وزارة الصحة
Ministry of Health

MOH Protocol for the Management of Adult Eating Disorder

وزارة الصحة
Ministry of Health

Table of Contents

Introduction 3

A. Aim & Scope 4

B. Targeted Population 4

C. Setting 4

D. End Users 4

E. Methodology 5

F. Updating 5

G. Conflict of Interest 5

H. Funding 5

I. DISCLAIMER 5

Anorexia Nervosa 6

Bulemia Nervosa 9

Binge-Eating Disorder 13

Avoidant/Restrictive Food Intake Disorder (ARFID) 16

Pica 17

RUMINATION DISORDER 18

Reference 19

Introduction

Eating disorders (EDs) are a group of syndromes characterized by eating behaviors and psychological disorders accompanied by weight changes and/or social disorders that have a significant influence on quality of life and social function [1, 2]. Moreover, individuals with eating disorders may develop severe somatic complications that can cause a higher risk of suicide [3] and increased mortality rates, especially anorexia nervosa (AN) [4], one of the main types, with a fatality rate as high as 5–20% [5].

The criteria of eating disorders evolved over time. In the Diagnostic and statistical Manual of Mental Disorders, 4th edition (DSM-IV) [6], eating disorders include anorexia nervosa (AN), bulimia nervosa (BN), and eating disorder not otherwise specified (EDNOS). EDNOS is a complex diagnosis recognized as all eating disorders that do not meet the diagnostic criteria of AN or BN or cannot be categorized into either of the two. Binge eating disorder (BED) is also classified into EDNOS and is listed in appendix. However, recent studies found that the impact of physical and psychological damage caused by EDNOS is no less than that caused by the classic eating disorder types AN or BN [7]. In the DSM-5 issued in 2013 [8], the diagnostic categories of eating disorders were expanded to "feeding and eating disorders", in which feeding and eating disorders first seen in infants and early childhood were included. Binge eating disorder (BED) was listed individually in the diagnostic criteria. Exclusive of AN, BN and BED, the rest are classified as other specified feeding and eating disorder (OSFED) and unspecified feeding and eating disorder (UFED). OSFED refers to eating disorders that can lead to patients' clinical suffering or damage to social function, such as atypical AN, atypical BN, atypical BED, purging disorder, and night eating syndrome, which do not meet the criteria for AN, BN or BED. Other eating disorders that cause clinical suffering or impaired social function in patients but do not meet the diagnostic conditions listed above are classified as UFED. Apart from the changes in classification, the diagnostic criteria of all types of eating disorders were relaxed in DSM-5. The weight loss requirement has been relaxed, and the requirement of "amenorrhea" has been removed in AN. In the diagnosis of BN, the frequency of binge eating or unduly compensational behavior was lowered from twice a week to once a week. Similarly, the frequency of binge eating in BED diagnostic criteria has also been lowered to once a week.

The goal of this guideline is to improve the quality of care and treatment outcomes for patients with eating disorders, as defined by the Diagnostic and Statistical Manual of Mental Disorders, 5th Edition (DSM-5; American Psychiatric Association 2013). there are still substantial gaps in the availability and use of evidence-based treatments for individuals with an eating disorder (Kazdin et al. 2017) [9]. This practice guideline aims to help clinicians improve care for their patients by reviewing current evidence and providing evidence-based statements that are intended to enhance knowledge, increase assessment, and optimize treatment of eating disorders.

The lifetime prevalence of eating disorders in the United States is approximately 0.80% for AN, 0.28% for BN, and 0.85% for BED (Udo and Grilo 2018) [10]., although estimates can vary depending on the study location, sample demographic characteristics, case finding, and diagnostic approaches (Galmiche et al. 2019; Santomauro et al. 2021; Wu et al. 2020) [11,12,13]. Importantly, the lifetime burdens and psychosocial impairments associated with an eating disorder can be substantial because these illnesses

can persist for decades, and they typically have an onset in adolescence or early adulthood (Udo and Grilo 2018) [10].

Eating disorders are associated with increases in all-cause mortality and deaths due to suicide (Auger et al. 2021; Nielsen and Vilmar 2021; Tith et al. 2020; van Hoeken and Hoek 2020) [14,15,16,17]. Rates of suicide attempts are also increased in individuals who have an eating disorder (Keski-Rahkonen 2021; Smith et al. 2018; Udo et al. 2019) [18,19,20].

Accordingly, the overall goal of this guideline is to enhance the assessment and treatment of eating disorders, thereby reducing the mortality, morbidity, and significant psychosocial and health consequences of these important psychiatric conditions.

