

PICA Disorder with Autism: Intervention In Dental Settings

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ABSTRACT

Background: This review provides information on the dental intervention of pica disorder in autistic people. Before stepping on to the intervention part, it throws light on the meaning, sign and symptoms, etiology of the disorder etc. Pica is an eating disorder typically defined as the persistent eating or mouthing of non-nutritive substances. A dental complication depends on the duration and the type of material eaten leading to abrasion, erosion, staining of teeth, periodontal problems, poor hygiene and halitosis. Generally it has been found in several studies that pica is developed in autistic people with a rapid speed. 30% of children with autism have moderate to severe pica. For an effective dental intervention a dentist must know how to deal pica in a person with autism. Diagnostic criteria and important guidelines for the treatment should be followed by the care giver and dentists.

Keywords: Autism, Dental intervention, Pica.

INTRODUCTION

Pica can be defined as an eating disorder typically including the continual eating or mouthing of inedible or non-nutritive substances. The word 'pica' is derived from the Latin word used for 'magpie', a kind of bird that is famous for eating almost anything. Pica is often observed in all the stages of life i.e. infancy, childhood, adolescence and later stages of life. It has generally been combined with developmental disabilities (autism or mentally retarded) and seen in pregnant women also. In this disorder patient is indulged in eating inedible or non-nutritive substances.¹⁻³ This disorder is generally found with autism, it is essential to know the Autism, it is a difficult developmental disability that interrupts normal communication, social, behavioral, and intellectual activities. People with autism often observed distant, unfriendly, or separate from other people or from their

surroundings. They do not respond appropriately to common verbal and social cues given to them. This disorder includes obsessive routines, unpredictable body movements, repetitive behaviors, and self-detrimental behavior along with some dental complications due to the development of some eating disorders, such as 'pica'.⁴

The exact calculation of the patients with pica is not known, but the research estimation reported that pica generally seen in 75% infants, 15% in two-three year old kids and 10-33% among the autistic patients and institutionalized mentally retarded children.^{5,6}

PICA WITH AUTISM

Pica is often observed in patients with autism and mentally disabled people, as they make them detached from their surroundings and develop their own alone world. They do not

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participate in social groups and other activities, and often spend their time in doing some specific behaviours, one of them is kept busy in eating non-nutritive or inedible material, which give them satisfaction. Various researches reported that 60-66% people with autism often develop pica, which show the intense relationship in such disorders.

Pica, united with autism spectrum disorder was demonstrated to show the slightest amount of social activities and pro-social behavior. One more fact regarding this disorder is that a large amount of negative behavior was found in patients with a combination of pica and autism, when the comparison made between groupings with single disorders. This concluding statement was given by researchers studying on adults and their degree to which autism and intellectual disabilities combined with pica in them, and the result showed that they have a lack of social skills. This study was published in the month of October 2012 issued in *The Journal of Developmental and Physical Disorders*, and the results claimed that adults having intellectual disabilities and/or with ASD are frequently observed at risk for rising additional forms of psychopathology and/or challenging behaviors, including pica.⁶

ITEMS INTAKEN BY PATIENT WITH PICA DISORDER

The people suffering with developmental disabilities, including autism and mental retardation, frequently exhibit pica behavior, in the age between 2 to 3. According to Meredith Garrity (clinical director of May Institute's school for children with autism in Arlington) children younger than 2, frequently put inedible items in their mouths, but all those behaviours may not considered as eating disorder or pica. But if this type of behavior is consistent in the children, then its psychological and dental intervention is strongly recommended. Some of the non-food items that people with pica crave and consume includes: dirt, clay, paint chips, plaster, chalk, cornstarch, laundry starch, baking soda, coffee grounds, cigarette ashes, burnt match heads, cigarette buds, feces, ice, glue, hair, buttons, paper, sand, toothpaste & etc.

