Turkish Journal of Pediatric Disease
Türkiye Çocuk Hastalıkları Dergisi

Perspectives of School-Aged Overweight/Obese Children and Their Parents on "Healthy Nutrition Period": A Qualitative Study

Okul Çağındaki Fazla Kilolu/Obez Çocukların ve Ebeveynlerinin "Sağlıklı Beslenme Sürecine Yönelik" Bakış Açıları: Nitel Bir Çalışma

Yasemin ERGÜL, Nursel DAL, Kezban SAHİN

Nutrition and Dietetics, Bandirma Onyedi Eylul University, Health Sciences Faculty, Balıkesir, Türkiye

ABSTRACT

Objective: It is aimed to illuminate the experiences of healthy nutrition counseling given to school aged overweight/obese children and their parents.

Material and Methods: Interviews were conducted with 8 children (and their parents) who received healthy nutrition counseling from Bandırma, Türkiye. Themes were validated by study participants. Experiences with the process were analyzed using thematic analysis.

Results: Children expressed their experiences during the healthy nutrition period with different emotions. The main themes of our study were determined as (a) shortcomings, (b) outputs, (c) challenges, (d) coping strategies, (e) suggestions. By synthesizing the themes and sub-themes, it has been determined that facilitators, indicators and obstacles are intertwined, and communication, motivation, taking concrete steps and cooperation are the needs of the healthy nutrition period.

Conclusion: Our study highlights the issue of family-child collaboration in the healthy nutrition period and presents needs to alleviate barriers. Developing coping strategies, increasing motivation, and supporting the taking of concrete steps could provide a suitable environment for a healthier future.

Key Words: Child, Child Nutrition Sciences, Parents, Pediatric obesity

ÖZ

Amaç: Okul çağındaki fazla kilolu/obez çocuklara ve ebeveynlerine verilen sağlıklı beslenme danışmanlığı sürecinde katılımcıların deneyimlerinin aydınlatılması amaçlanmıştır.

Gereç ve Yöntemler: Bandırma'da (Türkiye) yapılan çalışmada, sağlıklı beslenme danışmanlığı alan 8 çocuk (ve ebeveynleri) ile görüşmeler yapılmıştır. Temalar çalışma katılımcıları tarafından doğrulanmıştır. Süreçle ilgili deneyimler tematik analiz kullanılarak analiz edilmiştir.

Bulgular: Çocuklar sağlıklı beslenme dönemindeki deneyimlerini farklı duygularla ifade etmiştir. Çalışmamızın ana temaları (a) eksiklikler, (b) çıktılar, (c) zorluklar, (d) başa çıkma stratejileri, (e) öneriler olarak belirlenmiştir. Temalar ve alt temalar sentezlendiğinde kolaylaştırıcıların, göstergelerin ve engellerin iç içe geçtiği, iletişim, motivasyon, somut adımların atılmasının ve iş birliğinin sağlıklı beslenme döneminin ihtiyaçları olduğu belirlenmiştir.

0000-0001-8227-4707 : ERGUL Y
0000-0001-9045-4177 : DAL N
0000-0001-9278-9130 : SAHIN K

Conflict of Interest / *Çıkar Çatışması*: On behalf of all authors, the corresponding author states that there is no conflict of interest.

Ethics Committee Approval / *Etik Kurul Onayı*: This study was conducted in accordance with the Helsinki Declaration Principles. This study was approved by Bandırma Onyedi Eylul University Health Sciences Non-Interventional Research Ethics Committee (11.04.2022/2022-39).

Contribution of the Authors / Yazarların katkısı*: ERGUL Y:** Constructing the hypothesis or idea of research and/or article, Planning methodology to reach the Conclusions, Organizing, supervising the course of progress and taking the responsibility of the research/study, Taking responsibility in patient follow-up, collection of relevant biological materials, data management and reporting, execution of the experiments, Taking responsibility in logical interpretation and conclusion of the results, Taking responsibility in necessary literature review for the study, Taking responsibility in the writing of the whole or important parts of the study, Reviewing the article before submission scientifically besides spelling and grammar. ***SAHIN N: Constructing the hypothesis or idea of research and/or article, Planning methodology to reach the Conclusions, Organizing, supervising the course of progress and taking the responsibility of the research/study, Taking responsibility in patient follow-up, collection of relevant biological materials, data management and reporting, execution of the experiments, Taking responsibility in logical interpretation and conclusion of the results, Taking responsibility in necessary literature review for the study, Taking responsibility in the writing of the whole or important parts of the study, Reviewing the article before submission scientifically besides spelling and grammar. ***SAHIN K:*** Constructing the hypothesis or idea of research and/or article, Planning methodology to reach the Conclusions, Organizing, supervising the course of progress and taking the responsibility of the research/study, Taking responsibility in patient follow-up, collection of relevant biological materials, data management and reporting, execution of the experiments, Taking responsibility in logical interpretation and conclusion of the results, Taking responsibility in necessary literature review for the study, Taking responsibility in the writing of the whole or important parts of the study, Reviewing the article before submission scientifically besides spelling and grammar.

How to cite / *Atıf yazım şekli* : Ergul Y, Dal N and Sahin K. Perspectives of School-Aged Overweight/Obese Children and Their Parents on "Healthy Nutrition Period": A Qualitative Study. Turkish J Pediatr Dis 2023;17:488-497.

Correspondence Address / Yazışma Adresi:

Yasemin ERGÜL
Nutrition and Dietetics, Bandirma Onyedi Eylül University,
Health Sciences Faculty, Balıkesir, Türkiye
E-posta: yergul@bandirma.edu.tr

Received / Geliş tarihi : 03.04.2023
Accepted / Kabul tarihi : 07.08.2023
Online published : 26.09.2023
Elektronik yayın tarihi
DOI: 10.12956/tchd.1276406

Sonuç: Çalışmamız, sağlıklı beslenme döneminde aile-çocuk iş birliği konusuna dikkat çekmekte ve engellerin kaldırılmasına yönelik ihtiyaçları ortaya koymaktadır. Başa çıkma stratejilerinin geliştirilmesi, motivasyonun artırılması ve somut adımlar atılmasının desteklenmesi, daha sağlıklı bir gelecek için uygun ortamı sağlayabilir.