Although several guidelines attempted to categorize the Eating Disorders and list an optimal approach to treat it, in Saudi Arabia we lack a national guideline for clinicians and end users. In this guideline we reviewed multiple international guidelines in order to improve the clinical practice up to the latest evidence and international health standers. In this guideline, we followed the ICD-10 criteria (international classification of diseases) in parallel with other diagnostic criteria DSM-5 (diagnostic statistical manual criteria), as they are widely used in clinical practice worldwide.

A. Aim & Scope

The protocol is considered to be a useful resource for health professionals working in settings where they will be caring for people with Eating Disorders. The general goal of these protocols is to deliver evidence-based recommendations on the pharmacological and non-pharmacological management in patients with Eating Disorders.This protocol also aimed to propose updated decision-making algorithms for practitioners involved in the treatment of these patients. Having a MOH protocol for managing Eating Disorders on hand, to be a reference for management will be of a good help to health care providers and end users.

B. Targeted Population

This consensus applies to children and adults who have been diagnosed with Eating Disorders, as well as their relatives/caregivers and all healthcare professionals who provide them with aid, treatment, or care at the level of specialized mental health care.

C. Setting

– Eradah Complex for Mental Health.

– Psychiatric clinics in MOH General Hospitals.

D. End Users

Psychiatry Consultants, Specialists and Residents, primary care physicians, Psychiatry clinical pharmacists, Pharmacists, Nurses.

E. Methodology

This is the first version of the Saudi practical protocol on the management of Eating Disorders.

This protocol development is completed through 2 phases:

Phase 1: A committee of professional psychiatrists examined numerous published recommendations for Eating Disorders management and created an appropriate protocol for MOH health care providers as part of a Saudi Arabian Ministry of Health initiative. Started with literature review and the MOH formulary along with reviewing multiple published protocols by the teamwork of a group of psychiatric consultants and Specialized Pharmacist.

A total of 3 protocols were reviewed, including the United Kingdom protocol of the National Institute for Health and Care Excellence (NICE), the United States American Psychiatric Association (APA) protocol ,and Canadian clinical practice guidelines.

Phase 2: The protocol was sent to a group of experts in adult psychiatry to put their input and provide their review, Followed by Further meeting and assessment for the feedback by the committee.

F. Updating

The first version of this guidance was created in 2022. The guidance will be updated every 3 years or if any changes or updates are released by international/national protocols, pharmacotherapy references, or MOH formulary.

G. Conflict of Interest

This guidance was developed based on valid scientific evidence. No financial relationships with pharmaceutical, medical device, and biotechnology companies.

H. Funding

No fund was provided.

I. DISCLAIMER

This Clinical protocol is an evidence-based decision-making tool for managing health conditions. It is based on the best information that is available at the time of writing and is to be updated regularly. This protocol is not intended to be followed as a rigid treatment protocol. It is also not meant to replace clinical judgment of practicing physicians, it's only a tool to help managing patients with Eating Disorder . Treatment decisions must always be made on an individual basis, and prescribing physicians must customize care and tailor treatment regimens to patients' unique situations and health histories. For dosage, special warnings and precautions for usage, contraindications, and monitoring of side effects and potential risks, physicians should check the approved product monographs within their institution's formulary. When choosing treatment options, take into account any constraints imposed by the institution's formulary. During the decision-making process for picking specific drugs within a recommended specialized class, prescribing physicians should consult their institution's formularies

وزارة الصحة
Ministry of Health

Anorexia Nervosa

General principles in Assessment and Management of Anorexia Nervosa:

A. DSM-5 criteria : (1)

- Restriction of energy intake relative to requirements, leading to a significantly low body weight in the context of age, sex, developmental trajectory, and physical health. Significantly low weight is defined as a weight that is less than minimally normal or, for children and adolescents, less than that minimally expected.
- Intense fear of gaining weight or of becoming fat, or persistent behavior that interferes with weight gain, even though at a significantly low weight.
- Disturbance in the way in which one's body weight or shape is experienced, undue influence of body weight or shape on self-evaluation, or persistent lack of recognition of the seriousness of the current low body weight.

Subtypes:

- Restricting type: During the last 3 months, the individual has not engaged in recurrent episodes of binge eating or purging behavior (i.e., self-induced vomiting or the misuse of laxatives, diuretics, or enemas). This subtype describes presentations in which weight loss is accomplished primarily through dieting, fasting, and/or excessive exercise.
- Binge-eating/purging type: During the last 3 months, the individual has engaged in recurrent episodes of binge eating or purging behavior (i.e., self-induced vomiting or the misuse of laxatives, diuretics, or enemas).