EFFECT OF PICA DISORDER

It might be said that some of these items are harmless but some items such as lead-based paint chips and pebbles or hard substances, are dangerous and can cause lead poisoning or tooth erosion. Thus children with pica may be at risk for other serious health problems including:

- ❖ bowel problems (from consuming indigestible substances like hair)
- ❖ intestinal obstruction or perforation (from eating objects that could get lodged in the intestines)
- ❖ dental injury (from eating hard items like buttons)
- ❖ parasitic infections (from eating dirt or feces)^{7,8}

SIGN & SYMPTOMS

The section provides information regarding clinical presentation of pica with autism. It is essential for every parents/healthcare provider to keenly observe the unusual symptoms of eating habits and social behavior of a child/person to early detection of such disorders to provide suitable treatment with the help of clinical practitioners to prevent it as early as possible. Here are some sign and symptoms given below regarding 'pica' and 'autism spectrum disorder':

Pica Disorder: It is highly changeable and is correlated with the particular nature of the consequential medical conditions and the substances ingested by the person. In the case of in taking of poisonous or infectious agents, the observed symptoms are tremendously variable and are associated with the kind of toxin or infectious agent ingested.

Physical findings of pica may include the following:

- ✓ Manifestations of toxic intake (i.e. lead poisoning)
- ✓ Manifestations of infection or parasitic infestation (i.e. toxocariasis and ascariasis)
- ✓ GI manifestations (i.e. constipation, mechanical bowel problems, ulcerations, intestinal obstructions and perforations)
- ✓ Dental manifestations (i.e. abfraction, severe tooth abrasion, and tooth erosion)

- ✓ Repetitive ingestion of nonfood items, in spite of various efforts to restrict it, for a period of at least 1 month or longer
- ✓ The behavior is measured as improper according to child's age or developmental stage (older than 18 to 24 months)
- ✓ The behavior must not be considered as a part of a cultural, ethnic, or religious practice.^{8,9}

Autism Spectrum Disorder: Before starting any dental intervention of the patient with, it is essential for the practitioner to observe the patients behavior to find out any other combined disease with pica, such as Autism. In the dental intervention of pica, if a person is suffering from autism, he/she does not cooperate in treatment. Thus a pre-treatment observation of the following symptoms of Autism will be helpful for the practitioner to plan the intervention strategy accordingly. Autism can severely impair the patient's ability to communicate, interact with others and maintain normal contact with the outside world. Symptoms can range from very mild to very severe.

- Lack of consistent use of eye contact.
- Lack of interest in others.
- Lack of social smile, response to name, imitation.
- Lack of emotional expression.
- Lack of directed vocalizations.
- Absence of joint attention skills (pointing to "show," following a point, monitoring others' gaze, and referencing objects or events).
- Lack of requesting behaviours.
- Lack of social gestures (such as waving, clapping, nodding, and shaking head).
- Lack of pretend play in many children.^{5,6}

TYPES OF PICA DISORDER

This disorder is highly changeable in nature and may be seen in various forms, according to the items intake by the patient. The disorder can be classified in various types, some of them have mentioned in this article.

- 1) **Amylophagia:** A compulsive ingestion of purified starch in large amounts is known as Amylophagia. It is often observed among pregnant women.

- 2) **Coprophagy:** A rare eating disorder that includes eating of feces is called coprophagy. It is often seen among animals but very rarely in human beings.
- 3) **Geophagy:** A compulsive eating of soil-like or earthy substances i.e. clay, chalk, soil etc. It is common among children and pregnant women.
- 4) **Lithophagia:** It is another form of geophagia, it includes a craving to intake pebbles, pieces of bricks, stones etc. It is generally seen in children.
- 5) **Hyalophagia:** This disorder is consists the ingestion of glass objects. This is usually observed as a performance technique by performers.
- 6) **Mucophagia:** A includes the consumption of mucus of the invertebrates and fishes is called mucophagia.
- 7) **Pagophagia:** This form of includes excessive consumption of ice cubes or iced drinks. It is known as pagophagia. This condition is associated with the iron deficiency or minerals deficiency.
- 8) **Self-cannibalism:** This form of pica includes self-eating practice. Self-cannibalism is also known as autocannibalism or autosarcophagy or self-mutilation.
- 9) **Trichophagia:** This condition is characterized by consumption of hair, mostly one's own. The long hair is first chewed without pulling them from the scalp and they swallowed. Sometimes the patient might also eat other people's hair.
- 10) **Urophagia:** The practice of consumption of urine is known as urophagia. This is generally not considered as a disorder in many cultures, until it doesn't produce any harmful effects. In some cultures urine is regarded as earthy and with healing properties.
- 11) **Xylophagia:** This involves the consumption of wood-like things or the things made

from wood. People usually have seen eating of pencil, paper, wood bark etc. This is mostly seen among children.^{9,10}

