caused the allergy, and this negatively affected their friendships.

*"I wish I had time to myself":* Interaction of mothers with themselves.

*"During the day, I constantly think about what I will cook today, so that my children can be fed and there will be no allergies. That's why I don't have time for myself, it's like there's no life left for me..."* (Participant 10).

*"Especially with my husband, we don't have a special time to spare for each other":* Family communication and interaction.

*"My husband and I can't spare time for each other... The day ends with the child's disease and choosing food. I don't have time to spend with my husband and my other child."* (Participant 11).

*"It's like I don't have a life outside of home":* Communication and interaction with the outside world.

*"Our friends or neighbors invite us to dinner at home or out. We can't go anywhere because my child can't eat."* (Participant 4).

#### Spiritual effects

Mothers reported that illness made them more aware of the importance of health and the meaning and purpose of life. In addition, all mothers reported that religious practices, such as prayer, helped them get through the process more easily and that they became more religious as a result. The mothers were also of the opinion that there had been an increase in their belief in themselves and what they could do.

*"Disease made me understand the meaning of life":* Realizing the meaning/purpose of life.

*"My child is my miracle. The meaning of my life, my perspective has changed with her/him, it has become beautiful."* (Participant 10).

*"The meaning and purpose of life right now is the health of my family and my children, and our being together. I understand these values better now, which I had not noticed before."* (Participant 9).

*"I became more attached to my religious belief":* My beliefs and values.

*"My biggest source of support during this period was my religious belief. I started to pray more for a healthy life."* (Participant 5).

*"My faith is my biggest support and I feel that our problems are solved"*

more easily with my prayers.” (Participant 8).

“My belief in myself and my values allowed us to get through the difficult period more easily.” (Participant 3).

## Discussion

Food allergy is a challenging disease that affects the quality of life of children and families and requires continuous follow-up and treatment (Walkner et al., 2015). This study discussed the physical, psychosocial, and spiritual effects of the disease on mothers in line with the findings of the qualitative research.

### Biological/physical effects

Allergic reaction may develop in children to various foods such as cow's milk, eggs, peanuts, and sesame (Akarsu et al., 2021; Kahveci et al., 2020). As a result of allergies, physical health problems such as itching, dermatitis, gastroenteritis and anaphylaxis can be seen (Manuyakorn & Tanpowpong, 2019). This study found that most of the children diagnosed with food allergy experienced skin itching, rash, loss of appetite, mucous stools, diarrhea and insomnia. These findings were consistent with the literature. Waserman et al. reported that food allergies cause gastrointestinal symptoms such as nausea, vomiting, abdominal pain, and diarrhea (Waserman et al., 2018).

The symptoms experienced by children can also affect their mothers and deteriorate their physical health (Filiz et al., 2020). Our study found that mothers experienced insomnia, fatigue, and general body aches and pains. The literature findings of parents experiencing physical and mental fatigue, mood swings, difficulty in concentration, and sleep disturbances (Angelhoff et al., 2018; Filiz et al., 2020) are similar to our study. The mothers in our study stated that they had stress-related insomnia and pain complaints. Mothers also stated that they feel sad when their child itches and that their own body hurts. Angelhoff et al. (2018) stated that sleep problems and restlessness in mothers were caused by stress, which supported our study (Angelhoff et al., 2018). It is evident that food allergies also affect the physical health of the mother.

### Psychosocial effects

Caregivers may experience feelings such as shock, denial, and guilt during the chronic illness period (Bravo-Benítez et al., 2019). Mothers stated that they were shocked when their children were diagnosed and could not accept the situation in this study. It has been reported that both breastfeeding mothers and mothers with children of different ages blamed themselves for food allergies. Studies in the literature also reported that parents blamed themselves (Barbarot et al., 2021; Bursztejn et al., 2021; Yilmaz et al., 2022). Although reactions to the disease can be observed in many families at the time of initial diagnosis, families later begin to adjust to the treatment period.

All of the mothers reported their concerns about the academic life of their children due to both the health status of their children in advanced ages and the side effects of the treatment in our study. Many studies have reported that there has been an increase in school absenteeism and a decrease in success due to allergic diseases, and that children may suffer from forgetfulness, lack of concentration, and problems adapting to the classroom (Toyran et al., 2020). Similar to our study, many studies mentioned the serious concerns of families about their children's attention to their diet outside the home. Mothers' concerns about their children's future were similar to the literature (Barbarot et al., 2021; Lagercrantz et al., 2017).