Level of Severity		
Mild	BMI	**>17 kg/m2**
Moderate	BMI	**16-16.99 kg/m2**
Severe	BMI	**15-15.99 kg/m2**
Extreme	BMI	**< 15kg/m2**

- Physical signs of:
  - malnutrition, including poor circulation, dizziness, palpitations, fainting or pallor.
  - unexplained electrolyte imbalance or hypoglycemia.
  - atypical dental wear (such as erosion). (NICE guideline 23 May 2017)

B. Management: (2)

- **Medical Stabilization**
  - (normalization of vital signs, electrolytes , and fluid balance)
- **Nutritional Rehabilitation**
  - (restore weight, correct biological and psychological sequelae of malnutrition, normalize eating patterns, and achieve normal perceptions of hunger and satiety)
- **Weight Restoration**
  - Setting Individualized Goals for Caloric Intake and Weekly Weight Gain (take several months)
  - Setting Individually Determined Target Weights:
  - Assessment of the patient premorbid height weight and BMI percentiles, menstrual history and current pubertal stage (3)

Psychological treatment for anorexia nervosa in adults (4)

For adults with anorexia nervosa, consider one of:

- individual eating-disorder-focused cognitive behavioral therapy (CBT-ED)
- Maudsley Anorexia Nervosa Treatment for Adults (MANTRA)
- specialist supportive clinical management (SSCM)

Individual CBT-ED program for adults with anorexia nervosa should:

- typically consist of up to 40 sessions over 40 weeks, with twice-weekly sessions in the first 2 or 3 weeks.
- aim to reduce the risk to physical health and any other symptoms of the eating disorder.
- encourage healthy eating and reaching a healthy body weight.
- cover nutrition, cognitive restructuring, mood regulation, social skills, body image concern, self-esteem, and relapse prevention.
- create a personalized treatment plan based on the processes that appear to be maintaining the eating problem.
- explain the risks of malnutrition and being underweight.
- enhance self-efficacy.
- include self-monitoring of dietary intake and associated thoughts and feelings.
- include homework, to help the person practice in their daily life what they have learned.

MANTRA for adults with anorexia nervosa should:

- typically consist of 20 sessions, with:
- weekly sessions for the first 10 weeks, and a flexible schedule after this — up to 10 extra sessions for people with complex problems.
- base treatment on the MANTRA workbook
- motivate the person and encourage them to work with the practitioner.
- be flexible in how the modules of MANTRA are delivered and emphasized.
- when the person is ready, cover nutrition, symptom management, and behavior change.
- encourage the person to develop a 'non-anorexic identity'.
- involve family members or careers to help the person: - understand their condition and the problems it causes and the link to the wider social context - change their behavior.

Focal psychodynamic therapy (FPT):

- typically consist of up to 40 sessions over 40 weeks.
- make a patient-centered focal hypothesis that is specific to the individual and addresses:
    - what the symptoms mean to the person.
    - how the symptoms affect the person.
    - how the symptoms influence the person's relationships with others and with the therapist.
- in the first phase, focus on developing the therapeutic alliance between the therapist and person with anorexia nervosa, addressing pro-anorexic behavior and ego-syntonic beliefs (beliefs, values and feelings consistent with the person's sense of self) and building self-esteem.

Medication for anorexia nervosa:

- Do not offer medication as the sole treatment for anorexia nervosa, as no licensed medication currently(5).
- co-morbid disorders: antidepressants are used to treat co-morbid major depressive disorder and obsessive compulsive disorder (6)

Weight Maintenance/Stabilization:

- existing data suggest that patients are at the highest risk for relapse during the first year following treatment and elevated risk extending into the second year (7)
- continuation of treatment after patients have completed weight restoration is important to support maintenance of weight gain and help prevent the return to prior patterns of eating behavior.

وزارة الصحة
Ministry of Health

Bulemia Nervosa

General principles in Assessment and Management of Bulemia Nervosa

A- Assessment:

To diagnose Bulimia Nervosa, use DSM-5 criteria. DSM-5 diagnosis of BN:

A. Recurrent episodes of binge eating. An episode of binge eating is characterized by both of the following:

- Eating, in a discrete period of time (e.g., within any 2-hour period), an amount of food that is definitely larger than what most individuals would eat in a similar period of time under similar circumstances.
- A sense of lack of control over eating during the episode (e.g., a feeling that one cannot stop eating or control what or how much one is eating).