Anahtar Sözcükler: Çocuk, Çocuk Beslenmesi Bilimleri, Ebeveynler, Pediatrik obezite

INTRODUCTION

Childhood obesity is one of the most serious public health problems of the 21st century, which continues to increase rapidly in developed, developing, and even low-income countries (1,2). In a study conducted with school-age children (6-10 years old) in our country, 14.3% of the children were overweight and 6.5% obese (3). In the Türkiye Childhood Obesity Survey (COSI-TUR 2016), 9.9% of the 2nd-grade primary school students were found to be obese and 14.6% to be overweight (4). Childhood obesity increases the risk of many chronic diseases, including adult obesity and related heart disease, type 2 diabetes, and cancer, and reduces the quality of life. Therefore, developing more effective interventions to prevent childhood obesity has become a priority in many countries (5,6).

In addition to genetic and complex sociocultural, economic, environmental, and psychosocial factors, the effect of parents on children's nutrition habits is considered among the important causes of the development of childhood obesity (7). As a matter of fact, children's nutrition habits are shaped in the home environment, and parents' attitudes and knowledge about healthy eating habits greatly affect children's nutrition habits (8,9). It is stated that the inclusion of parents in body weight management strategies plays a key role in the management of childhood obesity and its long-term effects are quite critical (9,10). In addition, while it is recommended that this process covers the whole family, it is accepted that the effect of the microenvironment is undeniable in the treatment process (10,11). In this context, it is extremely important to identify the barriers to healthy nutrition of children and parents, to develop healthy eating habits in children and ultimately to prevent childhood obesity (12).

In relation to the increasing obesity in the pediatric population, treatment guidelines focus on lifestyle and behavioral changes and intervention, and pharmacotherapy and surgical methods are presented as alternatives for resistant patients (13). Although intervention studies in nutrition management in childhood obesity are often directed at modifiable risk factors, evidence-based individual and environmental risk factors should also be considered (14). It is known that parents perceive this situation as a public health problem and have difficulties in daily life for prevention and intervention (15). It is known that obesity between the ages of 6-18 is important for the development of obesity preventive public health interventions, since it is the school age period. Because obesity between the ages of 6-18 is school age, it is important in the development of public health interventions to prevent obesity (16). Obesity, which starts at the age of 4-11 and continues into adulthood, increases the burden of chronic disease, as a matter of fact, childhood obesity has been an important health problem in the growth monitoring report of the 6-10 age group in Türkiye (17,18). The barriers that parents encounter when changing their children's nutritional habits are known as parental-self-efficacy, motivation, and readiness to change (19). In a review in which intervention strategies for obesity were examined, it was emphasized that clinical studies were needed for the causality of the gaps in the reflection of knowledge in practice, the definition of the obesogenic environment and the needed interventions should be clarified (20). Quantitative studies on childhood obesity mainly emphasize that there are problems in children's adaptation to lifestyle changes and completion of obesity treatment (21-23). Qualitative studies investigating families' views on interventions to treat childhood obesity point to common facilitators (entertainment, communication with healthcare professionals, social support, etc.) and barriers (time, negative effects from family members, sustainable habits after the intervention, etc.) (24-26). On the other hand, it is predicted that using qualitative methods to understand children's perceptions of healthy nutrition and shaping these perceptions in the early stages of life will have a significant impact on reducing morbidity and health expenditures caused by chronic nutrition (27,28). In addition, it is thought that determining all experiences in the implementation of healthy nutrition education given to children will be an important step in improving healthy nutrition counseling services. In this direction, this study was carried out to qualitatively evaluate the experiences of both children and parents, the difficulties they encounter, and the positive aspects of the process, with healthy nutrition counseling given to overweight school-age children (6-10 years old) and their parents.

MATERIALS and METHODS

Research design

In this study, which was conducted to qualitatively evaluate the factors that overweight school-age children (6-10 years old) and their parents evaluate as positive/negative regarding the phenomenon (receiving healthy nutrition counseling service due to being overweight), and the factors that they believe facilitate/difficult this process, the traditional content analysis approach was applied (29).

The sampling process was continued until sufficient information was obtained about the questions in the semi-structured form used in the research, and data collection ended when data saturation was reached. At the same time, the sampling was

stopped because it did not affect the results of the research, since there may be communication problems with the participants due to the approach of the summer vacation and the children's patterns in the summer period may be different compared to the school period. In the interviews conducted within the scope of the research. Plain questions were asked with a literature-based semi-structured form. The interviews lasted for an average of 45 minutes (min 30, max 60 minutes). Data were collected between April and June 2022.

The participant selection process consisted of the inclusion and exclusion criteria of those who applied for the advertisement, without skipping their order. 36 volunteers applied to our research center and there were 22 children who met the criteria. All of them were included in the healthy eating process, thematic analyzes of the interviews were made after each child's 4-week period, the data were found to be repetitive in 8 interview transcriptions, and the research was terminated due to data saturation. Research process chart is presented in Figure I. The first recruitment for this study was through a series of online advertisements (Instagram, Facebook, web announcements) to parents of children diagnosed with obesity in the relevant Bandırma Onyedi Eylul University Healthy Nutrition and Life Research Center clinics between April and June 2022 (Research announcement link: https://sabesya.bandirma.edu.tr/tr/sabesya/Duyuru/Goster/Cocuklar-6-10-yas-arasi-Icin-Saglikli-Beslenme-Danismanligi-Duyurusu-22251). Inclusion criteria were school-age children and parents who participated in a healthy nutrition program as parents of an obese or overweight child; Exclusion criteria are children who discontinued a healthy nutrition program and who were diagnosed with any chronic disease during the study or who started to take obesity-specific medical drug therapy. The researchers contacted the volunteers and planned face-to-face interviews of 30 to 60 minutes. A standard educational content for children is explained one by one, based on the Türkiye Nutrition Guide (nutrients that should be consumed daily, their amounts and cooking methods). In this way, the 4-week healthy eating period started. Each participant was interviewed twice, at the beginning of the study and at the end of the 4-week healthy eating period. The healthy eating period is a period in which there are alternative lists prepared in accordance with the child's age, development, and general nutritional habits, and children are compatible with parental guidance. Families are a guide for the preparation, selection and cooking of foods. After the completion of the process in cooperation with family-child education, a qualitative interview was held. Interviews were held in a separate interview room when parents and children were together. In general, the questions were open-ended and did not search for a specific answer. The main question of the interview is based on the studies in the literature, "What are your experiences and opinions in your Healthy Eating Period?" is oriented (21-23). Due to the nature of the qualitative research, it continued spontaneously without directing the participants. During the period, they were asked spontaneously how the first week and the last week went for 4 weeks, what kind of situations

