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RESEARCH ARTICLE (ORIGINAL)

Eating practices and behaviors of families of children with autistic spectrum disorder

Práticas e comportamentos alimentares de famílias de crianças com perturbação do espectro autista

Prácticas y conductas alimentarias de familias de niños con trastorno del espectro autista

Victoria Beatriz Trevisan Nóbrega Martins Ruthes [1]
https://orcid.org/0000-0003-1525-580X

Verônica de Azevedo Mazza [1]
https://orcid.org/0000-0002-1264-7149

Rubia Carla Formighieri Giordani [1]
https://orcid.org/0000-0001-5698-7981

Tatiane Herreira Trigueiro [1]
https://orcid.org/0000-0003-3681-4244

Gladys Eugenia Canaval [2]
https://orcid.org/0000-0001-9841-5084

[1] Federal University of Paraná (UFPR), Curitiba, Paraná, Brazil

[2] Universidad del Valle, Cali, Colombia

Corresponding author
Victoria Beatriz Trevisan Nobrega Martins Ruthes
E-mail: victoriabeatrizmartins@gmail.com

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Abstract

Background: Atypical eating behaviors are significantly common in children with autistic spectrum disorder (ASD) and can influence families' organization of eating practices.
Objective: To understand the eating practices and behaviors of families of children with ASD.
Methodology: This is a qualitative and descriptive study, using the multiple case method, with the participation of 13 family members of children with ASD. Semi-structured interviews were conducted, and the analytical technique of cross-case synthesis was used to systematize the evidence.
Results: This study gathered evidence on eating conceptions and practices, the organization of families' eating practices, and eating behaviors. Families' conceptions of eating practices influence how they organize and meet their children's care needs.
Conclusion: Each family develops their eating practices based on their context, food and cultural identity, and the different demands of their children's eating behaviors and difficulties. Families need a support network to manage the organization of their daily routines.

Keywords: child; feeding behavior; family; autism spectrum disorder

Resumo

Enquadramento: Os comportamentos alimentares atípicos são significativamente mais comuns em crianças com perturbação do espectro autista (PEA), podendo influenciar a organização da família em relação às suas práticas.
Objetivo: compreender as práticas e comportamentos alimentares de famílias de crianças com PEA.
Metodologia: Estudo qualitativo e descritivo, do tipo estudo de casos múltiplos, participaram 13 familiares de crianças com PEA. Foram realizadas entrevistas semiestruturadas e foi utilizada a técnica analítica de síntese cruzada dos casos, para sistematização das evidências.
Resultados: Evidenciaram-se as conceções e práticas alimentares; a organização das práticas alimentares da família; e o comportamento alimentar. A conceção das famílias sobre as práticas alimentares reflete na forma desta se organizar e atender às demandas de cuidado de seus filhos.
Conclusão: Cada família constrói a sua prática alimentar, de acordo como seu contexto, com a sua identidade alimentar e cultural, e das diferentes demandas relacionadas aos comportamentos e dificuldades alimentares de seus filhos, necessitando estabelecer uma rede de apoio para enfrentar a organização do seu dia a dia.

Palavras-chave: criança; comportamento alimentar; família; perturbação do espectro autista

Resumen

Marco contextual: Las conductas alimentarias atípicas son significativamente más frecuentes en los niños con trastorno del espectro autista (TEA) y pueden influir en la organización familiar en relación con sus prácticas.
Objetivo: Conocer las prácticas y conductas alimentarias de las familias de niños con TEA.
Metodología: Estudio cualitativo y descriptivo, del tipo de estudio de casos múltiples, participaron 13 familiares de niños con TEA. Se realizaron entrevistas semiestructuradas y se utilizó la técnica analítica de síntesis cruzada de casos para sistematizar las pruebas.
Resultados: Se observaron las concepciones y prácticas alimentarias, la organización de las prácticas alimentarias de la familia y la conducta alimentaria. La concepción de las familias sobre las prácticas alimentarias se refleja en la forma en que se organizan y satisfacen las demandas de cuidado de sus hijos.
Conclusión: Cada familia construye su práctica alimentaria según su contexto, su identidad alimentaria y cultural, y las diferentes demandas relacionadas con la conducta y las dificultades alimentarias de sus hijos, por lo que necesitan establecer una red de apoyo para hacer frente a la organización de su vida cotidiana.