B. Recurrent in appropriate compensatory behaviors in order to prevent weight gain, such as self-induced vomiting; misuse of laxatives, diuretics, or other medications; fasting; or excessive exercise.

C. The binge eating and inappropriate compensatory behaviors both occur, on average, at least once a week for 3 months.

D. Self-evaluation is unduly influenced by body shape and weight.

E. The disturbance does not occur exclusively during episodes of anorexia nervosa.

Specify if:

In partial remission: After full criteria for bulimia nervosa were previously met, some, but not all, of the criteria have been met for a sustained period of time.

In full remission: After full criteria for bulimia nervosa were previously met, none of the criteria have been met for a sustained period of time.

Specify current severity:

The minimum level of severity is based on the frequency of inappropriate compensatory behaviors.

The level of severity may be increased to reflect other symptoms and the degree of functional disability.

Mild: An average of 1–3 episodes of inappropriate compensatory behaviors per week.

Moderate: An average of 4–7 episodes of inappropriate compensatory behaviors per week.

Severe: An average of 8–13 episodes of inappropriate compensatory behaviors per week.

Extreme: An average of 14 or more episodes of inappropriate compensatory behaviors per week.

Associated symptoms

- Individuals with bulimia nervosa typically are within the normal weight or overweight range (body mass index [BMI] > 18.5 and < 30 in adults).
- Fluid and electrolyte disturbances
- Esophageal tears
- Gastric rupture
- Cardiac arrhythmias
- Cardiac and skeletal myopathies
- Individuals who chronically abuse laxatives may become dependent on their use to stimulate bowel movements.
- Rectal prolapse
- Gastrointestinal symptoms
- Menstrual irregularity or amenorrhea

Diagnostic Markers:

- No specific diagnostic test for bulimia nervosa currently exists. However,
- several laboratory abnormalities may occur as a consequence of purging and may increase diagnostic certainty: hypokalemia (which can provoke cardiac arrhythmias)
- hypochloremia
- hyponatremia
- Metabolic alkalosis
- Metabolic acidosis
- elevated levels of serum amylase

Physical examination:

Examination usually yields no physical findings but in some case it may show specific finding for example :

- Significant and permanent loss of dental enamel
- Dental caries
- Enlarged parotid glands
- Calluses or scars on the dorsal surface of the hand
- Cardiac and skeletal myopathies have been reported among individuals following repeated use of syrup of ipecac to induce vomiting

B-Management

1-Psychological interventions in Bulimia nervosa

Psychological interventions should be considered first line for bulimia.

CBT

- When used for the treatment of BN, CBT is commonly delivered in an individual format, but group CBT is also effective (Agras et al. 1989; Chen et al. 2003; Davis et al. 1999; Fairburn et al. 1993; Freeman et al. 1988; Ghaderi 2006; Grenon et al. 2017; Griffiths et al. 1994, 1996; Leitenberg et al. 1988; Nevonen and Broberg 2006; Sundgot-Borgen et al. 2002; Treasure et al. 1994). CBT for BN has typically been delivered based on the CBT-E approach of Fairburn and colleagues , participants received 14 to 21 sessions of CBT, each lasting 40 to 60 minutes.
- In clinical practice, some patients may require more than 21 sessions of CBT for full treatment response, and some may require a longer period with less frequent sessions to maintain treatment gains.

Focused Family-Based Treatment

- FBT has evidence of benefits in the treatment of BN for adolescents or emerging adults who reside with family or other care partners who are able to participate in treatment
- It focuses on addressing the secrecy, shame, and dysfunctional eating patterns of BN by developing a more collaborative relationship with parents or other care partners. As a result, adolescents and emerging adults are assisted in resuming a typical developmental trajectory.

