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Understanding pica (*Fasād al-shahwa*): A guide to unani and contemporary medical perspectives

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Abstract
Eating disorders are a significant global public health issue, with pica representing a distinct condition characterized by the persistent consumption of non-nutritive, non-food substances for at least one month. Within the Unani framework, the condition is understood through concepts such as *Fasād al-Shahwa* (perversion of appetite), a broad category encompassing cravings for non-edible substances, and *Wahm* (illusionary perception), which describes cravings for specific, often extreme, tastes. Historically, pica was recognized by Greek and Roman physicians who categorized this disorder as morbid appetite concerning the quality or nature of the substance ingested. This review provides a comprehensive synthesis of both contemporary medical and traditional Unani perspectives on pica, focusing on its definitions and etiological factors. By integrating contemporary biomedical knowledge with the detailed etiological insights of Unani medicine, this review underscores the value of a combined approach to enhance the understanding of this complex disorder across diverse populations.

Keywords: DSM-5, Geophagia, pica, eating disorders, traditional medicine, unani medicine

Introduction
Eating Disorders (EDs) are a major global public health concern, particularly among children and young people, and are characterized by disturbed attitudes and behaviors regarding food intake, body weight, and body image. According to the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5), the principal eating disorders include anorexia nervosa, bulimia nervosa, binge-eating disorder, and other less common forms such as pica and rumination disorder [1]. Pica is a disorder characterized by a desire to consume unusual non-food substances that lack nutritional value or take food substances in an odd manner, which is not a part of regular dietary habits [2]. The core characteristic of pica is the persistent consumption of one or more non-nutritive, non-food substances for a duration of at least one month [3]. The term 'pica' originates from '*pica pica'*, the Latin name for the magpie, a bird noted for its indiscriminate collection and ingestion of diverse objects driven by both hunger and curiosity [4]. Pica, often described as a corruption of appetite, was recognized by both Greek and Roman physicians, who classified it within medical texts under the category of morbid or depraved appetite; a group that also encompassed bulimia. They distinguished between these two abnormal forms of appetite: bulimia was regarded as a perversion related to the quantity, whereas pica represented a morbid appetite concerning the quality or nature of the substance ingested [5].
This review aims to provide a comprehensive synthesis of both modern biomedical and Unani perspectives on pica, highlighting its definitions, etiological factors. The review underscores the value of integrating traditional and contemporary knowledge to enhance understanding of this complex eating disorder.

Materials and Methods
This review was conducted using a narrative and comparative framework to synthesize information on the concept of pica from both modern medical literature and classical Unani medical texts. A systematic search was performed across major electronic databases including PubMed, ScienceDirect, Scopus, Google Scholar, and ResearchGate for publications between 1990 and 2025. Keywords used were "pica", "eating disorder", "iron deficiency", "geophagia", "*Fasād al-Shahwa*",. Relevant Unani sources such as *Al Aksīr*, *Moalajāt Buqrātiya* and *Kamil us S'ana'* and *Moalajāt Nafīsī* were consulted to extract traditional descriptions, etiological explanations, and classifications.

All retrieved literature was qualitatively assessed for conceptual clarity and contextual relevance. The findings were then organized thematically under headings comparing definitions, etiological factors, and classifications from both paradigms, ensuring a balanced integrative synthesis.

Definition

The Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-V) published by the American Psychiatric Association defines pica as the eating of non-nutritive, non-food substance persistent over a period of at least one month; the eating of such substances is inappropriate to the developmental level of the individual; and the eating behavior is not part of a culturally supported or socially normative practice [2].

Pica can be classified according to the substance ingested, including pagophagia (ice), amylophagia (starch or raw rice), metal-ophagia (paint or metallic items), geophagia (soil, clay, or dirt), trichophagia (hair), and litho-phagia (stones). Multiple factors have been implicated in the practice of pica, including genetic predisposition, traditional customs, cultural and religious influences, nutritional deficiencies, pregnancy-related complications, unintended pregnancies, psychological stress and emotional disturbances, low socio-economic status, learned behaviors, and underlying biochemical disorders [2]. Also though pica is found mainly in children, it is the most common eating disorder in people with intellectual disabilities. This has also been observed in females during pregnancy. For certain cultures Pica is a generally recognized practice, and is not considered pathological [4].

Pica is a globally observed disorder, with the highest prevalence reported among children aged 18 months to six years. It is slightly more common in boys than girls, and its occurrence generally declines with age. Familial factors also appear to play a role, as children with siblings or mothers who exhibit pica show a higher incidence. Pica is frequently observed in pregnant women as well [6].

Diagnostic criteria

In both children and adults, the ICD-10-CM assigns diagnostic codes for pica as F98.3 (childhood onset) and F50.8 (adult onset). The diagnostic features are provided in (Table 1).