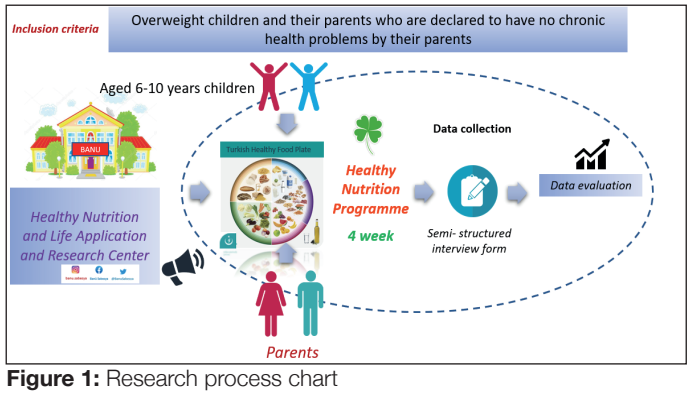

Figure 1: Research process chart

they encountered, what solutions they produced for different situations they encountered, and what they would recommend to those who started this process like themselves. Parents and children were asked the same questions, each other's answers fed the interview during the interview. No medical evaluation was made in the study, and their medical histories were taken regarding the declaration. Middle class family selection was not made, it is known that all of the children, including all the children who applied in the first place, are in the middle social class. These inferences are based entirely on participant statement. During the data collection phase, the data reached saturation as a result of 8 child and 10 parent interviews (both parents of two children were interviewed). Transcription of the audio tapes and analysis of the manuscript was completed by the researchers. Qualitative analysis was performed on the transcript.

Data analysis

Traditional data analysis has been done in five steps; the steps were followed by reading the text several times, dividing it into meaningful titles, abstracting the condensed meaning units, reconciling the abstracted units with the study purpose, comparing the meaning units, and dividing them into themes and sub-themes.

All interviews were audio-recorded and professionally transcribed with the respondent's permission. The transcripts were then transcribed verbatim by independent researchers. The thematic analysis method was chosen because it offers in-depth understanding and versatile perspective, which is known as an ideal method for qualitative research (30-33). During the thematic analysis, the transcripts were first coded, then the following steps were followed by three independent researchers: the steps were followed by reading the text several times, dividing it into meaningful titles, abstracting the condensed meaning units, reconciling the abstracted units with the study purpose, comparing the meaning units, and dividing them into themes and sub-themes.

Reflexivity

While working on the methodology on this research question, the researchers could plan the funding by considering the economic conditions and design projects to minimize the

income differences that may occur during the healthy eating process. It can use qualitative and quantitative research methods together to determine the demographic status of the research group. The frequency of meeting with children and parents could have been higher. Caregivers other than the mother and father and even the teachers of the children could be included in the process and their opinions could be taken. In order to prevent potential biases of researchers, it may be more appropriate to conduct training on healthy eating process and qualitative interviews and transcriptions independently from each other.

This study was approved by Bandırma Onyedi Eylul University Health Sciences Non-Interventional Research Ethics Committee (11.04.2022/2022-39). Before participating in the study, explanations covering ethical issues such as the purpose of the study, confidentiality, the right to withdraw, obtaining information and informed consent were given to the children and parents separately, accompanied by an informed voluntary consent form.

RESULT

During the study, 15 children were included in the healthy nutrition program, but some of them did not want to continue further interviews (n=7). After interviewing 8 participating children (and their parents) during the research, we reached thematic saturation and recruitment was suspended. In the study, 8 children and their parents were interviewed. While mother-child interviews were frequently conducted, the father also accompanied the interviews in two cases. Participants were between the ages of 6-9. The percentile evaluation of body mass indexes of all children was >95th percentile. It is known that there is about 0.5-2% weight loss during the process.

Their experiences regarding the healthy nutrition period are presented in Figure II. During to period, it has been observed that children have different moods such as restless, angry or

Table I: The Qualitative research results on the Healthy Nutrition Period: main and sub-themes

Main themes **Sub-themes**
Outputs
Food label reading
Wellbeing
Academic performance
Regular sleep ^ Snoring
Intestinal health
Motivation ^ Physical activity + Weight management
Meal planning ^ Night eating
Portion control
Avoid binge eating
Meal replacement
Healthy food choices
Saying "no"
Dietitian requirement ^ Reduced parental burden ^ Child's responsibility
Shortcomings
Hopelessness
Lack of motivation
Physical activity
Adaptation to meal times
Snack of regret
Interview fear
Challenges
Picky eating
Stigma of obesity
Lack of family support v Paternal support + Siblings + Grandmothers + Working mothers ^ Cooking
Taste of vegetables
Unwillingness
Parent child conflict
Special occasions
Attractiveness v Packaged foods + Ads +Delicious foods
Deprivation
School v Peers + Timing +Canteen ^ Unhealthy foods
Habits v Big portions
Lack of satiety v Big portions
Out of home consumption
Out of home consumption
Unhealthy menus
Social life
Food variety
Lack of sale of vegetables
Sale of animal foods
Fast-food
Sale of bakery products
Coping strategies
Carrying homemade food
Self control
Limiting social life
Food preference
Fasting
Food frequency
Self deception
Changing cooking methods
Alternative recipes
Persistent parenting behavior
Permanency
Negotiation
Suggestions
Communication skills
Reward system
Adherence to diet v Parents
Adherence to diet ~ Being respect v Grandparents
Food culture v Vegetable recipe
Healthy food marketing v Reducing the sale of sugary foods
Canteen improvement
Parental attitudes
Motivators v Collaboration with organizations + Healthy cartoons + Education curriculum+ Dietitian support+ School-parent cooperation

^ : Sub-sub-themes, v: Coexistence of sub-themes, + : Sub-sub-sub themes, ~: Interaction

Table II: Free text comments associated with some sub-themes.

