Eating Disorder

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Definition

Refer to a group of conditions defined by abnormal eating habits that may involve either insufficient or excessive food intake to the detriment of an individual's physical and mental health.

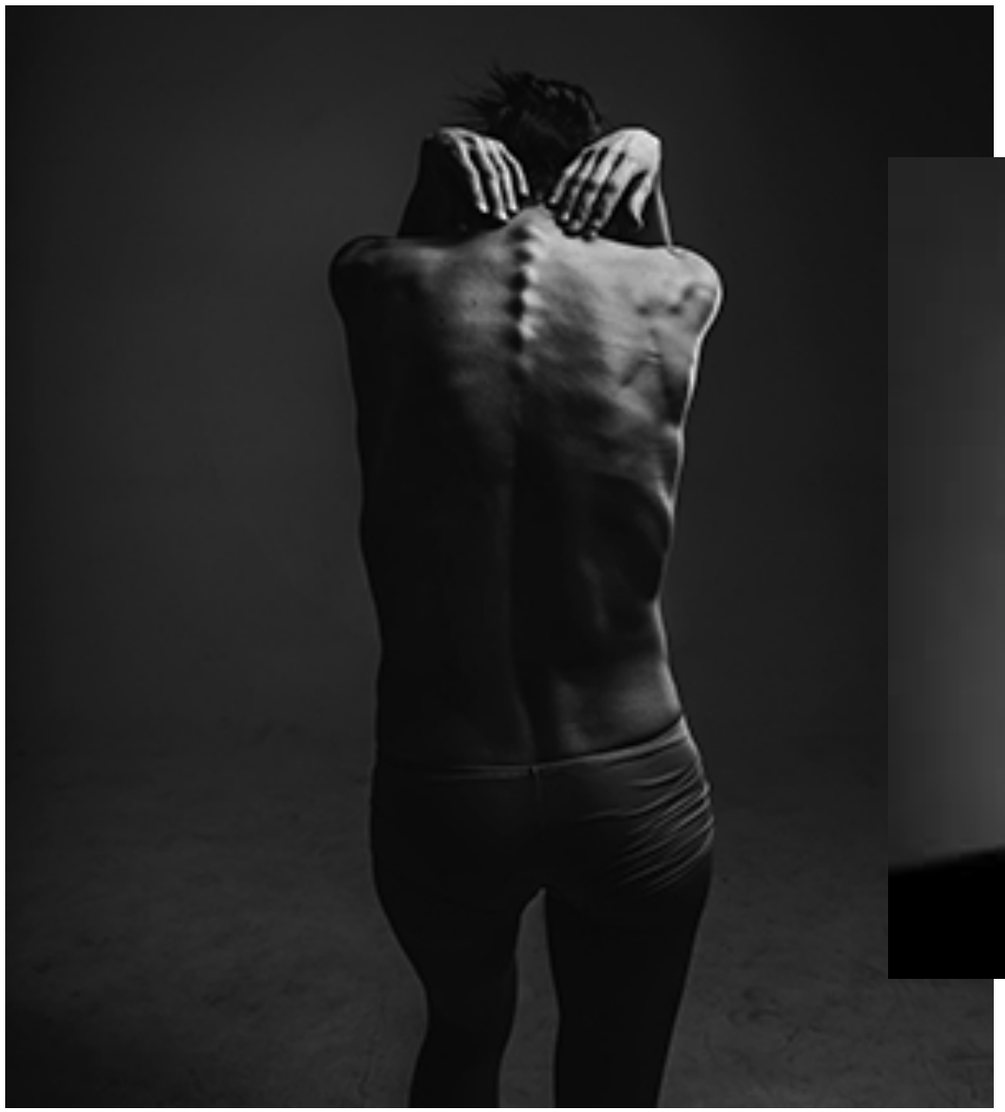
Types:

1-anorexia nervosa

2-bulimia nervosa

3-binge eating disorder

Anorexia nervosa



Anorexia nervosa

The term anorexia nervosa is derived from the Greek term for "loss of appetite" and a Latin word implying nervous origin. Anorexia nervosa is a syndrome characterized by three essential criteria. The first is a self-induced starvation to a significant degree a behavior. The second is a relentless drive for thinness or a morbid fear of fatness-a psychopathology. The third criterion is the presence of medical signs and symptoms resulting from starvation-a physiological symptomatology.