Table 1: Diagnostic Criteria for Pica [7]

Criterion	Description
Criterion 1	Persistent ingestion of non-nutritive, non-food substances for a minimum duration of one month.
Criterion 2	The consumption of such substances is inconsistent with the individual's developmental level and cannot be explained by age-appropriate exploratory behavior.
Criterion 3	The behavior does not reflect a culturally sanctioned or socially normative practice.
Criterion 4	When occurring in the context of another mental disorder (e.g., intellectual developmental disorder, autism spectrum disorder, schizophrenia) or a medical condition (including pregnancy), the severity of the eating behavior is sufficient to warrant independent clinical attention.

Unani classical concepts of pica

Pica, as understood in traditional Unani medicine, is a condition rooted in the concept of humoral imbalances, specifically the accumulation of residual waste matter within the body. Unani scholars differentiate between various forms of pica, based on the etiological factors and the type of substance craved [8].

Fasād al-Shahwa* and *Wahm

In Unani system, this condition of disordered eating is often referred to as *Fasād al-Shahwa* (perversion of appetite), which some scholars use synonymously with *Wahm* (illusionary perception). However, a more precise classification exists where *Wahm* describes a pathological state that induces cravings for foods that are excessively sour, bitter, or pungent. In contrast, *Fasād al-Shahwa* (perversion of appetite) is a broader category that encompasses not only these dietary cravings but also the aberrant desire for non-edible substances such as clay, charcoal, chalk, lime, and starch, a phenomenon most notably observed in pregnant women [9].

Epidemiology and prevalence

Epidemiological data on pica remain limited, with the overall prevalence in the general adult population still unclear. Evidence from clinical and special populations, however, suggests considerable variability across demographic groups. In a study of 100 adults with overweight or obesity attending a weight-loss clinic, frequent pica behavior was observed although precise prevalence estimates were not reported. Among individuals with intellectual disabilities, prevalence rates have been documented to range from 0.3% to 14.4% in community settings and from 9% to 25% in institutionalized populations. Pregnant women represent another high-prevalence group, with a meta-analysis of 70 studies reporting an aggregate prevalence of 27.8% (95% CI: 22.8-33.3%), showing marked geographic variation particularly low rates among European women and higher prevalence among those with lower educational attainment and anemia. [10] In the pediatric population, a population-based study of children aged 7 to 14 years identified at least one episode of pica behavior in 12.31% and recurrent behavior in 4.98% of participants [6]. Thus indicating, that pica occurs across diverse populations, with notable clustering among individuals with developmental disorders, pregnant women, and children.

Modern etiological theories

To date, no integrative etiological model of pica disorder exists. Rather, some etiological theories have been postulated. Pica does not have a single cause but arises from a complex biopsychosocial interplay. (Table 2)

- **Nutritional deficiencies**

Pica is listed among the clinical symptoms of iron-deficiency anemia (IDA), indicating a strong association between pica and iron deficiency. Multiple studies have demonstrated a significant association between pica and iron deficiency. A meta-analysis of 83 studies involving 6,407 individuals with pica and 10,277 controls found that pica was associated with 2.35 times higher odds of anemia and lower zinc levels [11]. While some authors propose that pica might induce iron deficiency by replacing dietary iron

sources or inhibiting absorption, others found no evidence that geophagic substances reduce iron absorption. In fact, some believe that iron deficiency itself induces pica, suggesting a causal relationship in the reverse direction. The phenomenon is frequently observed in pregnant women, as a symptom of IDA. Further it may extend to the postpartum period and lactating women as well [12].

- **Psychological and Psychiatric Factors**

Pica has documented associations with mental health conditions, particularly Obsessive-Compulsive Disorder (OCD), schizophrenia, and other psychiatric disorders. Pica may also be categorized within the obsessive-compulsive spectrum in some cases [13]. Stressful environments, maternal deprivation, parental neglect, abuse, and insufficient parent-child interactions elevate the risk for pica [14].

- **Developmental and Behavioral Disorders**

Pica is categorized as one of the challenging behaviors (CBs) that are common in persons with developmental disabilities. Intellectual disability (ID) and autism are identified as the two most prominent developmental disabilities and are a high risk for pica behavior [15].

- **Cultural influences**

Pica is recognized both as a cultural phenomenon and is also widely practiced and socially accepted in various cultures. In parts of India, particularly Western Uttar Pradesh and Eastern rural regions, pregnant women commonly consume mud, clay, ash, lime, charcoal, and brick, often believed to confer health or spiritual benefits. Among the Chagga women of Tanzania, pica is culturally practiced to maintain fertility. Historically in the United States, the consumption of kaolin (white clay) was socially normalized and also commercially supported [16].