Mothers stated that they had no time for themselves, their husbands, or their other children because of the constant attention they had to pay to their children's nutrition, and that their social lives were also negatively affected. These results were consistent with the literature. Cortes et al. (2018) found that children's gastrointestinal symptoms affected family and friend relationships (Cortes et al., 2018). On the other hand,

Atiim et al. (2018) determined that children with food allergies were stigmatized and excluded by their friends, which decreased their social interactions (Atiim et al., 2018). Our study concluded that food allergy has a significant impact on family relationships as well as the mother's health. Therefore, the child and his/her family should be evaluated holistically.

Mothers can use various coping methods and receive social support in various ways. Angelhoff et al. (2018) determined that mothers could cope with the disease by taking time for themselves and creating new routines and with the help of their husbands (Angelhoff et al., 2018). The most important difference between the results of this study and the literature is that the mothers reported that their belief in themselves helped them through this difficult process. Mothers believed that they had to be strong for their child's health and that the feeling of motherhood made it easier to cope with the disease. On the other hand, mothers reported that they received support from healthcare professionals and they played an important role in coping with the situation. The mothers were able to manage the process with the knowledge and guidance of the health personnel. Doumit et al. (2019) stated that parents received information support from physicians and nurses and that they always communicated with healthcare professionals (Doumit et al., 2019). A multidisciplinary cooperation between physicians, nurses, nutritionists, and clinical psychologists is essential for the treatment (Aika et al., 2017). The support of healthcare professionals is essential in this period. As caregivers' coping strategies become successful, dietary compliance will increase (Putera & Maramis, 2020). In this way, as mothers' coping skills are successful, their anxiety levels will decrease. This will have a positive impact on the children's treatment.

### Spiritual effects

The disease also affected the mothers spiritually. Most of the mothers said that with the disease they became aware of the meaning and purpose of life and understood the importance of health and family unity. Mothers also reported that religious practices, such as prayer, provided relief and facilitated coping. Doumit et al. (2019) reported that parents expressed that spirituality empowered them (Doumit et al., 2019). Fung et al. (2020) concluded that the spiritual and psychosocial intervention program applied to the families of children followed up with the diagnosis of eczema reduced the anxiety level of the parents and increased their well-being (Fung et al., 2020). Therefore, spirituality is seen as an important factor in helping mothers feel good. Caregivers generally prioritize their biopsychosocial health, according to studies in the literature. However, one of the most important findings of this study was that spiritual health was also affected. It was found that a holistic approach to biopsychosocial-spiritual health for mothers was important.

### Strengths and limitations of the study

Conducting qualitative research within the framework of a model is important in terms of systematizing the study and increasing its reliability (Merriam & Tisdell, 2015). Therefore, one of the strengths of this study is that it has been carried out within the framework of a model. Another strength of the study is that it was interviewed mostly with the mothers of the children followed up with the diagnosis of atopic dermatitis and proctocolitis. The occurrence of secondary atopic dermatitis in children with a diagnosis of proctocolitis is important in terms of obtaining similar results in the study. This situation is thought to be related to the prevalence of atopic dermatitis in the geographical region where the study was conducted. One of the most important strengths of the study is that it is the first study in our country to examine the experiences of mothers of children followed up with a diagnosis of food allergy within the framework of the model.

This study included only the experiences of parents of children aged 0 to 6 years who were followed up with a diagnosis of food allergy.

However, food allergy can continue during adolescence and even into adulthood, which is one of the important limitations of this study.

### Clinical and research implications

It is important to have an understanding of the experiences of mothers who have a child with food allergy. It will help nurses to know how mothers are affected physically, psychosocially and spiritually by the food allergy process. Mothers can be referred to complementary treatment approaches for support with information and for relief in the reduction of physical pain and fatigue. The results of this study can be used to guide mothers on how to take time for themselves and their loved ones psychosocially and how to cope. Knowing the expectations of healthcare professionals, especially in providing emotional support to mothers, helps to shape the communication and care process. There is a need for model-based studies covering all periods of childhood on food allergy in both clinical and community health services. The study of the experiences of parents who have a child with food allergy in adolescence, in particular with regard to developmental characteristics, will be a guideline for continuity of care.

