

Parenting Styles and Nutritional Development in Pica: A Case Report

A. A Dwi Ratih Arningsih^{1,2*}, Rindha Dwi Sihanto^{1,3}

¹Lecturer in Medical Faculty of Universitas Mahasaraswati Denpasar, Indonesia

²Psychiatrist at Surya Husada Hospital, Clinic Quantum and Bali Mental Health Clinic (BMHC), Denpasar, Indonesia

³Neurologist at Murni Teguh Tuban Bali Hospital, Denpasar, Indonesia

E-mail: aarningsih@unmas.ac.id; rindha@unmas.ac.id

*Corresponding author details: A. A Dwi Ratih Arningsih; aarningsih@unmas.ac.id

ABSTRACT

Background: Pica is an eating disorder frequently reported in children, characterized by the habitual ingestion of non-nutritive substances such as clay, sand, pebbles, hair, lead, plastic, pencil erasers, nails, paper, paint, chalk, plaster, and more. The occurrence of pica is closely related to parenting styles and the nutritional status of the child. **Case:** A 2-year-old female patient presented with a preference for eating sand and pebbles. This behavior had been ongoing for six months, with the patient consuming these substances almost daily. When discovered by her parents, she tended to ingest them quickly. This issue was also accompanied by sleep disturbances, with the patient waking up and crying up to four times each night. The parental approach to the child's diet was very permissive, leading to inadequate nutritional intake. The patient felt hungry and wanted to eat something. However, due to parental conflicts and poor economic conditions, the mother neglected the child's dietary needs, causing the patient to ingest non-food items to satisfy her hunger. **Conclusion:** The main issues leading to the eating disorder (pica) were insufficient parental supervision, irregular eating habits, and inadequate nutritional intake.

Keywords: Pica; eating disorder; parental supervision; nutrition; children.

INTRODUCTION

The incidence of pica in the general population is difficult to determine accurately, as most research on this condition has been conducted within specific groups or populations, such as individuals with intellectual disabilities [1]. Globally, it is estimated that approximately 25% to 33% of all pica cases occur in young children, 20% in pregnant women, and 10% to 15% in individuals with learning difficulties [2].

Pica is most frequently reported in children, with a higher prevalence in boys than girls, particularly under the age of four. The prevalence of pica decreases significantly with age [3]. It is most prominent in individuals with developmental disabilities, congenital central nervous system anomalies, diabetes, deafness, and seizure disorders. The incidence of pica has also been found to increase among patients undergoing neuroleptic therapy, potentially related to altered or reduced post-synaptic dopamine receptors, and in lower socioeconomic classes [4].

A key feature of pica is the persistent consumption of one or more non-nutritive, non-food substances over

a period of at least one month (criterion A), which is severe enough to warrant clinical attention. The types of substances ingested tend to vary based on age and availability and may include items such as paper, soap, cloth, hair, string, wool, soil, chalk, talcum powder, paint, rubber, metal, pebbles, charcoal or coal, ash, clay, starch, or ice. The consumption of non-nutritive substances must be developmentally inappropriate (criterion B) and not part of a culturally supported or socially normative practice (criterion C) [5].

Pica can be diagnosed at a minimum age of two years. This non-nutritive, non-food eating behavior can be associated with other mental disorders (e.g., intellectual disabilities, autism spectrum disorders, schizophrenia) [6]. If the eating behavior occurs exclusively during another mental disorder, pica should be diagnosed separately as an additional clinical concern (criterion D) [5]. Diagnosis involves interviews with parents or caregivers and observations, gathering information on medical history, blood tests, and stool examinations [7].

Children with pica may exhibit disruptive behaviors such as tantrums, aggression, self-injury, repetitive behaviors, or sensory-seeking behaviors (Bardone-Cone, Harney, & Tosh, 2010). The low reporting rate of pica cases has led researchers to explore in greater detail the parenting styles and nutritional development in children with pica, particularly around the age of two.