Other Psychotherapies

- Evidence for psychotherapies other than CBT is more limited; however, some clinicians incorporate other psychotherapeutic approaches, such as interpersonal or psychodynamic therapies.
- Other therapeutic modifications can also be considered for example, integrative cognitive-affective therapy showed efficacy compared to CBT-E

2 -Pharmacological in Bulimia Nervosa:

- Fluoxetine is preferred as a medication choice because it has the greatest strength of research evidence showing efficacy in BN (Fluoxetine Bulimia Nervosa Collaborative Study Group 1992; Goldstein et al. 1995; Kanerva et al. 1995; Mitchell et al. 2001),
- Studies show that high doses of fluoxetine (e.g., 60 mg daily) are more effective in treatment of BN than doses of 20 mg daily (Fluoxetine Bulimia Nervosa Collaborative Study Group 1992).
- In terms of monitoring for side effects during treatment, insomnia, nausea, and asthenia were seen in 25% to 33% of patients at the dosage of 60 mg/day and sexual side effects were common in the multicenter fluoxetine trials
- For patients who have responded to fluoxetine, limited evidence supports continuing fluoxetine for relapse prevention (Romano et al. 2002), typically for a minimum of 9 months

- Other SSRI antidepressants may be used in patients who are unable to tolerate fluoxetine or who prefer a different medication; however, evidence is limited on the effects of other SSRIs or other antidepressants in BN.
- Caution is needed with citalopram, however, as its use has been associated with QTc prolongation at doses higher than 40 mg daily (Lexicomp 2021)
- Clinicians should attend to the boxed warning relating to antidepressants in young adults and discuss the potential benefits and risks of antidepressant treatment with patients if such medications are to be prescribed (United States Food and Drug Administration 2018)
- Bupropion is contraindicated for use in individuals with BN, given the increased risk of seizures observed in individuals with bulimia in early clinical trials of high-dose immediate release bupropion (Horne et al. 1988; Pesola and Avasarala 2002).
- For individuals who are receiving treatment with lithium, caution is needed to avoid toxicity due to dehydration in patients who vomit or purge using laxatives.

وزارة الصحة
Ministry of Health

Binge-Eating Disorder

General principles in Assessment and Management of Binge-Eating Disorder

A. Assessment: DSM-5 diagnosis of binge eating disorder:

A. Recurrent episodes of binge eating. An episode of binge eating is characterized by both of the following:

- Eating, in a discrete period of time (e.g., within any 2-hour period), an amount of food that is definitely larger than what most people would eat in a similar period of time under similar circumstances.
- A sense of lack of control over eating during the episode (e.g., a feeling that one cannot stop eating or control what or how much one is eating).

B. The binge-eating episodes are associated with three (or more) of the following:

- Eating much more rapidly than normal.
- Eating until feeling uncomfortably full.
- Eating large amounts of food when not feeling physically hungry.
- Eating alone because of feeling embarrassed by how much one is eating.
- Feeling disgusted with one self, depressed or very guilty afterward.

C. Marked distress regarding binge eating is present.

D. The binge eating occurs, on average, at least once a week for 3 months.

E. The binge eating is not associated with the recurrent use of inappropriate compensatory behavior as in bulimia nervosa and does not occur exclusively during the course of bulimia nervosa or anorexia nervosa.

Specify if:

In partial remission: After full criteria for binge-eating disorder were previously met, binge eating occurs at an average frequency of less than one episode per week for a sustained period of time. In full remission: After full criteria for binge-eating disorder were previously met, none of the criteria have been met for a sustained period of time.

Specify current severity: The minimum level of severity is based on the frequency of episodes of binge eating (see below). The level of severity may be increased to reflect other symptoms and the degree of functional disability.

Mild: 1–3 binge-eating episodes per week.

Moderate: 4–7 binge-eating episodes per week.

Severe: 8–13 binge-eating episodes per week.

Extreme: 14 or more binge-eating episodes per week.

B. Management

1- Psychological treatment for binge eating disorder in adults

- Explain to people with binge eating disorder that psychological treatments aimed at treating binge eating have a limited effect on body weight and that weight loss is not a therapy target in itself.
- Offer a binge-eating-disorder-focused guided self-help programs to adults with binge eating disorder.

Binge-eating-disorder-focused guided self-help programs for adults should:

- use cognitive behavioral self-help materials - focus on adherence to the self-help program
- supplement the self-help program with brief supportive sessions (for example, 4 to 9 sessions lasting 20 minutes each over 16 weeks, running weekly at first)
- focus exclusively on helping the person follow the program
- If guided self-help is unacceptable, contraindicated, or ineffective after 4 weeks, offer group eating-disorder-focused cognitive behavioral therapy (CBT-ED).

Group CBT-ED program for adults with binge eating disorder should:

- Typically consist of 16 weekly 90-minute group sessions over 4 months
- Focus on psychoeducation, self-monitoring of the eating behavior and helping the person analyze their problems and goals
- Include making a daily food intake plan and identifying binge eating cues
- Include body exposure training and helping the person to identify and change negative beliefs about their body
- Help with avoiding relapses and coping with current and future risks and triggers.