Palabras clave: niño; conducta alimentaria; família; trastorno del espectro autista

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Introduction

In the last 50 years, autistic spectrum disorders (ASD) have increased worldwide. One in 59 children aged between 8 and 17 years has ASD (Baio et al., 2018). The literature points out different reasons for such an increase: the high awareness of the topic, the expansion of diagnostic criteria, better diagnostic tools, and the improvement of the reported information. Currently, socioeconomic aspects are also considered, as they directly influence the age at which ASD is identified and diagnosed (Baio et al., 2018). Children with this condition have characteristics associated with deficits in communication and social interaction, sensory changes, and repetitive and stereotyped behavior patterns, which can limit or impair the development of daily living activities and influence family dynamics (Kirby et al., 2019). Families have a determining role in building their children's eating habits (Petty et al., 2019). The literature points to critical situations in families' daily life that influence eating behaviors, such as parental anxiety and stress regarding meals, children's food consumption, the reinforcement of negative eating patterns, and children's communication difficulties (Schneider et al., 2019). Considering the difficulties presented by families in feeding children with ASD, it is crucial to study how families deal with the eating practices and behaviors of their children (Poulain et al., 2017) with ASD (Paula et al., 2020). Eating practices and behaviors include food selectivity, the aspects concerning the techniques, combinations, presentations, and places where food is prepared, the way of eating, the type of meals, the time and location, and who performs these functions and with whom these meals are shared. This concept is associated with socio-cultural issues, i.e., the individual and collective subjective aspects of eating and food (Poulain et al., 2017). International studies (Pariseau-legault & Banville, 2019; Aslan & Ozcbe, 2018) highlight gaps related to the feeding of autistic children, particularly the need to explore aspects of the everyday routine of their families, considering them as elements that directly impact care. Understanding the main changes in eating behaviors is essential to ensure a complete, safe, and appropriate approach to each individual with ASD (Paula et al., 2020). Thus, it is crucial to reinforce the support networks for people with disabilities and their families. These should include professionals from different areas of health, education, and people who live with the families (Goh et al., 2021). This study is relevant for nursing because nursing professionals aim to promote this group's recovery and development of autonomy, protection, and improvement of individual and social health (ANA Ethics Advisory Board, 2021; Mert & Köşgeroğlu, 2021). Nursing professionals share the care for ASD with families and build relationships of confidence, acceptance, support, and understanding. Hence, the present study aimed to understand the eating practices and behaviors of families of children with ASD.

Background

Atypical eating behaviors are significantly more common in children with ASD than with other disorders or children with typical development (Kirby et al., 2019). Thus, the characteristics of children with ASD can negatively impact families' eating experience, causing eating-related disorders that pose a challenge for the families' organization (Paula et al., 2020). Multiple factors influence these children's food consumption and are related to behavior, physiological, emotional, and cognitive aspects (El-Kour et al., 2020). The literature points to six main domains related to eating problems in children with ASD: chewing and swallowing difficulties, disruptive behavior during meals, compulsive eating, food selectivity, food refusal, rituals, and poor variety of foods consumed (El-Kour et al., 2020). All these eating problems lead to atypical eating patterns in the eating routines of children with ASD, which can also trigger an insufficient intake of nutrients and interfere with the children's development due to malnutrition. Atypical eating patterns directly influence families' organization regarding healthy eating practices and behaviors as in the domestic context the children's and families' environment and social relationships are also considered. Another relevant aspect is when children have different eating behaviors and needs and families have socioeconomic difficulties. This situation generates extra anxiety due to concerns about food supply, cost, and waste (Rooke et al., 2019).

Research question

What are the eating practices and behaviors of families of children with ASD?