Outputs	Wellbeing	C: "With the weight loss, I started to feel more dynamic and I can do sports more comfortably."(C)
Outputs	Saying "no"	P: "We were able to say no to grandma's food treats."(P)
Shortcomings	Interview fear	"I am worried about counseling for health, I am afraid that the dietitian will draw blood and I do not want to come because of this fear"(C)
Shortcomings	Hopelesness	"I thought my child couldn't make it" (P)
Challenges	Attractiveness-Delicious foods	"I can't even imagine eating without butter"(C)
Challenges	Habits-Big portions	"Soup is healthy and it won't hurt if I drink too much, I'm used to drinking it in a big bowl" (C)
Coping strategies	Food preference	"I eat oats instead of bagels." (C) "I eat pasta with yogurt instead of pasta with sauce"(C)
Coping strategies	Self deception	"If I eat a very high-calorie meal at one meal, I eat a low-calorie meal for the next meal."(C) "My friend gave me tiny chips, I smashed it well, threw it in my mouth, made do with it and did not continue to eat"(C)
Coping strategies	Alternative recipes	"I developed a vegetable pie recipe to be able to eat vegetables."(P)
Coping strategies	Persistent parenting behaviour	"First the vegetables (beans) will be finished, then you can eat chicken rice"(P)
Coping strategies	Persistent parenting behaviour	"You will eat healthy, fast food is prohibited"(P)
Coping strategies	Permanency	"Once I eat junk food, my diet will be ruined, I don't want to break the rule, so the effort should not go to waste"(C)
Suggestions	Adherece to diet-Parents	"As his mother, I pay attention, but his father takes him to the market to buy snacks"(C)
Suggestions	Motivators	"I can't stand my child, I need support"(P)
Suggestions	Reward system	"I would threaten my child, practice with the reward system, vomit if you eat unhealthy foods or vomit if you eat healthy foods, I will take you to the park"(P)
Who says:		C: Child; P: Parents

hopeless. Two of our cases were exposed to biopsychosocial conditions such as illness and death within four weeks period. Specific evidence has also been presented regarding the consumption of junk food in children during the pre-diet period and the existence of a heritage weight problem. In one case, had a conflict with her mother during the process, and one of our cases reported that she was exposed to social exclusion at school. Another one, had the opportunity to try various sports branches throughout the process. One of our cases had difficulties with the opposite junk foods. The other one, also showed resistance to eating vegetables seriously during the process (Table I and Figure 2).

During the Healthy Nutrition Period, 5 main topics were formed from the interviews with families and children. Shortcomings, outputs, challenges, coping strategies, suggestions. In the title of challenges, a main problem related to out of home consumption was identified and it was also considered as the main title, and a total of 6 main titles were presented (Table I and Figure 3).

Some free text comments associated with some sub-themes are given in Table II. Regarding the outputs of the process, with the support of the dietitian, the parents reported that their responsibilities have decreased somewhat, and it is very beneficial for the children to take responsibility. In the process, it was emphasized that the dietitian relieved the participants in physical activity and weight management with motivational support. It has been reported that the frequency of night eating decreases with the regulation of food times. In the process, there were positive returns regarding regular sleep and reduction in snoring in children who lost weight due to a healthy diet for 4 weeks. Improvement of gut health, increase in academic performance, and positive effects on well-being are among the effects obtained as a result of the interview. Learning to say "no" in the words of the participants during the process is also among the stated outputs.

At the beginning of the shortcomings reported in the process, the children came to the interviews with prejudice in the interviews. Children applied fear to consult a dietitian, especially the fear of donating blood for biochemical tests. Since there was no interventional procedure during the process, this situation was reflected in the outputs's well-being. Challenges of the period linked to stigmatization, pick eating, reluctance due to dislike of vegetable flavor, conflict with family, the attractiveness of delicious foods and packaged foods, deprivation due to fear of hunger, peer influence, encountering unhealthy foods in the canteen during breaks, inability to leave old habits, the habit of

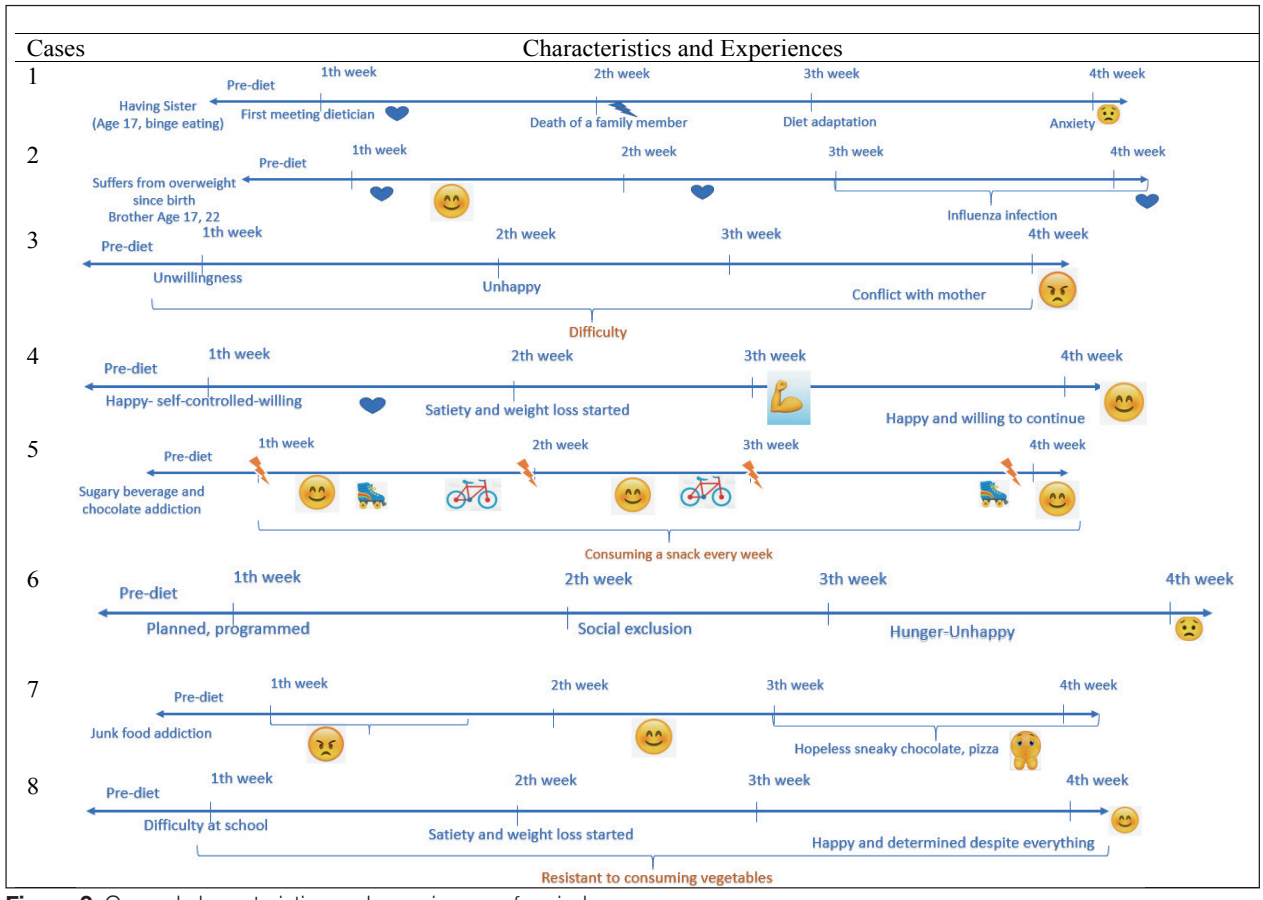

Figure 2: General characteristics and experiences of period.