ETIOLOGY

Research on etiology of pica is very limited and generally found under the wider category of eating disorders. Most etiological researches have stated that pica may be multi-faceted in origin which includes medical factors such as parasite infestation, inappropriate digestive enzymes level or acid levels in stomach, and deficiency in iron or other body mineral. (Parry-Jones & Parry-Jones, 1992).¹¹ There are several theoretical approaches that effort to explain the etiology from various perspectives.

a. Nutritional Factors:

Nutritional theories are most common among all other approaches. This attributes pica as a specific deficiency of minerals, such as iron and zinc in body. Many studies have observed the geophagia and lithophagia in patient is a result of iron or zinc deficiency in the body. Although the empirical evidences for zinc are less convincing than for iron.¹²

b. Biological Factors:

Biological causes include genetic tendency for development of various forms of Eating Disorder. Gene terminology is altered by environmental factors with no change in the underlying DNA sequence. Eating behaviour is controlled and regulated by the hypothalamus-pituitary-adrenal axis. Abnormalities in the production and transmission of hormones and neurotransmitters like serotonin, leptin and norepinephrine, can cause ED. Others included conditions are brain calcifications, elevated levels of auto-antibodies, and lesions of temporal or frontal lobe manifest the various forms of ED, including 'pica'.¹³

c. Sensory Factors:

The sensory and physiologic theories emphasized that in many cases the patients with pica have reported that they do it for the sort of enjoyment as they enjoy the taste, texture, or smell of the material they are consuming. Geophagia has been used to lessen vomiting by some patients and

can give a sense of completeness to patients who are trying to lose weight.^{1,12}

d. Psychological Factors:

This approach includes psychological stress and abnormalities frequently develop in person with high familial expectations, family history with psychoneurosis, dysfunctional families, personality traits like perfectionist, narcissistic, competitive personality, histrionic or avoidant personalities, emotionally imbalanced, depressed and lone. The individuals with psychological conditions like autism spectrum disorder, morbid fear of obesity, schizophrenia, OCD, borderline personality disorders, ADHD, body dysmorphic disorders, often exhibit more predisposition for developing perturbed, chaotic eating disorders like 'pica'. These individuals commonly have poor self-esteem; difficulty with self-regulation and try to control their problems by manipulating their diet (Lo Russo *et al.*, 2008).¹⁴

e. Socio-Cultural Factors:

This approach includes traumatic personal experiences such as childhood negligence, physical, sexual or verbal abuse, bullying and social isolation, which have a harmful effect on individual's physical and emotional health.

Though it is a tradition associated with both in men and women, who actively participate in performing arts and sports field like cheerleading, dancing, distance running, diving, figure skating, gymnastics, horse racing, rowing and swimming, required weight controlling. They tend to regulate their diet to achieve lesser body weight while bodybuilders and wrestlers work to attain heavier bodies. Thus, peers' pressure, cultural pressure for slimness, parental persuasion, and mass media influence for attaining ideal body type can lead towards interruption of normal eating pattern (Committee on Sports Medicine Fitness, 1996; Glazer *et al.*, 2008).¹⁵

DIAGNOSTIC CRITERIA FOR PICA AND AUTISM

In this section, we are providing information regarding the general and scientific criteria of diagnosis for pica and autism.

General Diagnostic Criteria for Pica Disorder:

There is no single test for the confirmation of pica. However, pica is commonly seen in people with lower nutrient levels or poor nutrition (malnutrition). Thus, the health care provider should initially test blood levels of iron and zinc. Hemoglobin should also be checked to confirm anemia. Lead levels must be checked in the case of consumption of paint or objects covered in lead-paint dust. The health care provider must always test for infection also if the person has ingested contaminated soil or animal waste.¹⁶

Diagnostic criteria (DSM-5) Pica Disorder (307.52)

In the *Fifth Edition of Diagnostic and Statistical Manual of Mental Disorders*, pica disorder has been classified under feeding and eating disorders. It also stated that it may be appeared in conjunction with other feeding and eating disorders.

DSM-5 criteria for pica are as follows:

- 1) Persistent eating of nonnutritive, nonfood substances over a period of at least 1 month.
- 2) The eating of such substances is inappropriate to the developmental level of the individual.
- 3) The eating behavior is not part of a culturally supported or socially normative practice.
- 4) If the behavior occurs within the context of another mental disorder or medical condition (e.g. schizophrenia, autism, or pregnancy), it is sufficiently severe to warrant independent clinical attention.

