



The Child Who Doesn't Want to Eat: Why Does It Happen?

Luiz Antonio Del Ciampo ^{a*}
and Ieda Regina Lopes Del Ciampo ^b

^a Faculty of Medicine of Ribeirão Preto, University of São Paulo, Brazil.

^b Department of Medicine, Federal University of São Carlos, Brazil.

Authors' contributions

This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.

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ABSTRACT

One of the most frequent complaints in pediatric offices is the child don't want to eat, which causes a lot of concern among parents, generating stress and several attempts to insist that the child eat. The reasons for this behavior are diverse, varying with the child's age, family relationships and social contexts. Faced with this challenge, it is important to know some of the different characteristics of children from birth. This article is a non-systematic review whose objective is to present some of the most important characteristics of children, their nutritional needs, the physiology of the development of the digestive system and how neurological and emotional maturation occurs, seeking to integrate all factors related to the act of eating to help health professionals and family members to better understand and resolve this common problem in childhood.

*Corresponding author: Email: delciamp@fmrp.usp.br;

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1. INTRODUCTION

Eating is a multifactorial and learned process that improves along with the development of the child, who learns to use their sensory and oral skills to interpret and interact with food. This complex function involves organic and emotional aspects associated to motivation within the socio-environmental context of the family and the world that surrounds it. The act of feeding a child also carries a high emotional burden for parents, especially for the mother, who is seen socially and culturally as the main person responsible for the growth and well-being of her children [1].

One of the most frequent complaints in pediatric offices is that the child does not want to eat, which causes a lot of concern among parents and other family members, generating stress and various attempts to insist that the child eat according to the family's wishes. The reasons for this behavior are diverse and even complex, varying according to the child's age and interactions between family characteristics and social contexts [2]. The search for quick and even miraculous solutions means that actions are taken based on random guidelines, often recommended by lay people and, more worryingly, with the use of pharmacological substances without scientific proof, putting the child at risk [3].

To try to resolve this issue, it is important to know some of the different characteristics of the child from birth, their nutritional needs, the physiology of the development of the digestive system and how neurological and emotional maturation occurs, integrating all the factors related to the act of becoming to feed. Therefore, it is necessary to emphasize to those responsible that children are born with a survival instinct, that is, they feed driven by two stimuli: the body's need and the feeling of hunger [4].

Initially, it is necessary to recognize that children have varying nutritional needs depending on their age. The speed of growth, which is very high in the first two years of life, reduces from 2 years until the beginning of puberty [5,6]. As a result, it is natural for children to start eating less during this period, even though they still meet their nutritional demands, which is not always noticed by family members. Furthermore, in addition to

the aspect of survival, feeding is an act of the child's relationship with their world, with the people around them and their environment, serving to create bonds of affection and strengthen the relations with the mother [7].

2. DISCUSSION

There is practically no information in the literature that can cover the main aspects related to the act of eating. Therefore, in this section, the main elements that must be understood to interpret the child's refusal to eat will be presented.

2.1 Child Characteristics

During the process of motor and emotional development children accumulate knowledge due to observation and experiences acquired throughout life, learning earlier what is not food and developing an internal ability to determine the amount of food they need and/or are possible to be ingested. 6 It is important to know that the amount consumed at meals and food preferences change frequently, even within the same day, and are associated with adults' attitudes of affection, tiredness, environmental conditions, illnesses, etc. and this must be recognized and respected. With myelination progressing in the cranio-caudal direction child acquires posture, motor maturity and oral skills necessary for the feeding process 8, as can be seen in Table 1.

2.2 The Act of Eating

Among some priorities of the human body - such as breathing, circulation, brain control, and others - the act of eating is important for survival as a way of obtaining energy and nutrients, being the only action of the human body that requires the participation of all organs and senses. Furthermore, it stands out for being a fundamental action in the process of human beings' relationship with the environment, as it evolves from an instinctive act in the first weeks of life to learned behavior over the following months [8]. It is a behavioral phenomenon that varies with the individual's nutritional needs, age, physical and emotional conditions, ambient temperature and amount of food eaten in the previous meal [2].