consuming large portions. It has been reported as wanting to be continued and out of home consumption. The sub-themes that emerged under the heading of out of home consumption in the inductive evaluations revealed to us that out of home consumption is actually a single theme. Reasons such as unhealthy alternatives encountered outside the home, lack of food diversity, low sales of vegetables, especially the prevalence of animal and bakery foods, the prevalence of fast food, and the maintenance of social life were the difficulties experienced by the participants and mothers.

In terms of coping strategies, they resorted to carrying homemade food, self-control, limiting social life, adapting to changes in food preferences, self-deception, and developing alternative cooking methods. Developing alternative recipes, especially for vegetable consumption, has been a frequently emphasized strategy. Vegetable pancakes and mixed cereals with vegetables should be on the children's menus. The families emphasized that it is very effective to have a persistent and determined attitude and to be in negotiation throughout the process.

Families and children also had suggestions for the system. There were sayings that communication techniques were very effective during the diet. The importance of increasing the support of extended family and relatives other than the nuclear family and increasing dietary compliance in a respectful manner was emphasized. Many children reported that while they consume healthy food, they want other family members to consume healthy food in the same way and not to consume packaged food secretly. They demanded that the spread of vegetable recipes in food culture, canteens, and all food marketing services support the sale of healthy food and limit the sale of sugary foods. In addition to the general attitudes of the families, it has been reported that the unity of many organizations, the development of the healthy cartoon-series sector, the education environment, the support of the dietitian, the support of the school-parent union are the motivators of the healthy nutrition period.

When all the themes obtained within the scope of the interviews are brought together, we can draw a conceptual framework on the experiences of children and parents during the Healthy Nutrition Period. The conceptual framework drawn for the process is presented in Figure 4. Regarding the process, facilitators, indicators, and barriers are intertwined. Some variables can be found at the intersection of one or more clusters. Self-control is both a facilitator and an indicator. Strategies determined for the process, some strategies such as eating outside the home and producing alternative solutions have been both barriers and facilitators. In any case, child and

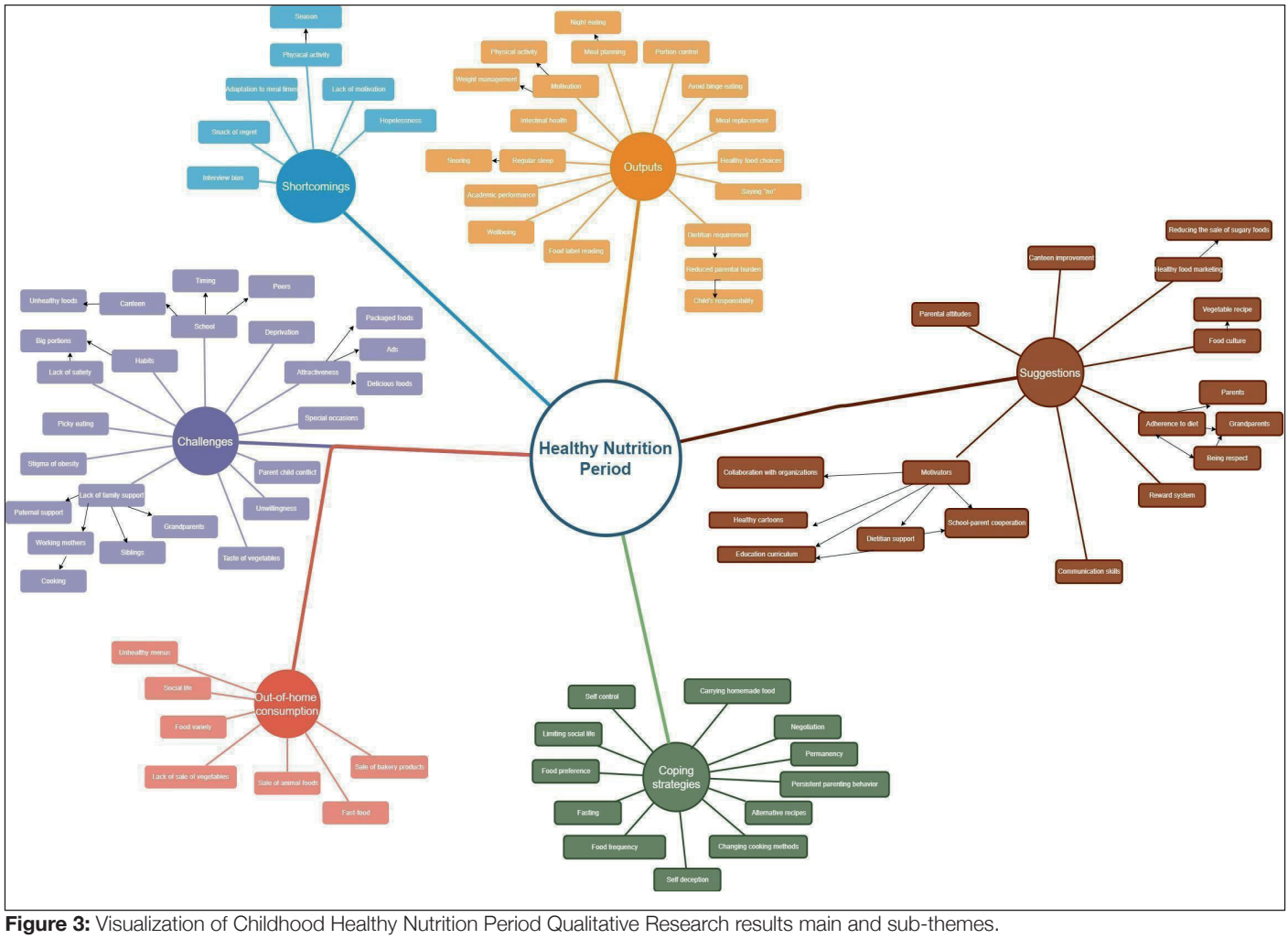

Figure 3: Visualization of Childhood Healthy Nutrition Period Qualitative Research results main and sub-themes.