✓ If group CBT-ED is not available or the person declines it, consider individual CBT-ED for adults with binge eating disorder.
✓ Individual CBT-ED for adults with binge eating disorder should: o Typically consist of 16 to 20 sessions
✓ Develop a formulation of the person's psychological issues, to determine how dietary and emotional factors contribute to their binge eating
✓ based on the formulation:
  - o advise people to eat regular meals and snacks to avoid feeling hungry
  - o address the emotional triggers for their binge eating, using cognitive restructuring, behavioral experiments and exposure
  - o include weekly monitoring of binge eating behaviors, dietary intake and weight
  - o share the weight record with the person o address body-image issues if present
  - o explain to the person that although CBT-ED does not aim at weight loss, stopping binge eating can have this effect in the long term

- advise the person not to try to lose weight (for example, by dieting) during treatment, because this is likely to trigger binge eating.

2- Pharmacological in Binge eating disorder

- Studies suggest that adults with binge-eating disorder who prefer medication or have not responded to psychotherapy alone be treated with either an antidepressant medication.
- Systematic reviews confirm the modest efficacy of SSRIs (based on a high quality RCT50).
- There is some reasonable evidence that Topiramate reduces frequency of binge-eating (although it is often poorly tolerated
- Limited evidence for the usefulness of bupropion, duloxetine, lamotrigine, Zonisamide, Acamprosate and sodium Oxybate .

وزارة الصحة
Ministry of Health

Avoidant/Restrictive Food Intake Disorder (ARFID)

ARFID now exists as an eating disorder clinically distinct from Anorexia Nervosa and Bulimia Nervosa. The diagnostic criteria for it are defined in DSM5 as follows:

1. An eating or feeding disturbance (e.g. apparent lack of interest in eating or food; avoidance based on the sensory characteristics of food; concern about aversive consequences of eating) as manifested by persistent failure to meet appropriate nutritional and/or energy needs associated with one (or more) of the following:

- Significant weight loss (or failure to achieve expected weight gain or faltering growth in children).
- Significant nutritional deficiency.
- Dependence on enteral feeding or oral nutritional supplements.
- Marked interference with psychosocial functioning.

2. The disturbance is not better explained by lack of available food or by associated culturally sanctioned practice.

3. The eating disturbance does not occur exclusively during the course of anorexia nervosa or bulimia nervosa, and there is no evidence of a disturbance in the way in which one's body weight or shape is experienced.

4. The eating disturbance is not attributable to a concurrent medical condition or not better explained by another mental disorder. When the eating disturbance occurs in the context of another condition or disorder, the severity of the eating disturbance exceeds that routinely associated with the condition or disorder and warrants additional clinical attention.

Treatment

Further investigation is necessary to determine the most effective treatment for avoidant-restrictive food intake disorder (ARFID).

Re-feeding and behavioral interventions are often necessary to ameliorate the effects of semi-starvation and achieve medical stability.

Behavioral modification such as expanding the variety of foods consumed and learning how to manage anxiety around new foods can help achieve weight gain.

Cognitive behavioral therapy (CBT) can be employed to help ARFID patients change the thought patterns that underlie their eating disturbance.

Exposure therapy may also help patients tolerate anxiety-provoking foods or the physical process of consuming feared foods.

Psychiatric medications.

No evidence-based pharmacologic treatment has been identified for managing avoidant-restrictive food intake disorder (ARFID). Further research is necessary to determine if antidepressants or anxiolytics may be helpful, especially for patients whose depression and/or anxiety inhibit food intake.

Pica

Background

Pica is typically defined as persistent ingestion of nonnutritive substances for at least 1 month at an age for which this behavior is developmentally inappropriate, and the behavior must not be part of a culturally sanctioned practice. [1]

Pica is observed most frequently in children and may last to adolescence. It is most common in individuals with developmental disabilities, such as autism spectrum disorder (ASD) and intellectual disability (ID).

Pica has also been observed in females during pregnancy, individuals with sickle cell disease, or in patients with micronutrient deficiencies. [3, 5, 6] Pica may also coexist with avoidant/restrictive food intake disorder, especially when there is a strong sensory component to the presentation.

Etiology

Although the etiology of pica is unknown, numerous hypotheses have been advanced to explain the phenomenon, including nutritional, psychosocial, and biochemical origin.