Two subtypes of anorexia nervosa exist: **restricting and binge/purge**

Approximately half of anorexic persons will lose weight by drastically reducing their total food intake. The other half of these patients will not only diet but will also regularly engage in binge eating followed by purging behaviors. Some patients routinely purge after eating small amounts of food.

Anorexia nervosa is much more prevalent in females than in males and usually has its onset in adolescence.

The outcome of anorexia nervosa varies from spontaneous recovery to a waxing and waning course to death.

Anorexia nervosa subtypes:

1- **Restricting type** : Has not regularly engaged in binge-eating or purging behavior; weight loss is achieved through diet, fasting, and/or excessive exercise..

2- **Binge-eating/purging type** : Eating binges followed by self-induced vomiting, and/or using laxatives, enemas, or diuretics. Some individuals purge after eating small amounts of food without binging.

Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) Criteria for Anorexia Nervosa

A. 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 body weight is a weight that is less than minimally normal or, for children and adolescents, less than that minimally expected.
B. Intense fear of gaining weight or becoming fat or persistent behavior that interferes with weight gain, even though at a significantly low weight.
C. 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 current low body weight.
Restricting type: no recurrent episodes of binge eating or purging behavior within the last three months; weight loss is accomplished through dieting, fasting and/or excessive exercise.
Binge eating/purging type: recurrent episodes of binge eating or purging behavior within the last three months (ex. self-induced vomiting or the misuse of laxatives, diuretics, or enemas).
In partial remission: after full criteria for anorexia nervosa were met, criterion A has not been met for some time but criterion B or C is still met.
In full remission: after full criteria for anorexia nervosa were met, none of the criteria have been met for a sustained period of time.
Severity: mild – body mass index (BMI) $\geq$17 kg/m^2, moderate – BMI 16-17 kg/m^2, severe – BMI 15-16 kg/m^2, extreme – BMI <15 kg/m^2.

Etiology

1-Biological factor

-NT : serotonin, norepinephrine and dopamine dysregulation.

-PET scan : higher metabolism in the caudate nucleus.

2- Social factor

-It seems to be most frequent in developed countries, and it may be seen with greatest frequency among young women in professions that require thinness, such as modeling and ballet.

-Families of children with eating disorder may exhibit high level of hostility and low level of empathy.

3-psychological factors:

Many experience their bodies as somehow under the control of their parents, so that self-starvation may be an effort to gain validation as a unique and special person.

Epidemiology

- Is estimated to occur in about 0.5 to 1 % of adolescent girls.

- •The most common ages of onset is between 14 and 18 years, but up to 5% have the onset in their early 20s.

- •It occurs 10 to 20 times more often in females than in males.

- •It seems to be most frequent in developed countries.

Medical complication

Vital signs : bradycardia, hypotension, hypothermia.