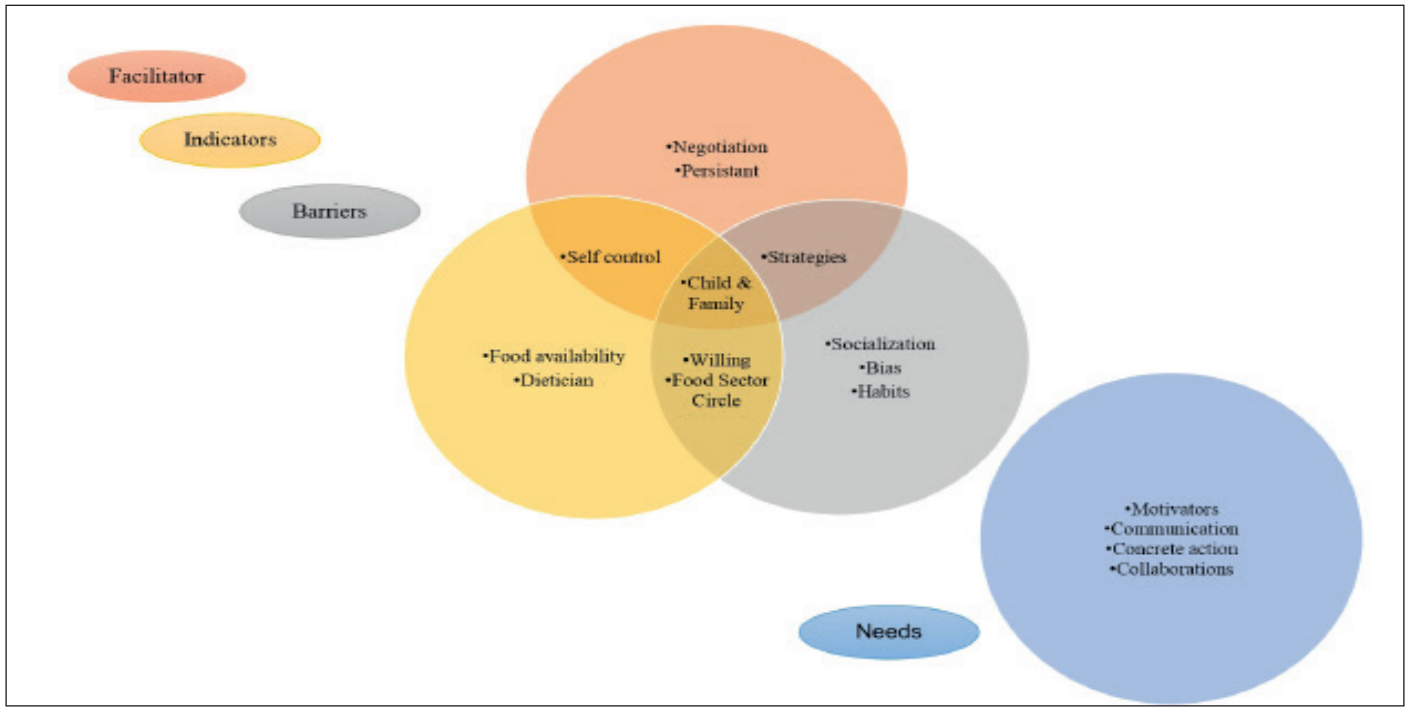

Figure 4: Visualization of Childhood Healthy Nutrition Period Qualitative Research results main and sub-themes.

family cooperation is the intersection point of clusters and any obesity intervention for children cannot be effective without the participation of the family. On the other hand, a negotiator is one of the indicators of creating permanent life behaviors. Food availability and dietitian support indicate the process. Participants often need support in purely technical matters such as not being able to find the food they are looking for, not being able to find vegetables, or developing a recipe with vegetables. The need for socialization is one of the most challenging issues. Eating can be seen as perhaps the strongest barrier, as it is seen as a means of socialization. The prejudices and habits of the people associated with it are also barriers to the process. When the needs are interpreted as a result of this intervention, the concepts of communication, motivation, concrete actions, and cooperation come to light.

DISCUSSION

It is thought that determining the experiences of children and their parents during the implementation of healthy nutrition education will be an important step in improving healthy nutrition counseling services. Based on the lack of knowledge about the experiences of parents and children regarding the healthy nutrition model implementation process and the difficulties they encounter in the literature, we aimed to qualitatively evaluate the experiences of overweight/obese school-age children and their parents in the healthy nutrition period.

In a study on family-based childhood obesity, family involvement, awareness of responsibility, and gradually reaching realistic goals were reported as factors facilitating healthy behavior change. In the qualitative focus group discussions, the willingness of the children aged 9-12 and their parents towards the behavior change intervention was evaluated as an encouraging factor (33). In this research, the child's willingness to healthy nutrition and exhibit self-control behavior to achieve this has been both the determinant and facilitator of the process. Parents' active roles in working life, their dislike of preparing and cooking food, and the feeling of being punished due to the restriction of the foods they want to consume have been described as personal barriers to behavior change (33). Similar to previous studies, the majority of the parents interviewed in this study were mothers, and it was stated that the mother's working life created difficulties in terms of cooking and producing alternative recipes (34,35). In addition, as in our study, other studies emphasized the lack of support and motivation for healthy behavior change (33-36).

In our study, the whole healthy nutrition period includes factors related to the family. Family support, parents' food choices, meal times, etc. While his firm attitude on issues was a facilitating factor, the fact that family members were not included in the process made the process difficult. Burchett et al. reported that aiming at family-wide behavior change in healthy nutrition and involving both parents and children play a key role in this process (10). Similarly, Alexander et al. (37) emphasized the importance of encouraging the family to the body weight management process. The theme of communication, which is one of our findings consistent with the study of Wagner et al. (35) which emphasizes the importance of communication in childhood obesity, was found to be very important for the successful outcome of the process. The parent and child's agreement on food and nutrition was evaluated as a coping strategy and positively affected the process. However, habits such as picky eating and packaged food consumption have caused parent-child conflict in this process. Watson et al. (33) reported that parent-child association and a supportive environment are factors that facilitate behavior change. We think that the active role of families in this process and effective communication with parents are one of the key factors in preventing childhood obesity.