Methodology

This is a qualitative and descriptive study, using the multiple case method and based on Yin's methodological framework (2015). It was conducted in two public specialized health care services located in a municipality of the Southern region of Brazil, in which semi-structured interviews were carried out. Case studies seek to clarify contemporary phenomena in a real-world context, as they are not clearly evident. Thus, the results of case studies should allow for an integrated view of the phenomenon studied (Yin, 2015). In this sense, the interview script prepared by the authors collects sociodemographic data and data on eating practices and behaviors through the following guiding question: "How are the family's daily living activities organized?" A pilot test for the instrument was conducted with five families. This step followed the data collection protocols for this study, and the families met the inclusion criteria established. The data collected was discussed and validated by a group of experts.

The necessary adjustments were made to refine the data collection plan regarding the content and procedures of the study, as recommended by Yin (2015). The inclusion criteria to select the study participants were to be a family member, over 18 years old at the time of the interview, of a child diagnosed with ASD aged between 4 and 10 years old, who attended the mentioned care services. The study sample was limited by theoretical saturation. Thirteen family members from nine families of children with ASD, aged between 4 and 10 years, participated in the study. Data were collected between November 2018 and March 2019. The interviews lasted an average of 30 minutes and were audio-recorded with a digital recorder and transcribed into *Microsoft® Office Word* documents. After transcription, the interviews were sent to the participants who could return them by email or *WhatsApp* message. According to Yin's framework (2015), data analysis in case studies requires fulfilling four phases: selecting the unit of analysis, preparing the data, and outlining the analytical strategies and techniques. For this study, the unit of analysis was the family, and each was considered a case. Data preparation occurred as follows: a first general reading of the data was performed to approach the material, then the interviews were organized in matrixes to facilitate the identification of the initial categories. Each interview was identified using the code "Family #" to ensure the confidentiality/ethical anonymity of the study participants. The data were grouped into thematic categories in the respective matrixes for the close reading and analysis of the material. The analytical strategies "Treating your data from scratch" and "Developing the case description" were chosen following the analysis phases. In "Treating your data from scratch," no theoretical proposition is considered, and the researcher is led by the data from the identified insights. In "Developing the case description," the case study is organized according to descriptive frames so that the researcher can obtain the main conclusion of the case study (Yin,2015). Cross-case synthesis was the analytical technique used and allowed identifying the elements among the families that pointed to replication or contrast between the cases.

The qualitative data analysis software *webQDA* was used to help manage and store the study data. A word cloud, a graphical representation with the most frequent words in each category, was created using the data entered into the software. This study received favorable opinion no. 2.327.633 from the Research Ethics Committee of the Federal University of Paraná (UFPR).

Results

The participants were 13 family members from nine families of children with ASD, including eight mothers, three grandmothers, and two fathers. The age range was between 30 and 50 years, and the length of education ranged from five to 16 years, with a mean of 9.6 years. Most participants were married. The families' income ranged between one and two Brazilian minimum wages (in 2019, the minimum wage was R$998.00), and participants belonged to low-income classes, with their main occupation being child caregivers. The children with ASD from the interviewed families were five girls and four boys. Their ages ranged from four to six years, with a mean age of 5.4 years. When they received the diagnosis, the children's age ranged from two and a half to five years. The mean was three years old. From the data analyzed, three thematic categories emerged: Eating conceptions and practices, Family's organization of eating practices, and Eating behaviors. According to some family members' statements, the category "Eating conceptions and practices" regarded the act of feeding the child adequately to ensure enough energy for their growth and physical, social, and cognitive development. They also considered that it contributes to the child's satisfactory performance of daily living activities and that food was an essential element for the child. However, other family members expressed difficulties with their children's food choices due to their performance of daily living activities. Furthermore, they mentioned concerns about the child not eating correctly. Figure 1 presents some of the statements representing this category.

Figure 1

Statements from the category "Eating concepts and practices."

