

Feeding and Autism: Understanding and Overcoming Nutritional Barriers

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1 **Feeding and Autism: Understanding and Overcoming** 2 **Nutritional Barriers**

4 **Abstract**

5
6 ¹Autism Spectrum Disorder (ASD) is a neurodevelopmental condition
7 characterized by impairments in communication and social interaction, as well
8 as restricted and repetitive patterns of behavior. Children on the spectrum often
9 present atypical sensory responses, such as reactions to sounds, textures,
10 smells, and tastes, which directly affect their relationship with food and the
11 mealtime environment.
12 This study aims to identify, describe, and analyze the main feeding challenges
13 experienced by children with ASD, as well as to present nutritional and
14 behavioral management strategies that promote the health and quality of life of
15 these individuals and their families.
16 It is an integrative literature review conducted using national and international
17 databases, considering studies that investigated food selectivity, gastrointestinal
18 problems, nutritional deficiencies, and socialization difficulties during meals. The
19 results indicate that food selectivity, gastrointestinal alterations, and nutritional
20 deficiencies are recurrent, requiring individualized therapeutic strategies,
21 supplementation when necessary, and multidisciplinary support.
22 It is concluded that understanding the complexity of feeding difficulties in autism
23 is essential for developing effective interventions. Adapted strategies that
24 consider sensory, behavioral, and nutritional aspects may promote not only
25 adequate growth and development but also the emotional well-being and social
26 integration of the child and their family.

27
28 **Keywords:** Autism Spectrum Disorder, Autism, Feeding, Nutrition, Food
29 Selectivity, Feeding Difficulties, Nutritional Intervention.

32 **Introduction**

33

34 Autism Spectrum Disorder (ASD) is characterized by difficulties in
35 communication and social interaction, along with restricted and repetitive
36 behavioral patterns and interests, as well as atypical sensory responses (APA,
37 2013). These characteristics affect not only behavior and learning but also daily
38 experiences, such as feeding.

39 Studies indicate that ASD may be associated with nutritional imbalances,
40 gastrointestinal disorders, inflammatory processes, and food allergies, affecting
41 several organs, including the central nervous system. The gestational period
42 and the first two years of life are critical for neurological, immunological, and
43 metabolic development, and dietary changes during this time may compromise
44 the formation of the intestinal microbiota, immune system, and central nervous
45 system (CNS).

46 The relationship with food begins during pregnancy, as the flavors consumed by
47 the mother are transmitted to the fetus and later through breastfeeding. Parents'
48 eating behavior directly influences the child's food acceptance. However, initial
49 rejection of certain flavors is common, requiring patience and persistence from
50 caregivers (Carreiro, 2025, p. 120).

51 Parents often report significant feeding limitations in children with ASD,
52 characterized by food selectivity, persistent refusal of new foods, and
53 preference for a limited range of items (Ledford & Gast, 2006; Bandini et al.,
54 2010). While about 25% of typically developing children exhibit food selectivity,
55 this rate reaches 60–80% among autistic children, with diets sometimes limited
56 to only five foods (Carreiro, 2025).

57 This selectivity affects growth, metabolic health, cognitive development, and
58 socialization, while also generating family stress. Selective autistic children tend
59 to consume more ultra-processed foods—rich in sodium, sugars, and
60 additives—and fewer fibers, vitamins, and minerals, increasing the risk of
61 obesity and chronic diseases.

62 Therefore, food selectivity constitutes a relevant clinical issue, requiring a
63 multidisciplinary approach involving physicians, nutritionists, speech therapists,
64 and other professionals. Understanding these challenges is essential for

65 proposing intervention strategies that promote a balanced, enjoyable, and
66 individualized diet adapted to the needs of children with ASD.

67

68 ⁴
Methodology

69

70 This study consists of an integrative literature review, a method that allows for
71 the synthesis of previous research results, promoting a broader understanding
72 of the phenomenon (Whittemore & Knafl, 2005).

73 The search was conducted in the SciELO, PubMed, BVS, Web of Science, and
74 Google Scholar databases between July and September 2025, using the
75 descriptors: autism, feeding, child nutrition, food selectivity, and intestinal
76 dysbiosis. Articles published between 2019 and 2024, available in full and
77 focused on the nutritional and dietary aspects of ASD, were included.