Lanugo hair

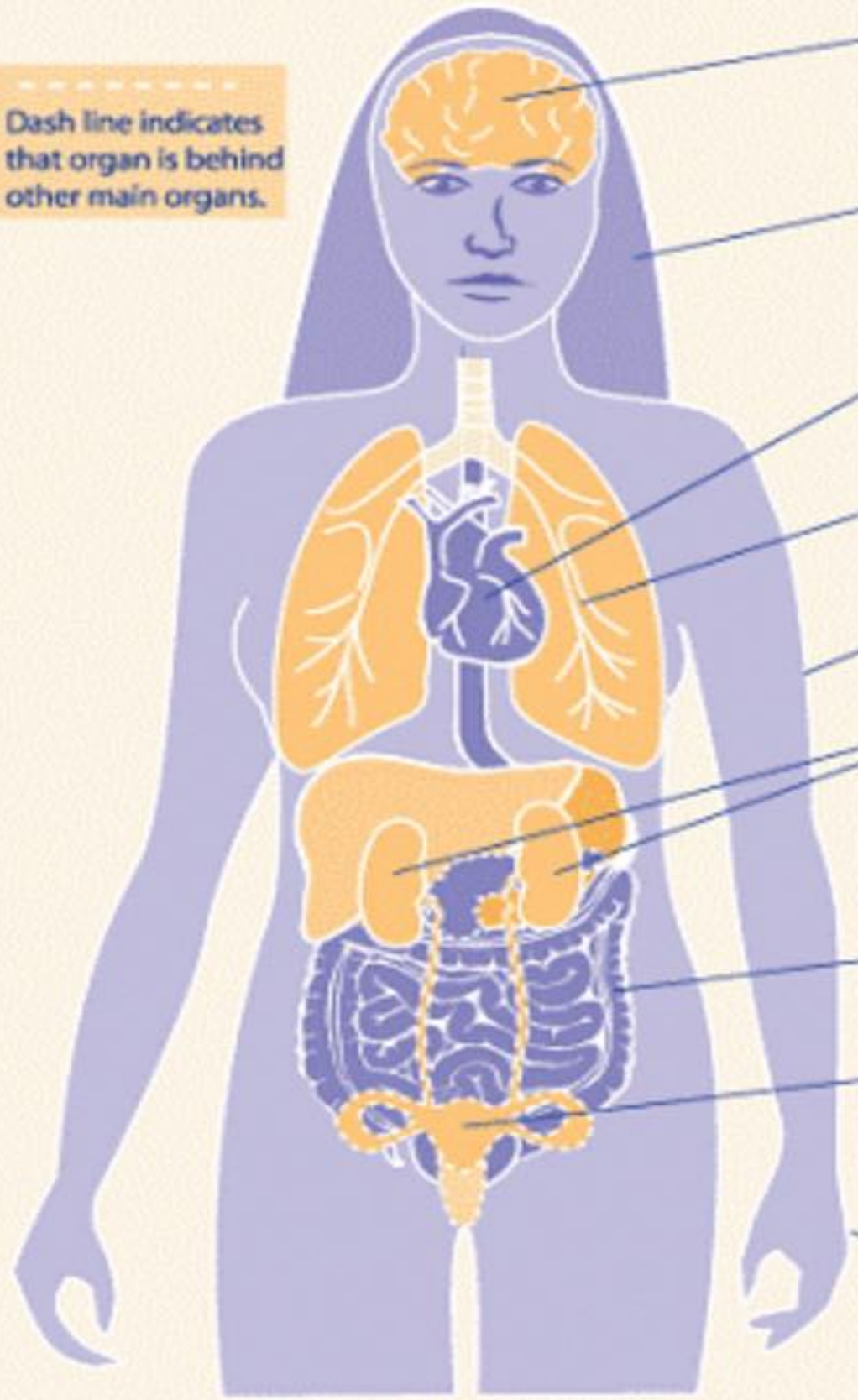
Electrolyte changes

ECG changes : T-wave flattening or inversion, ST segment depression

Endocrine changes : Low luteinizing hormone, low follicle-stimulating hormone, low estrogen or testosterone, low T3, increased prolactin.

Anorexia affects your whole body

Dash line indicates that organ is behind other main organs.



Brain and Nerves
can't think right, fear of gaining weight, sad, moody, irritable, bad memory, fainting, changes in brain chemistry

Hair
hair thins and gets brittle

Heart
low blood pressure, slow heart rate, fluttering of the heart (palpitations), heart failure

Blood
anemia and other blood problems

Muscles and Joints
weak muscles, swollen joints, fractures, osteoporosis

Kidneys
kidney stones, kidney failure

Body Fluids
low potassium, magnesium, and sodium

Intestines
constipation, bloating

Hormones
periods stop, bone loss, problems growing, trouble getting pregnant. If pregnant, higher risk for miscarriage, having a C-section, baby with low birthweight, and post partum depression.