In a study, even four years after obesity treatment, children still struggle to maintain healthy nutrition behaviors outside the home; grandparents, teachers, and friends have been reported to facilitate their healthy routines (36). Similarly, in this study, food consumption and socialization outside the home were considered as an obstacle to the process, but it was stated that the number of family elders (grandmother), friends, and even siblings made the process difficult. In this direction, children and parents stated that they limit their social life as a coping strategy. In a study conducted in China, it was reported that grandparents' misconceptions about nutrition, such as that obese children are healthier and better cared for, are one of the factors that cause childhood obesity. However, this attitude has been described as an obstacle to encouraging children to eat healthy (38). In our study, children were able to oppose these attitudes of their grandmothers (saying "no") and were able to prevent "breaking the chain" in maintaining a healthy diet.

One of the important indicators of the process is exposure to peer pressure and social stigma at school. Having social support makes the process successful (10). Murphy et al. (39) emphasized internal factors as the cause of obesity in the theme of marginalization of obesity. On the other hand, Giovanni et al. (40) reported that social anxiety is severe in overweight and obese adolescents. A better understanding of childhood obesity factors through qualitative research can improve process-oriented interventions and provide an enabling environment for a healthier future.

The necessity of family, school, dietitian interaction, and cooperation was emphasized by the parents. In a study, general practice staff working in primary health care services stated that it is difficult to detect overweight children and they reported that they have limited interaction with these children. They emphasized that schools can take a more active role in detecting and interacting with overweight children (41). Another important point emphasized by parents in our study is that school canteens being made up of unhealthy foods is an important obstacle and concrete steps should be taken to

eliminate unhealthy food environments. In a study conducted with adolescents, it was revealed that school meal programs facilitate healthy nutrition practices. Limited accessibility to healthy foods has been shown as the biggest obstacle to healthy eating (42). In addition, it has been stated that a more informative school curriculum about healthy nutrition can help prevent the development of wrong attitudes towards nutrition in children (27). As a matter of fact, in our study, parents made suggestions to increase motivation in the healthy nutrition period, such as improving school canteens, improving school-family cooperation, and providing nutritionist / dietitian support to schools.

von Hippel and Workman reported that the prevalence of obesity and being overweight in children increases significantly due to inactivity in the summer months, but weight management is better with a regular meal plan, physical activity, and sleep routine during the school period (28). Similarly, in another study, it was reported that the risk factors that cause obesity are exacerbated by the effect of staying away from school and spending more time at home in the summer months (43). In this study, sampling was stopped in order not to affect the results of the research, based on the reason that children's patterns may be different in the summer period compared to the school period. In the interviews, the parents stated that the physical activity of the children is less compared to the summer months due to seasonal conditions, and there are deficiencies in promoting physical activity during the healthy nutrition period. In this context, they emphasized the importance of cooperating with organizations in order to process more sustainable and to support it with physical activity. Similarly, in the study evaluating body weight management programs for childhood obesity, it was emphasized that providing children with food consumption-physical activity sessions and providing social support for both parents and children (10).

Strengths

Studies on healthy nutrition counseling often focus on retrospective views after the intervention. In this study, experiences in the intervention period are included. In addition, the experiences related to healthy nutrition period were evaluated from both the child's and parent's perspectives.

Limitations

Since the research was conducted in a single center, the findings cannot be generalized to different institutions and regions in our country. Similar to other studies in the literature in terms of ease of data collection, the planned time frame is short-term and does not provide an opportunity to evaluate the sustainability of healthy nutrition habits recommended for childhood obesity.

CONCLUSION

Qualitative research gives an in-depth literature of issues that are difficult to capture. This research provides an overview of the experiences of overweight/obese school-age children and their parents during the healthy nutrition period. While there are some insights about nutrition in school-age children, there are many factors that cause them to display wrong attitudes. A better understanding of these factors, developing coping strategies by revealing the situations that prevent healthy nutrition, using communication language that will maintain motivation, and taking concrete steps to cover public health can provide a suitable environment for a healthier future.

REFERENCES

1. Nittari G, Scuri S, Petrelli F, Pirillo I, Di Luca NM, Grappasonni I. Fighting obesity in children from European world health organization member states. Epidemiological data, medicalsocial aspects, and prevention programs. La Clinica Terapeutica 2019; 170: 223-30.
2. Skinner AC, Ravanbakht SN, Skelton JA, Perrin EM, Armstrong SC. Prevalence of obesity and severe obesity in US children, 1999–2016. Pediatrics 2018; 141: e20173459
3. Ministry of Health. Monitoring the Growth of School Age Children (6-10 Age Group) in Türkiye (TOÇBİ) Project Research Report. 2011; Ankara.
4. Ministry of Health. Türkiye Childhood (Primary School 2nd Grade Students) Obesity Survey COSI-TUR 2016. 2017; Ankara.
5. Jensen MD, Ryan DH, Apovian CM, Ard JD, Comuzzie AG, Donato KA, et al. Obesity Society. 2013 AHA/ACC/TOS guideline for the management of overweight and obesity in adults: a report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines and The Obesity Society. Circulation 2014; 129(25 Suppl 2): 102–38.
6. Bass R, Eneli I. Severe childhood obesity: an under-recognised and growing health problem. Postgrad Med J 2015; 91: 639–45.
7. Dokuzcan DA, Aydoğdu NG, Gürkan KP. Parents of Primary School Students' Perception-Anxiety Levels Related to Childhood Obesity and Their Practices Regarding Child FeedingSakarya Med J 2021; 11: 857-64.
8. Vio F, Fretes G, Montenegro E, González CG, Salinas J. Prevention of children obesity: A nutrition education intervention model on dietary habits in basic schools in Childe. Food and Nutrition Sciences 2015; 6: 1220-8.
9. Gray LA, Hernandez Alava M, Kelly MP, Campbell MJ. Family lifestyle dynamics and childhood obesity: evidence from the millennium cohort study. BMC Public Health 2018; 18: 1-15.
10. Burchett HED, Sutcliffe K, Melendez-Torres GJ, Rees R, Thomas J. Lifestyle weight management programmes for children: A systematic review using qualitative comparative analysis to identify critical pathways to effectiveness. Preventive Medicine 2018; 106: 1–12.
11. Wellard-Cole L, Davies A, Allman-Farinelli M. Contribution of foods prepared away from home to intakes of energy and nutrients of public health concern in adults: A systematic review. Crit Rev Food Sci Nutr 2022; 62: 5511-22.
12. Kim HS, Park J, Ma Y, Im M. What Are the Barriers at Home and School to Healthy Eating? Overweight/Obese Child and Parent Perspectives. J Nurs Res 2019; 27:e48.
13. Apperley LJ, Blackburn J, Erlandson-Parry K, Gait L, Laing P, Senniappan S. Childhood obesity: A review of current and future management options. Clin Endocrinol (Oxf) 2022; 96: 288-301.