Table 1. Development of the child's motor and oral skills

Age (month)	Skills
At birth	coordinates sucking and swallowing movements
4 – 6	extrusion reflex disappears; firms neck; improved sucking and swallowing; performs tongue movements and mouth closure to capture food
5 – 6 m	oral reflex is replaced by voluntary movement of the mouth for feeding and speaking
6 – 8	remains with lips closed; greater tongue and cheek movement
After 8	kneads food with tongue and gums; initiates food lateralization movements
After 10	oral reflex is replaced by voluntary movement of the mouth for feeding and speaking; greater tongue movement; organizes and swallow food that has been chewed in the lateral region
After 18	chewing progress; can determine whether food still needs to be chewed or can be swallowed
24 – 36	chewing total control; can eat foods that require different mouth movements
36 – 48	values appearance, color, shape and consistency of food

Motivations for eating include the initial desire to eat, appetite, sensory affective factors (taste, odor, texture, appearance, temperature of food) and pleasant sensations linked to the act of eating, which makes the individual continue eating, even without being hungry [9]. Regulatory signals for the act of eating begin with the thought, vision and smell of food, which is called the cephalic phase, followed by the stimulation of chemical receptors after food ingestion that configures the gastric phase, passing through the intestinal phase with the arrival of food partially digested to the duodenum. Foods rich in sugar, fat and salt are related to positive contexts while foods with low palatability configure the negative context of eating [9]. Once the act of eating begins, the organism triggers a series of complex interactions of molecular, hormonal, neural and behavioral mechanisms that, acting on different structures such as the hypothalamus (where the control center is located) and stomach (distension of the walls), and interacting through orexigenic and anorexigenic neuropeptides, leptin, ghrelin and insulin will establish the appropriate balance between the body's needs and food intake [7].

2.3 Taste

After birth the oral cavity presents a very organized sensory and motor integration, allowing the child to learn in the early years what is not food. Taste begins to be stimulated in intrauterine life by substances present in amniotic fluid and, later, by breast milk, reflecting the mother's eating experiences [10]. Breastfed children are less demanding and more likely to try new foods. The innate preference for sweet

taste since the prenatal phase facilitates the acceptance of high-calorie foods (as they have greater palatability and a feeling of satiety) and those unknown when associated with sugar [11,12]. The presence of chlorides in breast milk puts the child in contact with the salty taste while the bitter taste (generally from foods with an unpleasant texture and low energy content) suffers greater rejection, which can be understood as a protective factor against harmful substances [13].

2.4 Chewing and Swallowing

Chewing is an act learned throughout development that, in addition to crushing food, contributes to facial growth and facilitates speech development. From birth, the orofacial muscles and mouth are active and develop through stimuli from hands, objects and food. Starting from initially poorly coordinated movements, chewing will be fully developed in the fifth year of life, performing incision, crushing and pulverizing of food in addition to recognizing texture, flavors and odors [14,15]. Chewing force, still small in the first years of life, explains the non-acceptance of hardened foods, such as pieces of meat, which can cause concerns for family members [16]. The swallowing process consists of oral preparatory and propulsive (conscious and voluntary), pharyngeal (conscious and involuntary) and esophageal (unconscious and involuntary) phases. For swallowing to be normal, there must be a balance between the muscular forces of the lips, tongue and cheeks, which involves the work of 26 muscles and six cranial nerves [17,18].

2.5 Oral Defensiveness

From birth child presents some well-developed protective sensory behaviors, mainly related to the hands and mouth, where a great number of receptors are concentrated. During the first year of life child interacts with the world through the mouth, and from the 7th week of intrauterine life the perioral region already responds to tactile stimuli, culminating in the sucking movements that have been present since birth. In some cases, due to the inefficiency of stimulus processing, child demonstrates exacerbated reactions when stimulated, mainly by touch, responding with a negative interpretation of protection, fear, flight and fight. This phenomenon is called tactile defensiveness and manifests itself in different ways such as not putting fingers or objects in the mouth, refusing different types of food (due to taste, odor, texture), not chewing, having tactile sensitivity in other areas (discriminates the use clothes), avoid spicy foods and experience nausea and vomiting [19]. More directly related to food (temperature, texture and flavor) this sensitivity can trigger reactions of refusing and avoiding food. Therefore, this condition needs to be identified and managed appropriately, through the progressive increase in sensorimotor-oral comfort with massages, touch and objects that stimulate the most sensitive areas of the mouth [20].