Skin
bruise easily, dry skin, growth of fine hair all over body, get cold easily, yellow skin, nails get brittle

Table 11.1 Physical features and medical complications of anorexia nervosa

Physical symptoms
Sensitivity to cold
Gastrointestinal symptoms – constipation, bloating
Dizziness
Amenorrhoea
Poor sleep

Physical signs
Emaciation
Cold extremities
Dry skin, sometimes orange (hypercarotinaemia)
Downy hair ('*lanugo*') on back, forearms and cheeks
Poorly developed or atrophic secondary sexual characteristics
Bradycardia, postural hypotension, arrhythmias
Peripheral oedema
Proximal myopathy

Abnormalities on investigation
Low LH, FSH, oestradiol, T_3
Increased cortisol, growth hormone
Hypoglycaemia
Hypokalaemia, hyponatraemia, metabolic alkalosis
ECG: prolonged QT interval (serious)
Hypercholesterolaemia
Osteopenia and osteoporosis
Low WBC and platelets
Delayed gastric emptying
Acute gastric dilatation (due to over-rapid refeeding)

ECG, electrocardiogram; FSH, follicle-stimulating hormone; LH, luteinizing hormone; T_3, triiodothyronine; WBC, white blood cells.

Table 11.2 Risk factors for eating disorders

General factors
Female (sex ratio ~10:1 in clinical sample, 6:1 in community)
Adolescence and early adulthood
Living in a Western society

Family history
Eating disorder
Depression
Substance misuse (bulimia nervosa)
Obesity (bulimia nervosa)

Premorbid experiences
Adverse parenting – low contact, high expectations, arguments
Sexual abuse
Family dieting
Critical comments about eating, weight or shape
Pressure to be slim

Premorbid characteristics
Low self-esteem
Perfectionism (anorexia nervosa)
Impulsivity (bulimia nervosa)
Anxiety
Obesity (bulimia nervosa)
Early menarche (bulimia nervosa)

Specific groups
Ballet dancers
Models
Jockeys
Gymnasts

Troubled family relationships bullying

Culture, media messages placing high value on thinness

Altered serotoni function may be final common pathway

Genetics

Over–protective, controlling childhood environment.
Or environment where eating/weight or shape concerns overvalued.
Childhood sexual, physical, emotional abuse.

Fig. 13.2 Aetiology of eating disorders.

Lab Findings

1-CBC : anemia

2-Chronic hypochloremic hypokalemic metabolic alkalosis

3-Hypoglycemia

4-Elevated BUN

5-TFT (hypothyroidism)

6-Elevated serum salivary amylase concentration if the Patient is vomiting.

Course

The course varies greatly: spontaneous recovery without TT , recovery after TT, a fluctuating course of weight gain followed by relapsing, or a gradually deteriorating course resulting in death caused by complications of starvation.

Prognosis

Overall prognosis is not good.

Mortality rate is high 5-18% due to medical complication.

About half of patients with anorexia nervosa eventually will have the symptoms of bulimia, usually within the first year after the onset of anorexia nervosa.

Anorexia Nervosa is associated with depression in 65 % of cases, social phobia in 35% of cases, and OCD in 25% of cases.

Suicide rate is higher in persons with binge eating purging type of anorexia nervosa than in those with the restricting type.

Indicators of a favorable outcome are admission of hunger, lessening of denial and immaturity, and improved self-esteem

Treatment—Food is the best medicine!

TREATMENT

In view of the complicated psychological and medical implications of anorexia nervosa, a comprehensive treatment plan, including hospitalization when necessary and both individual and family therapy, is recommended. Behavioral, interpersonal, and cognitive approaches are used and, in many cases, medication may be indicated.

Hospitalization

The first consideration in the treatment of anorexia nervosa is to restore patients' nutritional state; dehydration, starvation, and electrolyte imbalances can seriously compromise health and, in some cases, lead to death. The decision to hospitalize a patient is based on the patient's medical condition and the amount of structure needed to ensure patient cooperation. In general, patients with anorexia nervosa who are 20 percent below the expected weight for their height are recommended for inpatient programs, and patients who are 30 percent below their expected weight require psychiatric hospitalization for 2 to 6 months.

➢Psychotherapy : cognitive-behavioral therapy.

➢Pharmacotherapy : Selective serotonin reuptake inhibitors (SSRIs) have not been effective in the treatment of anorexia nervosa but may be used for comorbid anxiety or depression.