### Conclusion

Our findings suggest that mothers of children diagnosed with food allergy experience a variety of physical, psychosocial, and spiritual experiences. Treatment can increase mothers' anxiety levels and cause physical problems such as pain and fatigue. Mothers may not have time for themselves and may experience problems in their social and family life due to food restrictions. Mothers believe in their own strength to cope and can get support from health professionals. Religious practices, such as prayer, can also help them feel better. In this context, it can be suggested to provide mothers with training on food allergy during pregnancy, to approach the treatment process with multidisciplinary teamwork, to monitor the child's growth at regular intervals, to regulate the child's and family's nutrition, and to refer mothers to support mechanisms.

### Funding

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

### CRediT authorship contribution statement

**Cigdem Sari Ozturk:** Conceptualization, Methodology, Software, Data curation, Writing – review & editing, Writing – original draft. **Ozlem Selime Merter:** Visualization, Investigation, Supervision. **Zeynep Kisecek Sengul:** Software, Validation, Writing – review & editing.

### Declaration of Competing Interest

The authors declare that they have no conflict of interests.

### Acknowledgments

The authors express their gratitude to all mothers who participated in this study.

### Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.pedn.2023.08.017>.

### References

- Abrams, E. M., Simons, E., Roos, L., Hurst, K., & Protudjer, J. L. (2020). Qualitative analysis of perceived impacts on childhood food allergy on caregiver mental health and lifestyle. *Annals of Allergy, Asthma Immunology*, 124(6), 594–599. <https://doi.org/10.1016/j.anai.2020.02.016>.
- Acaster, S., Gallop, K., de Vries, J., Marciniak, A., Ryan, R., Vereda, A., & Knibb, R. (2020). Psychosocial and productivity impact of caring for a child with peanut allergy. *Allergy, Asthma Clinical Immunology*, 16(1), 1–11. <https://doi.org/10.1186/s13223-020-00477-3>.
- Acaster, S., Gallop, K., de Vries, J., Ryan, R., Vereda, A., & Knibb, R. C. (2020). Peanut allergy impact on productivity and quality of life (PAPRIQUA): Caregiver-reported psychosocial impact of peanut allergy on children. *Clinical & Experimental Allergy*, 50(11), 1249–1257. <https://doi.org/10.1111/cea.13727>.
- Aika, S., Ito, M., & Yamamoto, Y. (2017). Food allergy response capabilities of mothers and related factors. *Nursing Health Sciences*, 19(3), 340–350. <https://doi.org/10.1111/nhs.12351>.
- Akarsu, A., Ocak, M., Köken, G., Şahiner, Ü. M., Soyer, Ö., & Şekerel, B. E. (2021). IgE mediated food allergy in Turkey: Different spectrum, similar outcome. *The Turkish Journal of Pediatrics*, 63(4), 554–563. <https://doi.org/10.24953/turkjped.2021.04.002>.
- Akuete, K., Guffey, D., Israelsen, R. B., Broyles, J. M., Higgins, L. J., Green, T. D., & Davis, C. M. (2017). Multicenter prevalence of anaphylaxis in clinic-based oral food challenges. *Annals of Allergy, Asthma & Immunology*, 119(4), 339–348. <https://doi.org/10.1016/j.anai.2017.07.028>.
- Angelhoff, C., Askenteg, H., Wikner, U., & Edell-Gustafsson, U. (2018). "To cope with everyday life, I need to sleep"—a Phenomenographic study exploring sleep loss in parents of children with atopic dermatitis. *Journal of Pediatric Nursing*, 43, e59–e65. <https://doi.org/10.1016/j.pedn.2018.07.005>.
- Atiim, G. A., Elliott, S. J., & Clarke, A. E. (2018). "Ne nripadua mmppe"(the body hates it): Exploring the lived experience of food allergy in sub-Saharan Africa. *Social Science Medicine*, 205, 72–81. <https://doi.org/10.1016/j.socscimed.2018.03.031>.