Eating concepts and practices	
"It is super important to me that she is fed, that she is nourished so that she can function."	***Family 1***
"We see that he is very well-fed. He eats very well. So we are delighted to see him well-fed, having the things he needs in his diet."	***Family 5***
"I think that the better he eats, the better he will develop."	***Family 6***
"The child has to eat. In my grandson's case, he likes beans and rice, egg, ground meat. I believe that everything that is done is done with love. Because he has that little face, 'Grandma, I'm hungry,' rubbing his belly."	***Family 7***
"The food is important, right. It is important because she has to have [food]."	***Family 9***
"Regarding breakfast: since she is autistic, I can't give her coffee because of the caffeine, she gets very excited, and she doesn't like to drink chocolate."	***Family 2***
"It means almost everything, so food for me is complicated."	***Family 3***
"Her feeding means nothing to me now because I'm doing the wrong thing by not following the guidelines."	***Family 4***
"For me, it means everything, to have him eat like this is already a blessing; there are children like him who do not eat."	***Family 8***

Note. Adapted from "Concepções, práticas e comportamentos alimentares de famílias com crianças autistas" by V.B.T.N.M.Rtuthes (2020) [Master's Dissertation, Federal University of Paraná, Postgraduate Program in Nursing]. UFPR Repository. https://acervo-digital.ufpr.br/bitstream/handle/1884/67170/R%20-%20D%20-%20VICTORIA%20BEATRIZ%20TREVISAN%20NOBREGA%20MARTINS%20RUTHES.pdf?sequence=1&isAllowed=y

The category "Family's organization of eating practices" explores the family members' statements (Figure 2) regarding the organization of their eating practices, conditioned by their children's behavior. They also show how the child is included in their eating practices. They highlight the difficulties in feeding the children and understanding their needs and the need for this type of care.

Figure 2

Statements from the category "Family's organization of eating practices"

Family's organization of eating practices	
"We must do things as we see his day, according to his behavior."	***Family 6***
"When he is hungry, he goes to the stove, he hits the stove, he looks at you, he goes and sits at the table."	***Family 5***
"In fact, what we eat, she eats."	***Family 2***
"Sometimes she sits with us at home, but sometimes she wants to sit on the couch, so she sits on the couch, and my husband sits on the other side of the couch."	***Family 9***
"Sometimes he goes out for a chocolate drink, but it is still complicated for him to sit for coffee."	***Family 7***
"I am not in the mood to give her food right now, but no, I have to get up to give it to her, to prepare her plate, because even though she is starting to eat by herself, I have to stay by her side, I can't let her eat and stay here watching TV while she is eating there, I have to stay by her side because she doesn't know, she can't, she knows how to take it to her mouth, but she doesn't know how to put food in it yet, so I have to do that."	***Family 3***
"She stopped talking, she doesn't speak, so there is no way for us to know when she is hungry, when she is thirsty [...] we offer her one thing and offer her another, whatever she wants she eats, she takes it, you know."	***Family 4***
"I don't know why she would not eat at school, maybe it's the smell of the seasonings, or maybe I'm not there to give her food, and she has to feed herself with other people."	***Family 1***

Note. Adapted from "Concepções, práticas e comportamentos alimentares de famílias com crianças autistas" by V.B.T.N.M.Rtuthes (2020) [Master's Dissertation, Federal University of Paraná, Postgraduate Program in Nursing]. UFPR Repository. https://acervo-digital.ufpr.br/bitstream/handle/1884/67170/R%20-%20D%20-%20VICTORIA%20BEATRIZ%20TREVISAN%20NOBREGA%20MARTINS%20RUTHES.pdf?sequence=1&isAllowed=y

The category "Eating behaviors" analyses the different eating problems identified by family members based on their experiences with their children and relating them to the characteristics of ASD, such as food selectivity, mentioned by families due to the children's different sensory aspects and sensitivities that impact their eating practices. Families also note the strategies used to deal with eating problems, such as the constant dialogue and negotiation with the child, highlighting the school's support to promote proper nutrition. However, they consider it difficult to follow the professionals' guidance on dealing with their children. The statements that represent this category are shown in Figure 3.