Bulimia Nervosa

Bulimia nervosa

Bulimia nervosa is characterized by episodes of binge eating combined with inappropriate ways of stopping weight gain.

Physical discomfort abdominal pain or nausea terminates the binge eating, which is often followed by feelings of guilt, depression, or self-disgust.

Unlike patients with anorexia nervosa, those with bulimia nervosa typically maintain a normal body weight but sometimes they have history of obesity.

Table 15.2-1
DSM-5 Diagnostic Criteria for Bulimia Nervosa

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

B. Recurrent inappropriate 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 Binge Purge Cycle

Strict dieting

Diet slips, or difficult situation arises

Binge eating triggered

Purging to avoid weight gain

Feelings of shame and self-hatred

Etiology

- 1-Biological factors:

- Neurotransmitters: Antidepressants often benefit patients with bulimia nervosa because serotonin has been linked to satiety, serotonin and norepinephrine have been implicated.

- MRI : exaggerated perception hunger signals related to sweet taste mediated by the right anterior insula area of the brain.

- 2-Social factors:

- Patients with bulimia nervosa, as with those with anorexia nervosa, tend to be high achievers and to respond to societal pressures to be slender.

- The patients describe their parents as neglectful and rejecting.

Etiology

3- Psychological factors:

-patients with bulimia nervosa are more outgoing, angry, and impulsive than those with anorexia nervosa. Alcohol dependence, shoplifting, and emotional lability (including suicide attempts) are associated with bulimia nervosa.

These patients generally experience their uncontrolled eating as more ego-dystonic than do patients with anorexia nervosa and so seek help more readily

Epidemiology

- More prevalent than anorexia nervosa.

- (1-4%) of young women.

- More common in women.

- Onset of disease is later in adolescence, also may occur in early adulthood.

PATHOLOGY AND LABORATORY EXAMINATIONS

Bulimia nervosa can result in electrolyte abnormalities and various degrees of starvation, although it may not be as obvious as in low-weight patients with anorexia nervosa. Thus, even normal weight patients with bulimia nervosa should have laboratory studies of electrolytes and metabolism. In general, thyroid function remains intact in bulimia nervosa, but patients may show nonsuppression on a dexamethasone-suppression test.

Dehydration and electrolyte disturbances are likely to occur in patients with bulimia nervosa who purge regularly. These patients commonly exhibit hypomagnesemia and hyperamylasemia. Although not a core diagnostic feature, many patients with bulimia nervosa have menstrual disturbances. Hypotension and bradycardia occur in some patients.

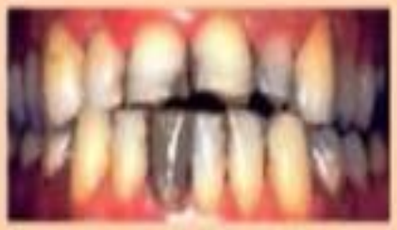
Vomiting related consequences such as metabolic alkalosis, mallory-weiss syndrome, parotid gland enlargement (hypersalivation), teeth decay, & russell’s sign.

Russell’s Sign.