Deficiencies in iron, calcium, zinc, and other nutrients (eg, thiamine, niacin, and vitamins C and D) have been associated with pica, [2]

Epidemiology

Pica is reported most commonly in children, and typically occurs with equal frequency in boys and girls. Pica is most frequently observed during the second and third years of life and is considered developmentally inappropriate in children older than 18-24 months. Research suggests that pica occurs in 25–33% of young children and 20% of children seen in mental health clinics. A linear decrease in pica occurs with increasing age. [3]

Treatment

The first step in determining the appropriate treatment of pica is to investigate the specific situation whenever possible. When pica occurs in the context of child neglect or maltreatment, those circumstances must be immediately corrected. Exposure to toxic substances, such as lead, must also be eliminated. No definitive treatment exists for pica per se beyond education and behavior modification. Treatments emphasize psychosocial, environmental, behavioral, and family guidance approaches. It is essential to address significant psychosocial stressors. When lead is present in the surroundings, it must be eliminated or rendered inaccessible, or the child and their family should move.

RUMINATION DISORDER

Rumination is an effortless and painless regurgitation of partially digested food into the mouth soon after a meal, which is either swallowed or spit out. We can observe rumination in developmentally normal infants who put their thumb or hand in the mouth, suck their tongue rhythmically, and arch their back to initiate regurgitation. We may observe this pattern in infants who receive inadequate emotional interaction and have learned to soothe and may stimulate themselves through rumination.

Epidemiology

Rumination is a rare disorder. It seems to be more common among male infants and emerges between 3 months and 1 year of age. It persists more frequently among children, adolescents, and adults with intellectual disability. Adults with rumination usually are normal weight.

Treatment

The treatment of rumination disorder is often a combination of education and behavioral techniques. Sometimes, an evaluation of the mother–child relationship reveals deficits that can be influenced by offering guidance to the mother. Behavioral interventions, such as habit-reversal, can reinforce an alternate behavior that becomes more compelling than the behaviors leading to regurgitation.

وزارة الصحة
Ministry of Health

Reference

1. Hay P, Mitchison D, Collado AEL, González-Chica DA, Stocks N, Touyz S (2017) Burden and health-related quality of life of eating disorders, including Avoidant/Restrictive Food Intake Disorder (ARFID), in the Australian population. J Eat Disord 5(1):21
2. Pohjolainen V, Koponen S, Rsnen P, Roine RP, Sintonen H, Karlsson H (2016) Long-term health-related quality of life in eating disorders. Qual Life Res 25(9):2341–2346
3. Keski-Rahkonen A, Mustelin L (2016) Epidemiology of eating disorders in Europe: prevalence, incidence, comorbidity, course, consequences, and risk factors. CurrOpin Psychiatry 29(6):340–345
4. Smink FR, van Hoeken D, Hoek HW (2012) Epidemiology of eating disorders: incidence, prevalence and mortality rates. Curr Psychiatry Rep 14(4):406–414
5. 陈珏. 进食障碍诊疗新进展及其对全科医生的启示. **中国全科医学**. (2019)
6. Association AP (2009) Diagnostic and statistical manual of mental disorders, Fourth Edition (DSM-IV). Am Psych Ass 2009:42
7. Thomas JJ, Vartanian LR, Brownell KD (2009) The relationship between eating disorder not otherwise specified (EDNOS) and officially recognized eating disorders: meta-analysis and implications for DSM. Psychol Bull 135(3):407–433
8. Organization AP (2013) Diagnostic and statistical manual of mental disorders (5th ed.). American Psychiatric Association, Hoboken
9. Kazdin AE, Fitzsimmons-Craft EE, Wilfley DE: Addressing critical gaps in the treatment of eating disorders. Int J Eat Disord 50(3):170-189, 2017 28102908
10. Udo T, Grilo CM: Prevalence and correlates of DSM-5-defined eating disorders in a nationally representative sample of U.S. adults. Biol Psychiatry 84(5):345-354, 2018 [Epub 2018 Apr 17] 2985963
11. Galmiche M, Déchelotte P, Lambert G, Tavolacci MP: Prevalence of eating disorders over the 2000-2018 period: a systematic literature review. Am J Clin Nutr 109(5):1402-1413, 2019 31051507
12. Santomauro DF, Melen S, Mitchison D, et al: The hidden burden of eating disorders: an extension of estimates from the Global Burden of Disease Study 2019. Lancet Psychiatry 8(4):320-328, 2021 [Epub 2021 Mar 3] 33675688
13. Liu B, Du Y, Wu Y , el : Trends in obesity and adiposity measures by race or ethnicity among adults in the United States 2011-18: population based study. BMJ 372:n365, 2021 33727242
14. Auger N, Potter BJ, Ukah UV, et al: Anorexia nervosa and the long-term risk of mortality in women. World Psychiatry 20(3):448-449, 2021 34505367
15. Nielsen S, Vilmar JW: What can we learn about eating disorder mortality from eating disorder diagnoses at initial assessment? A Danish nationwide register follow-up study using record linkage, encompassing 45 years (1970-2014). Psychiatry Res 303:114091, 2021 [Epub 2021 Jun 30] 34246009
16. Tith RM, Paradis G, Potter BJ, et al: Association of bulimia nervosa with long-term risk of cardiovascular disease and mortality among women. JAMA Psychiatry 77(1):44-51, 2020 31617882
17. van Hoeken D, Hoek HW: Review of the burden of eating disorders: mortality, disability, costs, quality of life, and family burden. Curr Opin Psychiatry 33(6):521-527, 2020 32796186