Figure 3

Statements from the category "Eating behaviors."

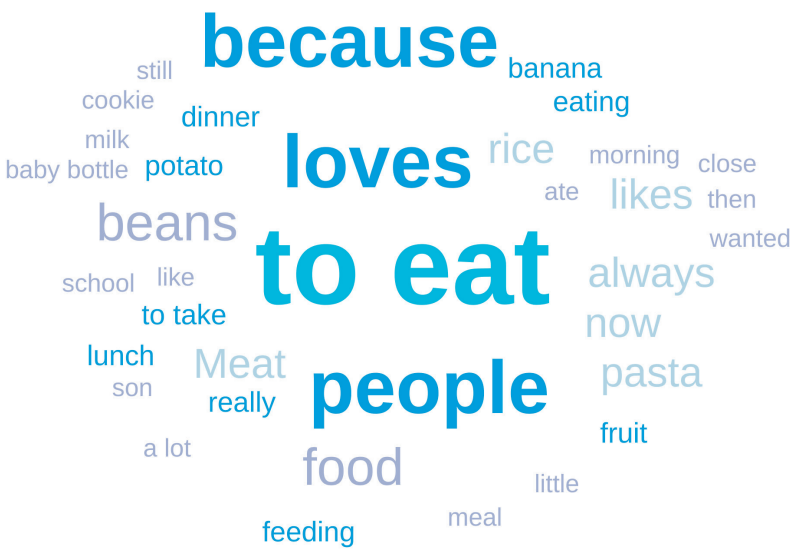
Eating behaviors	
"She only really wants the rice and beans because she doesn't like meat."	***Family 1***
"She is passionate about salty food and eats super well. She prefers salty food to sweet."	***Family 2***
"I try to give her a cookie, she bites into it, she even eats a little bit, I think the bran, but if there's a piece, she'll throw it away."	***Family 3***
"But she really likes potatoes and pasta, those are her favorite foods."	***Family 4***
"Beans with pasta or vegetables mashed in the middle of the beans."	***Family 5***
"The egg he is rejecting and the fried sausage, too."	***Family 6***
"Yeah, green [foods] he can't even see, if he sees green, he says: 'this is grandma's, this is mommy's."	***Family 7***
"He only eats it if it's pasta, with beans and empanado, or the meat."	***Family 8***
"What he likes to eat most is French fries, empanado, chicken drumstick, he loves drumsticks, he likes soda, juice, all these little things he likes. What he doesn't like to eat is a salad. The salad he doesn't eat, cabbage he doesn't eat, unless he eats it at school, but here at home, he doesn't eat cabbage and salad"	***Family 8***
"Because before she ate everything, and now she is choosing the things she is going to eat."	***Family 9***
"There was an Easter event here at school, and she became a big fan of the bunny, so I said, 'the bunny eats carrots, aren't you going to eat them?'	***Family 1***
"I have to eat because if she sees me chewing, she feels that I am chewing, she eats along with me."	***Family 2***
"Sometimes he will accept it, sometimes he will throw it away, and sometimes you put it in his mouth, and he will clean it. Wipe his tongue, spit it out. Sometimes he even gets angry, you know."	***Family 5***
"That's why I try to take some from home, I take a pot of beans. I even take an extra one because my mother-in-law loves it too."	***Family 6***
"But the chips have to be from [chip brand]. I tried to put some cheaper chips in there, but it was no good. He smelled it and knew."	***Family 7***
"And here they adapt her snacks too. Not all the snacks she eats, the teacher already knows."	***Family 3***
"Only because she cries. I can't take all her food away as was instructed, she cries. She eats food two or three times a day. And during breaks, I give her apples or bananas. But it's no use, she wants food. And you have to give her food."	***Family 4***
"But the family' s diet is the same because he didn't eat beans, but now he always eats beans. Now he always eats beans. Now, it's at lunch and dinner."	***Family 8***
"She chooses what to eat. I even talked there [at the neurologist appointment], now she's just choosing the things she wants."	***Family 9***