78 Reference theoretical works in the field of nutrition and autism were also
79 analyzed. Duplicate studies, case reports, and publications without thematic
80 adherence were excluded. In total, ten sources were critically analyzed—eight
81 scientific articles and two books.

82

83 ⁵
Table 1 – Summary of Studies Included in the Integrative Review

84

Authors (Year)	Title	Objective	MainFindings
Barbosa et al. (2023)	Nutrition in Autism Spectrum Disorder: Benefits of Dietary Interventions in Childhood	To evaluate the benefits of dietary interventions in children with ASD.	Cognitive and behavioral improvements with personalized diets; highlighted the role of omega-3 and probiotics.

Authors (Year)	Title	Objective	Main Findings
Sabino & Belém (2022)	The Relationship Between ASD and Dysbiosis	To investigate the influence of intestinal microbiota on autistic behavior.	Correlation between dysbiosis and symptoms; behavioral improvement with probiotic use.
Teixeira & Venancio (2023)	Impacts of Diet and Nutrition on Child Development	To assess the effects of diet on neuropsychomotor development.	Emphasizes the importance of healthy eating habits from early childhood.
Diniz et al. (2023)	Food Selectivity in Autism Spectrum Disorder and Its Impact on Nutritional Health	To analyze food selectivity and its repercussions.	Identified sensory aversions and micronutrient deficiencies in autistic children.
Silva, Braz & Sodré (2023)	Autism Spectrum Disorder: Aspects Related to Feeding and Nutrition	To discuss nutritional and social aspects of ASD.	Defends multiprofessional follow-up and educational interventions.
Oliveira & Campos (2022)	Autism: A Functional Nutrition Perspective	To examine the role of nutrients in behavioral regulation.	Benefits of gluten-free and casein-free diets and supplementation with fatty acids.
Souza et al. (2024)	Relationship Between Autism Spectrum Disorder and Eating	To relate atypical eating patterns and	Identifies a link between food selectivity and

Authors (Year)	Title	Objective	Main Findings
	Disorders	comorbidities.	anxiety.
Cardoso & Nogueira (2021)	Interdisciplinary Care for Autism	To propose interdisciplinary approaches for comprehensive care.	Highlights the role of nutrition in family balance and mealtime routines.
Carreiro (2019)	Nutritional Approach in the Prevention and Treatment of Autism	To describe dietary strategies for ASD treatment.	Emphasizes supplementation and personalized nutrition based on individual biochemistry.
Plano (2020)	Child Nutrition: Influences on Selective Eating Behavior	To discuss factors influencing eating behavior.	Demonstrates the influence of family environment and affectivity on eating habits.

Source: Author's elaboration (2025).

Results and Discussion

The analysis reveals that food selectivity in individuals with ASD is a multifactorial phenomenon influenced by physiological, sensory, emotional, and environmental factors. This condition may lead to nutritional deficiencies, gastrointestinal disorders, and significant impacts on quality of life (Diniz et al., 2023; Barbosa et al., 2023).

From a physiological perspective, intestinal dysbiosis has been widely studied as a factor that exacerbates behavioral and feeding symptoms. Sabino and Belém (2022) show that microbiota imbalance affects neurotransmitters and

96 nutrient absorption, reinforcing the importance of diets rich in probiotics and
97 fibers.

98 Similarly, Carreiro (2019) argues that intestinal regulation is directly associated
99 with behavior, mood, and cognitive ability, and should be a central focus of
100 nutritional therapy in ASD.

101 From a behavioral standpoint, food selectivity often results from sensory
102 hypersensitivity. Children with ASD tend to reject foods due to texture,
103 temperature, or color, showing rigid preferences and feeding rituals (Silva, Braz
104 & Sodré, 2023). The book *Child Nutrition: Influences on Selective Eating*
105 *Behavior* (Plano, 2020) adds that the formation of eating behavior stems from
106 the interaction between emotional, social, and family factors, with parental
107 example and home routine being crucial for therapeutic success.