A minimum age of 2 years is recommended for the proper diagnosis, because children aged between 18 months to 2 years, the ingestion and mouthing of nonnutritive items is common and is not to be considered as pathologic.^{8,16}

Differential diagnosis

In the case of ingestion of any nonnutritive substance, some additional diagnostic techniques are required. Imaging techniques are used to identify ingested materials and aid in the regulation and management of gastrointestinal (GI) tract

complications due to pica. It may include the following:

- Abdominal radiography
- Upper and lower GI barium examinations
- Upper GI endoscopy¹⁷

General Diagnostic Criteria for Autism Spectrum Disorder:

It is very essential for a dental practitioner or a health care provider to diagnose the additional medical history of patient if any. In the case of pica disorder a dental practitioner must observe and diagnose the other diseases or disorders which are generally occur along with pica such as Autism Spectrum Disorder, which if the most frequent conjunctive disorder with pica. As there are so many developmental disabilities found in the patient with ASD, and the complications in the treatment may occur, the dental practitioner must diagnose it before starting any intervention of pica and the intervention strategies should be conducted accordingly. Here are some general diagnostic criteria are given which can aid in the diagnosis of a patient with Pica along with ASD:

- No big smiles on face or other warm, joyful expressions.
- No back-and-forth sharing of sounds or other facial expressions. (impaired communication skills)
- No babbling by 12 months of age.
- No back-and-forth gestures like pointing, showing, reaching or waving hands.(lake of motor skills)
- Delayed speech, no two-word meaningful phrases, without modeling or repeating, by 2 years of age.
- Loss has been observed regarding speech or babbling or social skills at any stage of age.
- Weak play skills for a particular age.
- Oversensitivity to particular textures.

Screening tools for ASD

Some screening tools can be used by the practitioner as a prior test of ASD, for its confirmation and to plan the further intervention

strategies. A number of screening tools are available; some of them are given below:

- The CHAT (= **C**heck list for **A**utism in **T**oddlers) and its modifications CHAT 23 and M-CHAT.
- Pervasive Developmental Disorder Screening Test (PDDST).
- Screening Tool for Autism in Two-Year-Olds (STAT).
- Social Communication Questionnaire (SCQ) is used in school-aged children.

All of the above tools focus on major characteristics of ASD like joint attention, social communication and play. A negative result from screening does not take as final; the parental concern is always required for the historical background of the disorder if any.^{18,20}

TREATMENT

In the case of dental intervention of a patient with pica and autism, a dental practitioner must be aware about the suitable therapeutic approaches to cure such cases perfectly. Various techniques may require to be applied with a patient to cure various forms of pica. Results may vary according to the clinical presentation of the disease. Successful dental intervention includes:

- a) Dental fixation
- b) Orthodontic devices
- c) Oral prophylaxis and dental restoration
- d) Medication
- e) Aversion
- f) Multivitamins and mineral supplements

a) **Dental fixation:** It is a process of stabilizing the broken bones and allows them to grow together in proper line and position. It includes two types of fixation: a) Inter-maxillary Fixation and b) Rigid Fixation. These fixations are commonly used by Oral and Maxillofacial surgeons. Inter-maxillary fixation is used to bind the jaws shut with wires or elastic bands to make the improper dentine perfect. Its duration ranges from 6 to 8 weeks. The other kind of fixation is rigid fixation, which is a newer technique. It includes tiny

screws or plates, which are attached directly onto the fractured tooth or jaw bones. It does not require physical binding of the jaws and make them shut.²¹ It is an effective technique used by dentists and oral surgeons in the case of tooth erosion or disruption due to **Lithophagia/Geophagia/Xylophagia**.

- b) **Orthodontic Device:** It is a specialty of dental stream, which is concerned about the designing and fabrication of such dental appliances which are used for treating tooth irregularity, disproportionate tooth or jaw or both. These devices are both of the kinds fixed or removable. In many cases of pica, such kinds of devices are used to restrict the patient from the deterioration of oral hygiene due to pica disorder. In a case of **self-cannibalism** reported by Bouhini et al.(2009), the patient tried to eat himself by chewing his lips, hands and skin of any area of his body. In this case an orthodontic device: **“the lip bumper”** was used in the combination of behavior modification to prevent self-cannibalism. After few sessions, the patient surprisingly reduced the symptoms of the disorder.²²
- c) **Oral prophylaxis and dental restoration:** It is a dental procedure used to remove tartar and plaque building through polishing and scaling. Some special equipment like sonic scalers used to perform prophylaxis.