Note. Adapted from "Concepções, práticas e comportamentos alimentares de famílias com crianças autistas" by V.B.T.N.M.Rtuthes (2020) [Master's Dissertation, Federal University of Paraná, Postgraduate Program in Nursing]. UFPR Repository.. https://acervodigital.ufpr.br/bitstream/handle/1884/67170/R%20-%20D%20-%20VICTORIA%20BEATRIZ%20TREVISAN%20NOBREGA%20MARTINS%20RUTHES.pdf?sequence=1&isAllowed=y

The empirical data entered into the *webQDA* software calculated 516 descriptors. These allowed creating a word cloud with the most frequent descriptors, as shown in Figure 4.

Figure 4

Word cloud



Note. Adapted from "Concepções, práticas e comportamentos alimentares de famílias com crianças autistas" by V.B.T.N.M.Rtuthes (2020) [Master's Dissertation, Federal University of Paraná, Postgraduate Program in Nursing]. UFPR Repository. https://acervodigital.ufpr.br/bitstream/handle/1884/67170/R%20-%20D%20-%20VICTORIA%20BEATRIZ%20TREVISAN%20NOBREGA%20MARTINS%20RUTHES.pdf?sequence=1&isAllowed=y

"To eat" (*comer*) is a transitive verb that refers to the act of eating, and "because" (*porque*) is a causal or explanatory conjunction used in the statements to explain situations related to the families' conceptions about eating and the decisions made about their children's feeding. The word "like" (*gosta*) derives from the verb "to like" (*gostar*), and its definition can relate to finding something tasty, appreciating, finding something pleasant, feeling pleasure, judging positively, among others. The word cloud also highlights the foods that correlate to the verb "to like," which are more frequent in the families' daily lives. These include beans, meat, bananas, rice, pasta, fruits, feeding bottles, milk, and cookies.

Discussion

The data regarding the sociodemographic characterization of the families participating in this study showed that most of the mothers participating had low levels of education. This finding corroborates the Turkish study conducted by Aslan and Ozcbe (2018), which showed that mothers had lower education levels (primary education). In this study, family income ranged from less than one to two minimum wages, with most families receiving the equivalent to two minimum wages. These amounts are close to those identified in another Brazilian study carried out with 141 children, where most of the participating caregivers received up to one minimum wage, evidencing the influence of the families' sociodemographic context on children's care (Weissheimer et al., 2018). The low family income described in this study's data can relate to the mothers' need to take on the household and child-care activities. Regarding occupations, the mothers who participated in this study had similar occupations, namely housework and full care of the child with ASD, to those in other studies, such as that conducted in Brazil by Biffi et al. (2019) and in Turkey by Aslan and Ozcbe (2018). The mothers' occupation focused exclusively on caring for their children can indicate difficulties in understanding and adapting to the diagnosed children's reality and the expectations and perspectives regarding their children's future, aiming at their adequate and autonomous development (Biffi et al., 2019). When comparing the ages of the children participating in this study with those who participated in other studies, similar values were found, ranging from three to seven years, with a mean age between 5.6 and 5.2 years (Faro et al.,2019). However, these findings differ from another study conducted in Southern Brazil, whose children's mean age was 9.5 years (Weissheimer et al., 2018). These studies conducted between 2018-2019 reached families of younger children who already received follow-up for ASD. The studies by Biffi et al. (2019) and Faro et al. (2019) revealed that the mean age of diagnosis is close to that observed in this study. This mean age demonstrates children's late diagnoses. These hinder early interventions, considering that the first manifestations