CASE

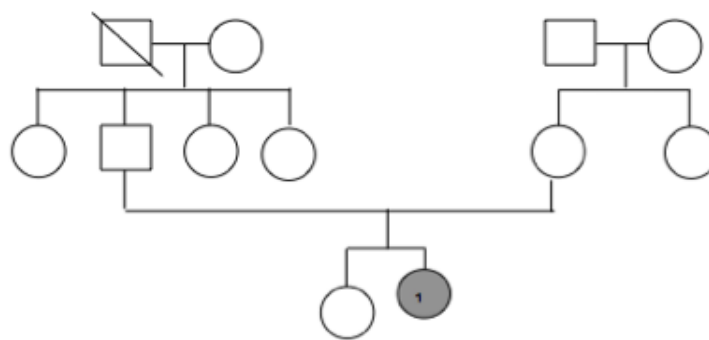
A 2-year-old girl was brought to the clinic by her parents with complaints of regularly eating pebbles, sand, and soap over the past six months. This behavior often occurred while she played alone in the yard. When her mother noticed and tried to stop her, the child would quickly swallow the substances.

Physical Examination: The patient's physical examination revealed that her overall condition was within normal limits. Her nutritional status was adequate, and her general health appeared normal.

Psychiatric Examination: The patient presented with an appearance appropriate for her age, showed normal facial expressions, and displayed clingy behavior towards her mother. Verbal communication was limited, while visual contact was adequate. She was fully conscious, with a clear thought process but limited speech. There were no signs of hallucinations or illusions. The child exhibited stubbornness, with defense mechanisms such as sulking and resistance mechanisms like crying. She also showed aggressive responses, manifested through crying, and remained calm during the examination.

Supporting Examinations: The lab results indicated a decrease in hemoglobin levels, serum iron, and ferritin, suggesting a deficiency. The pedigree is shown in Figure 1.

Pedegree



Explanation:

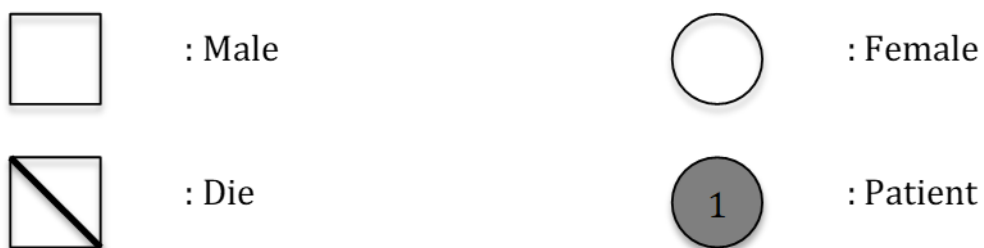


FIGURE 1: Pedegree.

The current issues are: 1) The child has a habit of eating harmful substances such as sand, gravel, soap, and shampoo; 2) The child's father is quiet, while the mother tends to be emotional, with moderate depression affecting her ability to care for the child at home; 3) The family's economic condition is poor. Long-term: 1) Comprehensive treatment and adherence to therapy are necessary; 2) Issues with parenting and the mother's skills in preparing nutritious food and managing the child's diet, which is crucial for the child's proper growth and development.

Non-medication therapies include: 1) Explaining to the parents about the disorder, its progression, treatment, and prognosis; 2) Educating the parents on their role in child-rearing and the nutritional needs essential for the child's growth; 3) Early intervention to prevent the disorder from persisting into adolescence. Medication therapy includes Aktavol syrup 1 x daily, 1/2 dose.

A diagnosis of Pica in children receiving early treatment and with parental support in providing supervision and adequate nutritional intake will lead

to normal growth and development, thus the prognosis for this patient leans towards *dubious ad bonam*.

According to the DSM-5, diagnosing Pica requires the presence of persistent eating behavior of non-nutritive substances for at least one month. Pica involves eating substances that are not nutritious, inappropriate for the individual's developmental level, and not part of culturally accepted practices. This case is diagnosed as Pica, with inadequate mother-child interactions where the child's nutritional needs are not adequately met.

Several risk factors related to the development of Pica, in this case, include: 1) The mother's mental disorder, specifically depression; 2) Economic problems within the family; 3) Permissive parenting style.

DISCUSSION

The symptoms of eating disorders are positively associated with serious parenting styles. Mothers with eating disorders tend to control their children's eating activities more strictly. Positive symptoms of eating disorders are linked to authoritarian and permissive parenting styles. Eating disorders in children are caused by suboptimal parenting and parents who are not adaptive to their children's needs [4,8].