108 The literature also suggests that specific diets—such as gluten- and casein-free
109 diets—may reduce gastrointestinal and behavioral symptoms, although results
110 vary individually (Oliveira & Campos, 2022). Barbosa et al. (2023) emphasize
111 the benefits of omega-3 and probiotic supplementation, while Carreiro (2019)
112 highlights that micronutrients such as zinc, magnesium, and B-complex vitamins
113 may help stabilize metabolism and emotional balance.

114 Furthermore, the role of family and mealtime environment is essential. Cardoso
115 and Nogueira (2021) affirm that eating goes beyond the biological dimension—it
116 is also an expression of bonding and communication. Therefore,
117 interdisciplinary care should integrate nutritional guidance, behavioral therapy,
118 and emotional support.

119 Integrating the evidence suggests that overcoming nutritional barriers in autism
120 requires a comprehensive approach that embraces body, mind, and affection.
121 As Plano (2020) summarizes, eating is also an act of belonging—and promoting
122 this bond is the first step toward restoring the pleasure of eating and holistic
123 health.

124

125 **Food Selectivity and Behavioral Factors**

126 Food selectivity is multifactorial, involving physiological, sensory, emotional, and
127 environmental aspects (Diniz et al., 2023; Barbosa et al., 2023). Sensory
128 hypersensitivity is common, leading to food rejection based on texture,
129 temperature, or color (Silva, Braz & Sodr , 2023). The interaction between
130 emotional, social, and family factors — including parental modeling and
131 household routines — is crucial for therapeutic success (Plano, 2020).
132 Specific diets, such as gluten-free and casein-free, may reduce gastrointestinal
133 and behavioral symptoms, although results vary among individuals (Oliveira &
134 Campos, 2022). Supplementation with omega-3, probiotics, and micronutrients
135 can help stabilize metabolic and emotional processes (Carreiro, 2019; Barbosa
136 et al., 2023).
137 Family involvement and a structured eating environment are essential,
138 integrating nutritional guidance, behavioral therapy, and emotional support
139 (Cardoso & Nogueira, 2021).

140

141 **Sensory and Physiological Factors**

142

143 Children with ASD often exhibit tactile defensiveness, resistance to new foods,
144 and a preference for specific textures, colors, and temperatures, which may
145 restrict the intake of essential vitamins and minerals (Carvalho, 2012 apud
146 Moura et al., 2021). Gastrointestinal problems, oral-motor alterations, and
147 intestinal dysbiosis exacerbate both behavioral and feeding symptoms (Sabino
148 & Bel m, 2022; Monike, Sabino & Oliveira, 2022).
149 The gut–brain–microbiota axis and the intestinal production of neurotransmitters
150 (serotonin, dopamine, GABA) play a key role. A reduction in beneficial bacteria
151 can affect mood, anxiety, and appetite, increasing food selectivity as a defense
152 mechanism (Galv o, 2025).

153

154 **Nutritional Impact**

155

156 Food selectivity and excessive consumption of ultra-processed foods contribute
157 to deficiencies in iron, calcium, vitamin D, fiber, B-complex vitamins, and

158 essential fatty acids, increasing the risk of malnutrition or obesity.
159 Individualized nutritional interventions include:

- 160 1. Supplementation with vitamin D, omega-3, and micronutrients (Silva,
161 Braz & Sodr , 2023).
- 162 2. Introduction of prebiotics and probiotics to maintain microbiota balance
163 (Gibson et al., 2017; NG et al., 2019).
- 164 3. Elimination of ultra-processed foods, artificial colorings, monosodium
165 glutamate, and refined sugars (Marcelino, 2010; Gomes, 2020).
- 166 4. Possible restriction of gluten and casein to reduce the opioid-like effects
167 of certain peptides (Newell, 2016; Gomes et al., 2016).

169 **Family and Environmental Factors**

171 Family eating patterns and the home environment strongly influence the child's
172 feeding behavior. Structuring meals with predictability and minimizing sensory
173 overload helps increase food acceptance and reduce family stress. Specialized
174 support from a multidisciplinary network — including physicians, therapists,
175 psychologists, and nutritionists — is essential to guide caregivers and optimize
176 nutritional and behavioral strategies.