2.6 Learn to Eat

To start ingesting non-liquid foods child must have acquired a certain degree of neurological maturity, such as that obtained from the 4th month of life in full-term babies. This corresponds to muscular control and coordination (sitting with stability, keeping the trunk erect, handling food and taking it to the mouth) in addition to adequate relationships with caregivers and the environment [21,22]. From then on, a more differentiated phase of learning begins when the child begins to associate flavors with the eating process, developing the ability to identify the palatability of food and associate it with the degree of satiety. At the end of the first semester of life, flavors are learned and then, from 6 to 10 months of age, the ability to identify the texture of food will be developed [11,23].

2.7 Food Neophobia

Neophobia is a child's reluctance to try new foods. This is normal and even expected behavior in the 18 to 24 months age group, whereas do not cause secondary damage such as growth retardation and/or nutritional deficiencies. Children's

willingness to accept specific foods has hereditary components and is culturally influenced by early exposure to the taste and texture of food, causing different patterns of food acceptance, and is also considered a protective behavior against the ingestion of harmful substances [24-26]. Children tend to exclude fruits and vegetables from their diet due to aversion to their color and appearance, giving preference to foods with a high caloric density. This behavior can result in deficiencies in essential micronutrients, such as vitamins and minerals, in addition to increasing the consumption of foods rich in carbohydrates, which can lead to excess weight [27,28].

2.8 Child Behavior, Family and Environment

Throughout life, the act of eating is a common daily task, driven by the search to satisfy nutritional needs and reinforced by the feeling of pleasure it provides. The pleasure of eating is also learned and contributes to the development of children's eating habits, which will remain practically unchanged until they reach adulthood [29]. Some children exhibit selective eating behavior, which leads to limited consumption of important foods such as meat and vegetables, giving preference mainly to those with a higher content of carbohydrates, milk and a greater component of dairy products. It is also common to observe that highly selective children only accept food that has been prepared in a certain way or if the food is presented separately from other components of the meal [30]. Therefore, selectivity manifests itself in the form of three characteristics: refusal to eat, little appetite and disinterest in food. The most commonly intrinsic characteristics of children who are picky eaters include increased sensitivity (especially to taste and smell) and personality traits [31,32].

Table 2. How to make feeding easier for a child

Provide a pleasant environment, without distractions or noise
Make the child comfortable at mealtimes
Establish meal duration and times
Respect normal and temporary fluctuations in appetite
Respect the child's right to have preferences and dislikes
Offer food in small quantities
Present dishes in a pleasant way, with an age-appropriate texture, avoiding food monotony
Do not disguise food, child must know what they are eating, encouraging learning and identifying textures and flavors
Do not force, threaten, punish or force child to eat
Do not offer rewards and/or treats
Do not use subterfuges such as the famous "little plane or little train"
Do not show irritation or anxiety when refusing
Encourages the child to participate in preparing food and assembling their plate

The family structure and the environmental context are fundamental elements for the adequate development of the child, directly influencing behavior and the acquisition of eating habits. From the beginning of life, the mother is directly linked to the child's nutrition, both during pregnancy and after birth [33,34]. Family adjustment, with its daily habits and dynamics, must also be present in issues related to the child's diet, contributing to the adoption of healthy and lasting practices. In this context, childcare programs can decisively help by indicating the appropriate time to introduce new foods, organizing mealtime and frequency, diet composition and in transmitting knowledge about the development of feeding physiology at different ages of the child [35,36].

2.9 What to Do When Child Doesn't Want to Eat

When caring for a child who is not eating, a general assessment of health and nutritional status must initially be carried out. This is necessary to reassure family members, as most of the time the child is in good health and free from illness. With this information it is possible to demonstrate that the child is consuming enough to satisfy their nutritional needs, which do not always coincide with family expectations. Another important aspect is knowing the child's eating habits (times, foods consumed and rejected, quantity and acceptance of meals), assessing the level of anxiety of the child and family and the parents' attitude towards food refusal. With all this information [35-39], some conditions can be established to facilitate the child and family's relationship with food, as can be seen in Table 2 [40].

3. CONCLUSION

Given the various factors previously presented above, it can be considered that a set of guidelines can be implemented to assist in resolving the problem.

DISCLAIMER (ARTIFICIAL INTELLIGENCE)

Author(s) hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc) and text-to-image generators have been used during writing or editing of manuscripts.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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