A female patient, 2 years old, Hindu, from Bali, unmarried, was brought by her parents, who complained that she often eats gravel, sand, soap, and shampoo. The patient is the second child, with an older sister who is one year older. There is no family history of similar habits. The patient's growth and development are reported to be similar to other children of her age, with no history of chronic medical conditions such as epilepsy or head trauma, and no history of jaundice at birth. She was born normally, cried immediately after birth, and there was no trauma or use of medications other than those prescribed by a midwife during pregnancy.

The patient has been reported to enjoy eating gravel and sand for the past six months, almost daily. When her mother tries to remove the gravel from her mouth, the patient tends to swallow it quickly. The child is primarily cared for by her parents, with the mother being the dominant caregiver. According to Freud, the first psychosexual development stage is the oral stage, starting from birth to 18 months [7]. The focus of satisfaction is the mouth, and pleasure is obtained through breastfeeding and exploring the environment through the mouth. The key experience at this stage is weaning. During weaning, the child loses a significant amount of intimate contact with the mother, leading to a feeling of loss, which is the first emotional discomfort and sadness in the child's life. Weaning also contributes to the child's self-awareness and independence [9].

The patient was breastfed until 24 months, beyond the typical duration, which may hinder the child from learning that not everything is within their control and that gratification is not always

immediate. The patient feels hungry and wants to eat, but due to conflicts between the parents and the family's poor economic situation, the mother does not pay attention to the child's dietary needs, leading the patient to consume non-edible objects to satisfy her hunger [10].

A pathogenic family structure, which is uncoordinated, can result in parental failure to maintain balance, love, and care for the child. The mother occupies herself with work, leading to inadequate supervision and care for the child [9].

The parents exhibit a permissive parenting style, giving the child more freedom to do what she wants. The child often plays alone without proper supervision. Parental involvement in child-rearing plays a crucial role in the child's nutritional development, especially in cases of pica, where the child consumes non-food items. Authoritarian or permissive parenting styles can increase the risk of developing unhealthy eating habits, including pica. Authoritarian parents who overly control or restrict their child's food intake may hinder the child's ability to make healthy eating decisions. On the other hand, permissive parents may fail to provide the necessary guidance, leading the child to develop poor eating habits. The lack of consistent structure and direction may cause the child to seek alternative food sources, including non-food items [4,10].

To address pica in children raised with a permissive parenting style, it is crucial to implement measures that combine strict supervision, clear structure, and emotional support. First, environmental monitoring should be increased to ensure children do not have access to non-edible objects. Parents need to set firm and consistent rules to teach boundaries and provide a sense of security. Additionally, behavioral interventions, such as cognitive-behavioral therapy, can help children understand and change their behavior. Parents should also actively communicate and educate about the dangers of pica while offering adequate emotional support. In some cases, medical consultation may be necessary to assess whether there are underlying medical conditions or nutritional deficiencies contributing to the pica behavior [10].

Changing the parenting approach from permissive to more structured and supportive can help reduce the risk of pica and improve the child's mental and physical health. Pica cases are often associated with iron deficiency, which can trigger children to consume non-food items as a way to address nutritional deficiencies. Iron deficiency can lead to various health issues, such as anemia, which can further impair the child's health. Iron supplementation is often effective in reducing or eliminating pica behaviors, indicating a strong link between nutritional status and eating behavior. Additionally, consuming non-food items such as soil or paint can pose risks of poisoning and infection. For example, consuming items containing lead can lead to lead poisoning, negatively affecting cognitive development. Consuming contaminated items also carries the risk of parasitic infection or other diseases [8,9].

Therefore, it is important for parents to monitor their child's eating behavior and prevent access to hazardous non-food items. Increasing the intake of iron-rich foods, such as red meat, liver, dark leafy greens, legumes, and grains, is crucial [5].

Preventing and managing pica requires a comprehensive approach that includes monitoring and modifying eating behavior, as well as nutritional interventions. Educating parents about the importance of a balanced diet and recognizing signs of nutritional deficiencies is also vital. Efforts to create a home environment that supports healthy eating habits, such as providing nutritious foods and avoiding using food as rewards or punishments, are important steps in addressing pica symptoms and supporting the child's overall nutritional development [10].

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