A dental restoration is also required sometimes in the case of pica disorder; it is a restoration or dental filling done through dental restorative material to restore the function, integrity and morphology of missing tooth and curing the tooth erosion appeared due to caries.²³ A case study presented by Swamy et al.(2011) done on a 22 year unmarried female engineer, diagnosed **Geophagia** (a form of pica disorder) due to excessive intake of chalk. On general physical examination the patient was mild anemic with pallor, well oriented, conscious on oral examination with generalized blanched mucosa, attrition with anterior and posterior teeth, periapical abscess with 46 was noted with poor gingival condition and a thick white non edible material adhering to cervical area of teeth was noted, which was soft and grainy in consistency. Oral prophylaxis and temporary

restoration for 36 and 46 was done successfully and aversion therapy was also used reduce the craving of chalk in the patient.¹

A case study of a 56 year old female was done by Barker, who was a regular dentist of the patient. The lady reported tooth wear. After several examination she was diagnosed **Lithophagia** (chewing of grit and stones). She had iron deficiency in her blood. Examination showed a minor astrophic and depapillated tongue. There was a widespread tooth surface loss due to pica. The treatment of the patient included a combination of fixed and removable prosthodontics including oral iron supplements. In the upper arch, in which porcelain fused to metal crowns were replaced on 14, 13, 12, 11, 21 and 22. Tooth 23 was used as an abutment tooth for a cantilever bridge to replace 24 and gold on lays were placed on 16 and 28. The upper cast had been examined with a surveyor prior to placing the restorations with regard to designing a partial denture. The restorations on 16, 14, 23, 24 (pontic) and 28 were milled to incorporate appropriate rests, undercuts and guide planes and a cobalt-chrome upper partial denture was provided. In the lower arch, a PFM crown was placed on 44 and indirect composite on lays were placed on 43, 32, 41, 31, 32, 33 and 34. The prognosis showed a successful controlling of pica and the oral hygiene was also increased.²⁴

- d) **Medication:** In more severe cases of pica, children are generally placed on medication to control anxiety and improve impulse control. Medications should be discussed with qualified physicians and psychiatrists.

Yagnik et al. 2009 reported a rare case of **Trichophagia** in a 14 year old girl, who was admitted to the hospital with a complaint of pain in epigastric region since last 1 year. On a physical examination, she was found to be pale with mild dehydration and a mild degree of alopecia. After taking an X-ray of abdomen, a sign of small bowel obstruction was seen. This type of disorder was treated with an abdominal surgery and pulled out a mass of hair from the girl' stomach. After the surgery **Prophylactic oral enzyme** and **prokinetic drugs** were persistently given for few months to cure the disorder. Attention control with

psychological therapies was administered to make the patient healthy and away from the cravings of such non-food items.²⁵

- e) **Aversion:** The **aversion** approach is used to prevent pica involves, unpleasant smell, unpleasant flavor mixed with those items, which are intaken by the patients. Whenever the child tries to eat the non-nutritive object, an unpleasant correction is given. The negative results could be a particular noise, sensation or word.

Baker et. al (2005), who was a scholar of University of Medicine and Dentistry of New Jersey, did a study on a person suffering from **coprophagia** and autism, since his childhood and had a very poor oral and gastrointestinal health. The intervention consisted of providing highly spiced, flavoural foods with meals and snack for the person. The persistent intervention till 26 months reduced the coprophagia from severe to zero.²⁶

- f) **Multivitamins and mineral supplements:** As it has been observed in several cases of pica, that it appears due to some deficiency in body mineral, specifically in iron. The persistent eating on non-nutritive items makes the patient's physical and mental health poor. A supplement of lacking minerals and vitamins can reduce the pica activities at a great extent.