- Barbarot, S., Boralevi, F., Shourick, J., Sampogna, F., Mahé, E., Merhand, S., ... Abasq, C. (2021). Characteristics of children and adolescents with atopic dermatitis who attended therapeutic patient education. *Journal of the European Academy of Dermatology and Venereology*, 35(11), 2263–2269. <https://doi.org/10.1111/jdv.17526>.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. <https://doi.org/10.1191/1478088706qp063oa>.
- Bravo-Benítez, J., Pérez-Marfil, M. N., Román-Alegre, B., & Cruz-Quintana, F. (2019). Grief experiences in family caregivers of children with autism spectrum disorder (ASD). *International Journal of Environmental Research Public Health*, 16(23), 4821. <https://doi.org/10.3390/ijerph16234821>.
- Bursztejn, A., Shourick, J., Bodemer, C., Lasek, A., Mahé, E., Merhand, S., ... Ezzedine, K. (2021). Feelings of guilt in parents of children with atopic dermatitis. *Journal of the European Academy of Dermatology and Venereology*, 36(2), 155–157. <https://doi.org/10.1111/jdv.17712>.
- Chakrabarty, K., & Chakrabarty, A. (2019). Food hypersensitivity. In *Textbook of nutrition in health and disease* (pp. 131–139). Springer.
- Chooniedass, R., Soller, L., Hsu, E., To, S., Cameron, S. B., & Chan, E. S. (2020). Parents of children with food allergy: A qualitative study describing needs and identifying solutions. *Annals of Allergy, Asthma Immunology*, 125(6), 674–679. <https://doi.org/10.1016/j.anai.2020.05.014>.
- Cortes, A., Castillo, A., & Sciaraffia, A. (2018). Food allergy: Children's symptom levels are associated with mothers' psycho-socio-economic variables. *Journal of Psychosomatic Research*, 104, 48–54. <https://doi.org/10.1016/j.jpsychores.2017.11.009>.
- Creswell, J. W., & Miller, D. L. (2000). Determining validity in qualitative inquiry. *Theory Into Practice*, 39(3), 124–130. [https://doi.org/10.1207/s15430421tip3903\\_2](https://doi.org/10.1207/s15430421tip3903_2).
- Doumit, M. A., Rahi, A. C., Saab, R., & Majdalani, M. (2019). Spirituality among parents of children with cancer in a middle eastern country. *European Journal of Oncology Nursing*, 39, 21–27. <https://doi.org/10.1016/j.ejon.2018.12.009>.
- DunnGalvin, A., Dubois, A., Flokstra-de Blok, B., & JO'B, H. (2015). The effects of food allergy on quality of life. *Food Allergy: Molecular Basis Clinical Practice*, 101, 235–252. <https://doi.org/10.1159/000375106>.
- Elo, S., Kääriäinen, M., Kanste, O., Pölkki, T., Utriainen, K., & Kyngäs, H. (2014). Qualitative content analysis: A focus on trustworthiness. *SAGE Open*, 4(1), 2158244014522633. <https://doi.org/10.1177/2158244014522633>.
- Feng, C., & Kim, J.-H. (2019). Beyond avoidance: The psychosocial impact of food allergies. *Clinical Reviews In Allergy Immunology*, 57(1), 74–82. <https://doi.org/10.1007/s12016-018-8708-x>.
- Filiz, S., Keleş, Ş., Akbulut, U., Işık, İ., & Kara, M. (2020). Sleep disturbances and affecting factors in young children with food allergy and their mothers. *Allergologia et Immunopathologia*, 48(2), 158–164. <https://doi.org/10.1016/j.aller.2019.06.014>.
- Fung, Y.-L., Leung, H.-T., Chan, C. H., Lau, B. H., & Chan, C. L. (2020). Efficacy of integrative body-mind-spirit group intervention for parents of children with eczema: A randomized, wait-list controlled clinical trial. *Research on Social Work Practice*, 30(6), 623–632. <https://doi.org/10.1177/10497315209005>.
- Halls, A., Nunes, D., Muller, I., Angier, E., Grimshaw, K., & Santer, M. (2018). 'Hope you find your 'eureka' moment soon': A qualitative study of parents/carers' online discussions around allergy, allergy tests and eczema. *BMJ Open*, 8(11), Article e022861. <https://doi.org/10.1136/bmjopen-2018-022861>.
- Herbert, L. J., Mehta, P., & Sharma, H. (2017). Mealtime behavior among parents and their young children with food allergy. *Annals of Allergy, Asthma & Immunology*, 118(3), 345–350. <https://doi.org/10.1016/j.anai.2016.12.002>.