14. Kim J, Lim H. Nutritional Management in Childhood Obesity. J Obes Metab Syndr 2019; 28: 225-35.
15. Appleton J, Fowler C, Brown N. Parents' views on childhood obesity: qualitative analysis of discussion board postings. Contemp Nurse 2017; 5: 410-20.
16. Hodder RK, O'Brien KM, Lorien S, Wolfenden L, Moore TH, Hall A, et al. Interventions to prevent obesity in school-aged children 6-18 years: An update of a Cochrane systematic review and meta-analysis including studies from 2015–2021. EClinicalMedicine 2022:54: 101635.
17. Kiess W, Galler A, Reich A, Müller G, Kapellen T, Raile K, et al. Clinic alaspects of obesity in childhood and adolescense. Obes Rev 2001;2:29-36.
18. T.C. Sağlık Bakanlığı Halk Sağlığı Genel Müdürlüğü. (2013). Türkiye'de okul çağı çocuklarında (6-10 yaş grubu) büyümenin izlenmesi (TOÇBİ) projesi araştırma raporu. Ankara: Sağlık Bakanlığı Yayın No: 834.
19. Ziser K, Decker S, Stuber F, Herschbach A, Giel KE, Zipfel S, Junne F. Barriers to behavior change in parents with overweight or obese children: a qualitative interview study. Frontiers in Psychology 2021:12;631678.
20. Kansra AR, Lakkunarajah S, Jay MS. Childhood and adolescent obesity: A review. Front Pediatr 2021;8:581461.
21. Martin A, Booth JN, Laird Y, Sproule J, Reilly JJ, Saunders DH. Physical activity, diet and other behavioural interventions for improving cognition and school achievement in children and adolescents with obesity or overweight. Cochrane Database Sys Rev 2018; ;1465-858.
22. Bae JH, Lee H. The effect of diet, exercise, and lifestyle intervention on childhood obesity: A network meta-analysis. Clinical Nutrition 2021; 40: 3062-72.
23. Rumaisa FS, Worsley A, Silva KRR, Nanayakkara J. Opportunities and challenges associated with food and nutrition education in Sri Lankan primary schools. International Journal of Health Promotion and Education 2021; 1-13.
24. Cason-Wilkerson R, Goldberg S, Albright K, Allison M, Haemer M. Factors influencing healthy lifestyle changes: a qualitative look at low-income families engaged in treatment for overweight children. Child Obes 2015;11:170-6.
25. Schalkwijk A, Bot S, de Vries L Westerman M, Nijpels G, Elders P. Perspectives of obese children and their parents on lifestyle behavior change: A qualitative study. Int J Behav Nutr Phys Act 2015;12:102.
26. Watson L, Baker M, Chadwick P. Kids just wanna have fun: Children's experiences of a weight management programme. Br J Health Psychol 2016; 21: 407–20.
27. Koneru G, Rao NSS, Sai TSR. A qualitative study on dietary habits and nutritional awareness among school children. J Community Health Manag 2019; 6: 105-12.
28. von Hippel PT, Workman J. From Kindergarten Through Second Grade, U.S. Children's Obesity Prevalence Grows Only During Summer Vacations. Obesity (Silver Spring) 2016; 24: 2296–300.
29. Graneheim UH, Lundman B. Qualitative content analysis in nursing research: concepts, procedures and measures to achieve trustworthiness. Nurse Education Today 2004; 24: 105-12.
30. Kiger ME, Varpio L. Thematic analysis of qualitative data: AMEE Guide No. 131. Med teach 2020;42:846-54.
31. Attride-Stirling J. Thematic networks: an analytic tool for qualitative research. Qualitative research 2001;1:385-405.
32. Belgrave LL, Seide K. Coding for grounded theory. The SAGE handbook of current developments in grounded theory 2019: 167-85.
33. Watson PM, Dugdill L, Pickering K, Hargreaves J, Staniford, LJ, Owen S, et al. Distinguishing factors that influence attendance and behaviour change in family-based treatment of childhood obesity: A qualitative study. Br J Health Psychol 2021; 26: 67-89.
34. Razi M, Nasiri A. Concerns of parents about children's overweight and obesity during the COVID-19 pandemic: A qualitative study. J Pediatr Nurs 2022 ;63: 111–6.
35. Wagner E, Jamil O, Hodges B. Talking About Childhood Obesity. Clin Pediatr 2022; 61: 266-9.
36. Nowicka P, Ek A, Grafström E, Johansson T, Nordin K, Neuman N, et al. How do interpersonal relationships affect children's weight management? A qualitative analysis of parents' long-term perceptions after obesity treatment. Child Obes 2022; 18: 274-80.
37. Alexander R, Estabrooks P, Brock DJP, Hill JL, Whitt-Glover MC, Zoellner J. Capacity development and evaluation of a parent advisory team engaged in childhood obesity research. Health Promot Pract 2021;22:102-11.
38. Li B, Adab P, Cheng KK. The role of grandparents in childhood obesity in China-evidence from a mixed methods study. Int J Behav Nutr Phys Act 2015; 12: 1-9.
39. Murphy M, Boardman F, Robertson W, Johnson R. Children's perspectives and experiences of health, diet, physical activity and weight in an urban, multi-ethnic UK population: A qualitative study. Child Care Health Dev 2021; 47: 597-607.
40. San Giovanni CB, Dawley E, Pope C, Steffen M, Roberts J. The Doctor Will "Friend" You Now: A Qualitative Study on Adolescents' Preferences for Weight Management App Features. South Med J 2021; 114: 373–9.
41. O'Donnell JE, Foskett-Tharby R, Gill PS. General practice views of managing childhood obesity in primary care: a qualitative analysis. JRSM Open 2017; 8: 2054270417693966.
42. Sedibe HM, Kahn K, Edin K, Gitau T, Ivarsson A, Norris SA. Qualitative study exploring healthy eating practices and physical activity among adolescent girls in rural South Africa. BMC Pediatr 2014;14: 211.
43. Rundle AG, Park Y, Herbstman JB, Kinsey EW, Wang YC. COVID-19-related school closings and risk of weight gain among children. Obesity (Silver Spring) 2020; 28;1008-9.