A controlled study was done in Central Europe on a sample of pregnant women suffering from **Amylophagia**. After the physical examination a deficiency in iron, potassium and zinc were found in the women. In the dental intervention a therapy of oral iron supplements were done successfully after a few weeks of treatment.²⁷

Apart from above mentioned therapies and techniques, some other therapeutic approaches are also very helpful in the treatment of pica with autism. Such treatments include:

- (i) Positive reinforcement
- (ii) Modeling
- (iii) Sensory alternatives
- (iv) The Pica box
- (v) Attention control
- (vi) Psychological counseling²⁸⁻³⁰

These techniques can be used as an additional effort to prevent pica in an autistic patient. The adjunction

of these techniques with dental intervention may give a rapid improvement in patient's oral, physical and psychological health.

GUIDELINES FOR PROVIDING DENTAL CARE TREATMENT FOR PATIENTS WITH PICA AND AUTISM

To treat the patients Pica with ASD, a dental practitioner needs to be open minded and soft hearted and emotional skills are required more than intellectual and clinical skills. This is quite different and sometimes very challenging for the dentists to practice dentistry and dental hygiene in such cases, but it is frequently a rewarding experience. A thorough detail of the patient's situation can be obtained from the parent/caregiver of the patient through documentation and interviews; on the other hand, as each patient is unique in himself, most of the details should be received from one-on-one experience with the patient. After identifying the patient if he/she is an autistic one, intervention of pica may go slowly at first, but patience and persistent efforts can bring positive results and may be valuable.^{31,32}

The Initial Appointment

The initial appointment with a patient with pica in conjunction of autism should include an interview first of all. A personal and emotional rapport should be established between the patient and dental practitioner including their staff. After taking the required information regarding patient's condition, physical examination should be started initially following the screening of autism with suitable tool. The physical examination and detection of oral hygiene, the intervention and treatment should be started accordingly, which may include scaling, root canal, dental restoration, maxillofacial surgery etc. according to dental condition of the patient. If the patient is a child, ask the parent/caregiver to bring a comfort object or other coping device for the child as well as a second adult or friend who may stay with the child in the course of the appropriate formalities are reviewed with the parent. Before the initial/ subsequent appointment(s) with the patient, photos of the office or a dental story can be sent to the parent/caregiver to familiarize the patient with the office.

33,34

Goals of the Initial Appointment

The major goals of an initial appointment may be as follows:

- a) The primary goal is to establish trust among the family to make them understand that you are a responsible and caring dental professional and concern about their well-being.
- b) Make a difference between the patient's can and cannot activities.
- c) The appointment should not be hurried, and the parent/ caregiver should be present during the appointment.
- d) The information should be reviewed in detail obtained at this interview appointment. Medical information regarding autistic activities of the patient and unusual eating habits should be taken in detail.
- e) All previous dental experiences of patient should be discussed, including daily oral hygiene care, homecare likes and dislikes, tolerance levels, and overall dental expectations.
- f) Oral habits should also be discussed with patient and the caregiver, including the patient's overall diet, sensory chewing habits, snacking frequency, clenching/grinding/bruxism and non-nutritive behaviors.
- g) Many patients with ASD may have food sensitivities and aversions. Thus while conducting treatment maintain a gluten- or casein-free diet, aversions to certain food textures or consistencies, and determine the use or nonuse of specific sensory stimulating foods (e.g., lemon, sour candy, carbonation).
- h) Many ASD patients also experience frequent snacking, as either reinforcement or a treatment modality. An enquiry must be carried out by the dental practitioner about such types and frequency of snacking, in therapies it is an important

part of the interview process in order to assess caries risk factors.³⁵⁻³⁷

CONCLUSION

Review of the literature on pica with autism confirms just how little is known about this common but commonly missed condition. Its causes are related to many factors, and there are many questions about whether pica is a cause of or an effect of metabolic or behavioral states. Accurate diagnosis is delayed because of the late detection of both of the diseases. No specific screening tests for pica are there, but accurate and timely diagnosis can help to prevent the complications of the disorder. If the patient is diagnosed autistic, then their eating habits should always be observed for the detection of developing any kind of eating disorders, frequently pica is observed in autistic patients. A dental practitioner is the earliest one who can detect the pica disorder by observing the oral health of the patient. Emotional skills with clinical skills are required for the treatment of patients with pica and autism. Finally, when pica is diagnosed, appropriate treatments should be carried on according to the type of the pica disorder. With the help of a mental health professional, the intervention of pica with autism can be done successfully.

CONFLICT OF INTEREST

No potential conflict of interest relevant to this article was reported.

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