178 **Management and Intervention Strategies**

180 The approach should be multidimensional, integrating:

- 181 • Occupational therapy focused on sensory integration.
- 182 • Behavioral interventions, such as Applied Behavior Analysis (ABA).
- 183 • Individualized nutritional interventions, with gradual food introduction and
184 supplementation.
- 185 • Environmental adaptations and predictable routines.
- 186 • Inclusion of fresh and minimally processed foods in the family diet.
- 187 • Active participation of the child in food preparation, stimulating visual,

188 cognitive, and sensory engagement.

189

190 **Conclusion**

191 The integrative review revealed that feeding in ASD involves a complex
192 interaction among physiological, sensory, and psychosocial factors. Food
193 selectivity is a frequent manifestation, with implications that extend beyond
194 nutrition to emotional and relational domains.

195 The analyzed studies confirm the importance of personalized nutritional
196 interventions based on biochemical, behavioral, and affective assessments.
197 Interdisciplinary collaboration — involving physicians, nutritionists, therapists,
198 and families — is essential to achieve meaningful progress.

199 It is concluded that understanding the autistic individual as a whole is the
200 starting point for transforming nutrition into a bridge: between body and
201 affection, biology and life. To feed is more than to nourish; it is to integrate,
202 restore, and care — and that is the essence of true treatment and development
203 alongside individuals with autism spectrum disorder.

204

205 **References**

206

207 AMERICAN PSYCHIATRIC ASSOCIATION. *Diagnostic and Statistical Manual*
208 *of Mental Disorders – DSM-5*. 5th ed. Porto Alegre: Artmed, 2013.

209 BARBOSA, R. M. et al. *Nutrition in Autism Spectrum Disorder: Benefits of*
210 *Dietary Interventions in Childhood*. *Brazilian Journal of Clinical Nutrition*, v. 38, n.
211 4, p. 330–337, 2023.

212 CARDOSO, A. A.; NOGUEIRA, M. L. M. (eds.). *Interdisciplinary Care for*
213 *Autism*. Belo Horizonte: Ampla Publishing, 2021.

214 CARREIRO, Denise. *Nutritional Approach in the Prevention and Treatment of*
215 *Autism*. São Paulo: Atheneu, 2019.

216 DINIZ, A. Z. M.; RODRIGUES, B. M.; COSTA, H. F. C.; FRANCESCATO, M. G.
217 *Food Selectivity in Autism Spectrum Disorder and Its Impacts on Nutritional*
218 *Health*. Limeira: Etec Trajano Camargo, 2023.

219 OLIVEIRA, L. F.; CAMPOS, P. R. *Autism: A Functional Nutrition*
220 *Perspective*. *Health and Development Journal*, v. 14, n. 2, p. 112–119, 2022.

221 PLANO. *Child Nutrition: Influences on the Child's Selective Eating Behavior*. São
222 Paulo: Plano Publishing, 2020.

223 SABINO, M. E.; BELÉM, R. F. *The Relationship Between ASD and*
224 *Dysbiosis*. *Interdisciplinary Health Journal*, v. 9, n. 1, p. 1–10, 2022.

225 SILVA, B. A.; BRAZ, M. C.; SODRÉ, L. P. *Autism Spectrum Disorder: Aspects*
226 *Related to Eating and Nutrition*. *Nutrition in Focus Journal*, v. 15, n. 2, p. 215–
227 229, 2023.

228 SOUZA, F. T.; MOURA, A. P.; LIMA, C. R.; ANDRADE, T. M. *Relationship*
229 *Between Autism Spectrum Disorder and Eating Disorders*. *Multidisciplinary*
230 *Health Journal*, v. 13, n. 1, p. 77–88, 2024.

231 TEIXEIRA, J. M.; VENANCIO, R. S. *Impacts of Food and Nutrition on Child*
232 *Development*. *Science and Life Journal*, v. 11, n. 3, p. 241–250, 2023.

233 WHITEMORE, R.; KNAFL, K. *The Integrative Review: Updated*
234 *Methodology*. *Journal of Advanced Nursing*, v. 52, n. 5, p. 546–553, 2005.
235 doi:10.1111/j.1365-2648.2005.03621.x.

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