Table 2: Various etiological factors for Pica

Etiological Factor	Key Points	Sources
Nutritional Deficiencies	Pica is a clinical symptom of iron-deficiency anemia (IDA) and is closely associated with iron and zinc deficiency Observed frequently in pregnant, postpartum, and lactating women with IDA.	[11, 12]
Psychological & Psychiatric Factors	Associations with OCD, schizophrenia, and other psychiatric disorders. Risk is elevated by environmental stress, parental neglect, maternal deprivation, abuse, and lack of parental interaction.	[13, 14]
Developmental & Behavioral Disorders	Common among individuals with challenging behaviors, particularly those with intellectual disability (ID) and autism.	[15]
Cultural Influences	Pica is socially accepted and culturally practiced in many regions. Pregnant women in parts of India consume substances like mud, clay, ash, lime, charcoal, and brick for perceived health and spiritual benefits.	[16]

Etiological factors from unani perspective

The Unani explanation for pica centers on the accumulation of waste matter, known as *Akhlāt-i-raddiya* (abnormal humours). This buildup is attributed to a variety of factors, leading to different clinical presentations. In Unani medicine, the occurrence of pica is understood to differ between pregnant and non-pregnant individuals. While pica in pregnancy is viewed as a physiological response to the humoral and nutritional changes accompanying gestation, its manifestation in non-pregnant individuals is attributed to disordered digestion and accumulation of corrupt humors arising from improper dietary habits.

- **Pica in Pregnant Women:** According to Unani principles, pica in pregnant women, which typically arises in the first three months of pregnancy, is caused by the cessation of the menstrual cycle and the inefficient use of nutrients for fetal development, leading to a systemic retention of humoral residual matter. These accumulated residues reach the stomach, causing excessive moisture and sluggish digestion. To counteract this imbalance, the body's natural faculty craves dry, absorbent substances like clay. As the pregnancy progresses, the fetus's nutrient requirements increase, and the remaining wastes are gradually utilized, causing the aberrant cravings to subside spontaneously by the fourth month [9, 17].
- **Pica in Non-Pregnant Individuals:** In non-pregnant women, as well as in children and men, Unani theory suggests that pica arises from disordered eating, specifically the indiscriminate mixing of compatible and incompatible foods. This behavior leads to the accumulation of corrupt humors in the blood, which prompts the body to crave dry and absorbent substances to eliminate these wastes. The severity of the disorder is directly correlated with the degree of deviation from habitual dietary norms, with cravings for inedible materials reflecting a more profound humoral corruption [9].

Unani Classification and Manifestations [18]

Pica is classified into two main subtypes based on its transient or persistent nature: *Sarī al-zawāl* (transient cravings) and *Asīr al-zawāl* (persistent cravings). Both share a common therapeutic approach but are distinguished by the degree of digestive weakness and the quantity and quality of humoral corruption. Furthermore, Unani texts categorize specific cravings according to the type of waste accumulated in the body (Table 3).

Table 3: Types of waste and associated craving [18]

Type of Accumulated Waste	Location	Corresponding Craving
Khilt-i-Raddī (abnormal humors)	Gastric mucosa	Clay-like substances
Khilt-Arzī (earthly wastes)	Gastric mucosa	Salty/fermented items
Muharriq Saudāwī (charred black bile)	Gastric mucosa	Ash/charcoal
Balgham Muta'fin (putrid phlegm)	Gastric mucosa	Roasted meats
Khilt-i-Raddī (abnormal humors in uterus)	Uterine region	Complex systemic pathological presentation

Conclusion

Eating disorder pica, particularly affecting children and young people, is emerging as one of the lesser-known but clinically relevant forms. Defined by the persistent consumption of non-nutritive, non-food substances, pica reflects a disturbance in normal dietary behavior and appetite regulation. Pregnant women also frequently exhibit pica, indicating possible physiological or nutritional influences. From the Unani medical perspective, this condition corresponds to *Fasād al-Shahwa* (perversion of appetite) and, in certain forms, *Wahm* (illusory craving), both signifying disordered appetites linked to humoral imbalance. As it is clear, there is an obvious difference between traditional unani and modern perspectives with regard to etiology of pica; but the Unani system provides a multilayered understanding of causation and encourages contemporary medicine to explore hidden or secondary contributors such as disordered eating patterns particularly the indiscriminate mixing of compatible and incompatible foods. Instead, modern frameworks focus on nutritional deficiencies. Therefore, this review elucidates insights embedded within traditional Unani wisdom regarding the potential etiologies of pica, offering conceptual hypotheses that warrant systematic investigation and empirical validation in contemporary research frameworks.

Conflict of Interest

Not available

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