18. Keski-Rahkonen A: Epidemiology of binge eating disorder: prevalence, course, comorbidity, and risk factors. Curr Opin Psychiatry 34(6):525-531, 2021 34494972
19. Smith AR, Zuromski KL, Dodd DR: Eating disorders and suicidality: what we know, what we don't know, and suggestions for future research. Curr Opin Psychol 22:63-67, 2018 [Epub 2017 Aug 12] 28846874
20. Udo T, Bitley S, Grilo CM: Suicide attempts in US adults with lifetime DSM-5 eating disorders. BMC Med 17(1):120, 2019 31234891

Anorexia Nervosa

1. (The Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) is the 2013 publication of the American Psychiatric Association (APA) classification and assessment tool).
2. The American Psychiatric Association Practice Guideline for the Treatment of Patients with Eating Disorders.
3. (Golden et al. 2015a).
4. (NICE guideline 23 May 2017).
5. Frank GKW. Pharmacotherapeutic strategies for the treatment of anorexia nervosa – too much for one drug? Expert Opin Pharmacother 2020; 21:1045–1058.
6. National Institute for Health and Care Excellence. Eating disorders: recognition and treatment. NICE guideline 69, 2017.
7. (Berends et al. 2018)

BULIMIA NERVOSA & BINGE EATING

1. Maudsley
2. APA
3. DSM5

AVOIDANT RESTICTIVE FOOD INTAKE DISORDER

1. American Psychiatric Association, American Psychiatric Association DSM-5 Task Force. Diagnostic and statistical manual of mental disorders : DSM-5. 5th ed. ed. Arlington, VA; 2013.
2. Mammel KA, Ornstein RM. Avoidant/restrictive food intake disorder: a new eating disorder diagnosis in the diagnostic and statistical manual 5. Curr Opin Pediatr 2017. August;29(4):407–413.
3. Bryant-Waugh R. Avoidant restrictive food intake disorder: an illustrative case example. Int J Eat Disord. 2013 Jul. 46 (5):420-3.
4. Steinglass JE, Sysko R, Mayer L, Berner LA, Schebendach J, Wang Y, et al. Pre-meal anxiety and food intake in anorexia nervosa. Appetite. 2010 Oct. 55 (2):214-8.

وزارة الصحة
Ministry of Health

PICA & RUMINATION DISORDER

1. American Psychiatric Association. DSM-IV-TR: Diagnostic and Statistical Manual of Mental Disorders, Text Revision. American Psychiatric Press. 2000:103-105.
2. McNaughten B, Bourke T, Thompson A. Fifteen-minute consultation: the child with pica. Arch Dis Child Educ Pract Ed. 2017 Oct. 102 (5):226-229. [QxMD MEDLINE Link].
3. Leung AKC, Hon KL. Pica: A Common Condition that is Commonly Missed - An Update Review. Curr Pediatr Rev. 2019. 15 (3):164-[QxMD MEDLINE Link].
4. Mishori R, McHale C. Pica: an age-old eating disorder that's often missed. J Fam Pract. 2014 Jul. 63 (7):E1-4. [QxMD MEDLINE Link].
5. Issaivanan M, Ahmed R, Shekher M, Esernio-Jenssen D, Manwani D. Sickle cell disease and plumbism in children. Pediatr Blood Cancer. 2009 May. 52 (5):653-6. [QxMD MEDLINE Link].
6. Rodrigues N, Shih S, Cohen LL. Pica in Pediatric Sickle Cell Disease. J Clin Psychol Med Settings. 2021 Mar. 28 (1):6-[QxMD MEDLINE Link].