of ASD usually appear during children's second year of life. Nevertheless, if the developmental delays are severe, they can be observed before 12 months of age or after 24 months if the symptoms are subtler. Regarding families' conceptions about the eating practices and behaviors of their children with ASD, the literature is still scarce on this topic. Still, studies show that early diagnosis of ASD allows determining an appropriate and effective treatment, which allows counseling and support for future family planning (El-Kour et al., 2020). Families' conceptions in this study regarding child feeding reveal aspects related to the families' eating practices and behaviors. Family members' perspectives on feeding are relevant, regardless of ASD, because providing a healthy and adequate diet to a developing child is essential. A nutritionally unbalanced diet can interfere with the ability to learn, control emotions, and process physiological information (El-Kour et al., 2020). The way food is prepared and consumed expresses the social and cultural representations that give meaning to individuals. These codes directly relate to the taste and sense of pleasure individuals get when tasting and enjoying food (Poulain et al., 2017). When this phenomenon is explored through integration, beyond the simple act of ingesting nutrients, it broadens the perspective from the biological dimension and raises socio-cultural issues (Poulain et al., 2017). Nonetheless, families highlight the difficulty in dealing with their children's eating demands in the family organization. The literature points out (Pariseau-legault & Banville, 2019) that from the moment family members recognize the children's eating demands, they can cope more positively because, for some, these eating behaviors become an everyday moment in their lives. This adaptation allows families to have more positive eating practices in their organization due to the decrease in stress, conflict, and anxiety situations with the children (Pariseau-legault & Banville, 2019). This corroborates this study's results, in which families begin to recognize these demands in their daily lives. Another relevant aspect of food organization is how meals occur for the family, which depend on the habits surrounding them. A study exploring the nature of shared meals in families of children with ASD highlighted the stress families experience during meals and the feeling of strength that meals provide them (Curtiss & Ebata, 2019). When comparing the data from this study with the literature (Curtiss & Ebata, 2019; Pariseau-legault & Banville, 2019), it is evident that these families' meals are delimited in many aspects by the rituals of children with ASD, who carry out their activities repetitively. Interrupting these rituals creates moments of tension for the families. On the other hand, the feeling of strength experienced during meals comes from eating collectively, which provides joyful, important, pleasurable experiences with the potential to promote and develop relationships and bonds between individuals and relates to a natural part of social life. Perceiving food as a social act, which has habits and history, can assign and hold individuals responsible for finding, acquiring, preparing, and cooking food. Meals eaten at home are precious moments to cultivate and strengthen bonds between people who like each other and, for children, are opportunities for developing good eating habits (Petty et al., 2019). It also exercises socialization and sharing in society (Poulain et al., 2017; Pariseau-legault & Banville, 2019). In this study, difficulties were also observed regarding providing food and understanding the children's needs and care demands. These results are corroborated by studies conducted in Brazil and internationally, which pointed out that mothers in the context of ASD begin to readapt their dynamics to meet the children's needs, which requires renouncing and dedicating themselves to caring for their children (Paula et al., 2020; Curtiss & Ebata, 2019; Pariseau-legault & Banville, 2019; Schneider et al. 2019). Mothers compromise their personal lives and quality of life, thus responding to socio-cultural demands. However, the literature (Biffi et al., 2019; Pariseau-legault & Banville, 2019; Aslan & Ozcbe, 2018) highlights the potential of sharing these activities between parents and the family nucleus collaboratively, thus minimizing the negative impact on quality of life of the demands of caring for children with ASD. Considering the division of tasks between parents, they can, using dialogue and planning, propose actions for the child to overcome their eating difficulties, providing positive strategies to promote their children's eating practices and behaviors (Biffi et al., 2019; Pariseau-legault & Banville, 2019; Aslan & Ozcbe, 2018). The social support network is one of the important support points for families with special needs. Other extended family members, such as grandparents, uncles, cousins, etc., can help with the family's daily living activities, child care, and financial, affective, and emotional support for parents, particularly mothers (Rooke et al., 2019). All families who participated in this study reported recognizing several eating problems in their children, which relate to atypical eating behaviors, also observed in other studies (Paula et al., 2020; Kirby et al., 2019). This is due to the atypical characteristics of children with ASD, mainly due to their unusual responses to sensory stimuli (Cho & Sonoyama, 2020; Kirby et al., 2019). Food selectivity also stands out and is understood by the occurrence of behaviors, such as food refusal, delaying the consumption of new foods, and eating little variety of foods (Cho & Sonoyama, 2020). In the families' daily life, this selective behavior can lead to other difficulties and reflect on the activities carried out inside and outside the home, alone and in community, and on activities of leisure, self-care, urban mobility, and social interaction for developing friendship relationships and coexisting with other people (Cho & Sonoyama, 2020). There is the need to identify as soon as possible the factors related to the sensory sensitivity of children with ASD to allow individualized guidance and treatment addressing the main characteristics that affect children's occupational performance and their families' dynamics (Kirby et al., 2019). The families in this study demonstrated using strategies to face these difficulties, such as promoting dialogue and negotiation for substituting some foods less accepted by children. Modifying the presentation of foods and offering to exchange them with the children are successful strategies. The

work done by Pariseau-legault and Banville (2019) points out that it is possible to create personalized strategies to face the different eating difficulties of children with ASD, taking advantage of families' creativity and facilitating the families' effective and autonomous work. School is another element to promote healthy eating practices and behaviors, which is demonstrated by the children's greater responsiveness in a school environment due to stimulation of different sensory and motor strategies (Kirby et al., 2019). Families reported positive experiences in this environment because of the bond established between the family and the school. Moreover, the school is perceived as a place that helps develop strategies to cope with eating difficulties. Thus, a highlight is given to the importance of the dialogue between family and school. When there is harmony between these parties (school/family), children feel secure, allowing them to develop their skills in the school environment (Medina et al., 2020). Some of the participating family members in this study, even with the guidance of professionals in the area, feel unable to meet their children's demands regarding eating. The literature shows that effective interventions are aligned between the family and professionals, providing sustained changes in attitudes and choices since they connect individuals with their values and belief systems (Medina et al., 2020). Considering its findings, this study furthers families' better understanding of their eating practices. It also serves as evidence to foster behaviors aimed at understanding, improving, and encouraging the eating practices of the studied group, thus serving as a theoretical framework for policies and guidelines to guide better the different professionals involved in caring for these families. The present study also disseminates information about these practices and behaviors through society, thus strengthening the formal and informal social support network.

Still, this study has limitations. The sample consisted of families aware of the needs of their children and monitored by multiple ASD health professionals. However, this is not the reality of all families in the same condition because the social context in which they are is not the same all over Brazil and worldwide. Moreover, the literature reveals significant weaknesses in societies' awareness of ASD. The different ASD levels were also not considered limiting because these were not inclusion criteria for participating in this study.

Conclusion

By studying the eating practices and behaviors of families of children with ASD, it is possible to understand that these are unique and delimited by their dynamics and context. Each family develops their food practices according to their food and cultural identity. Thus, different food demands arise in each context due to their children's ASD characteristics. These families mention the strategies used to face the various eating problems, particularly dialogue and negotiation to promote the children's better acceptance. This is possible because these families have a support network composed of trained professionals who enable early interventions that empower families to deal with ASD and expand the opportunities to improve the children's and families' quality of life. Thus, food should be considered an essential element for the children, impacting the different aspects of their lives, particularly social ones. Further studies should be conducted in other geographical areas, as different social and cultural contexts influence eating practices and behaviors.

Author contributions

Conceptualization: Ruthes, V. B., Mazza, V. A.
Data curation: Ruthes, V. B., Mazza, V. A.
Formal analysis: Ruthes, V. B., Mazza, V. A.
Funding acquisition: Mazza, V. A.
Research: Ruthes, V. B.
Methodology: Ruthes, V. B., Mazza, V. A.
Project management: Mazza, V. A.
Resources: Mazza, V. A.
Supervision: Mazza, V. A.
Validation: Ruthes, V. B., Mazza, V. A.
Visualization: Ruthes, V. B.
Writing - original draft: Ruthes, V. B.
Writing - analysis and editing: Ruthes, V. B., Mazza, V. A., Giordani, R. C., Trigueiro, T. H., Canaval, G. E.

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