Calluses or scars on the knuckles or hands

Puffy "chipmunk" cheeks

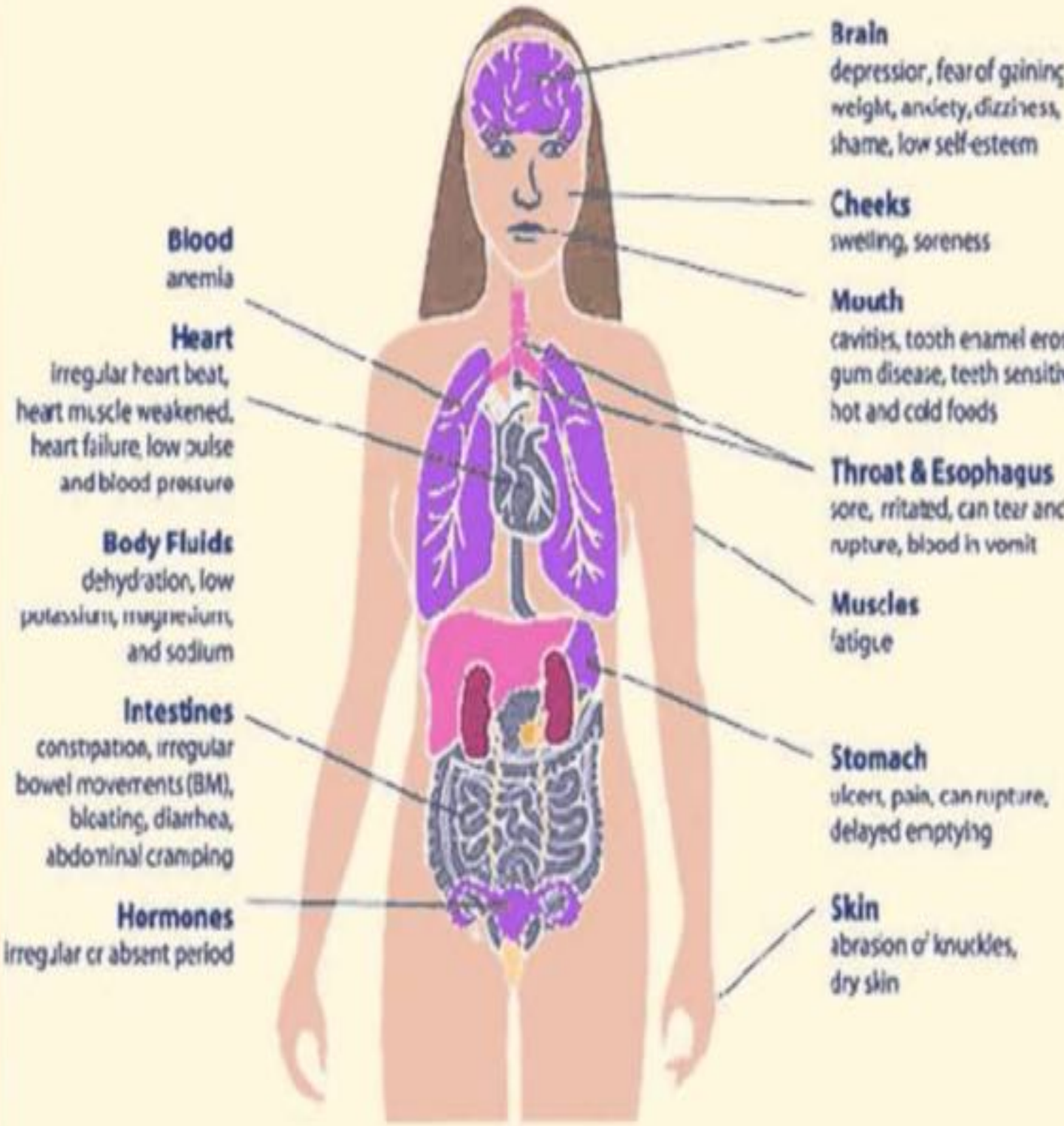
Discolored teeth



Frequent fluctuations in weight

Going to the bathroom after meals

Use of laxatives, diuretics or enemas after eating



Course and prognosis

- Bulimia nervosa is characterized by higher rates of partial and full recovery (40% fully recovered at follow-up) compared with anorexia nervosa.

- Treated Pt is better prognosis than untreated one who tend to remain chronic and relapsing disease.

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- The mortality rate for bulimia nervosa has been estimated at 2% per decade according to DSM-5.

- High incidence associated with other psychiatric disorder (mood, anxiety, personality, and substance abuse)

Treatment

Most patients with uncomplicated bulimia nervosa do not require hospitalization and outpatient treatment is usually not difficult.

Cases need hospitalization :

1-A patient exhibits such additional psychiatric symptoms**.**

2-Electrolyte and metabolic disturbance resulting from severe purging.

3- no response to outpatient TT.

Treatment

1- Psychotherapy: Cognitive-Behavioral Therapy. Cognitive-behavioral therapy (CBT) should be considered the benchmark, first-line treatment for bulimia nervosa.

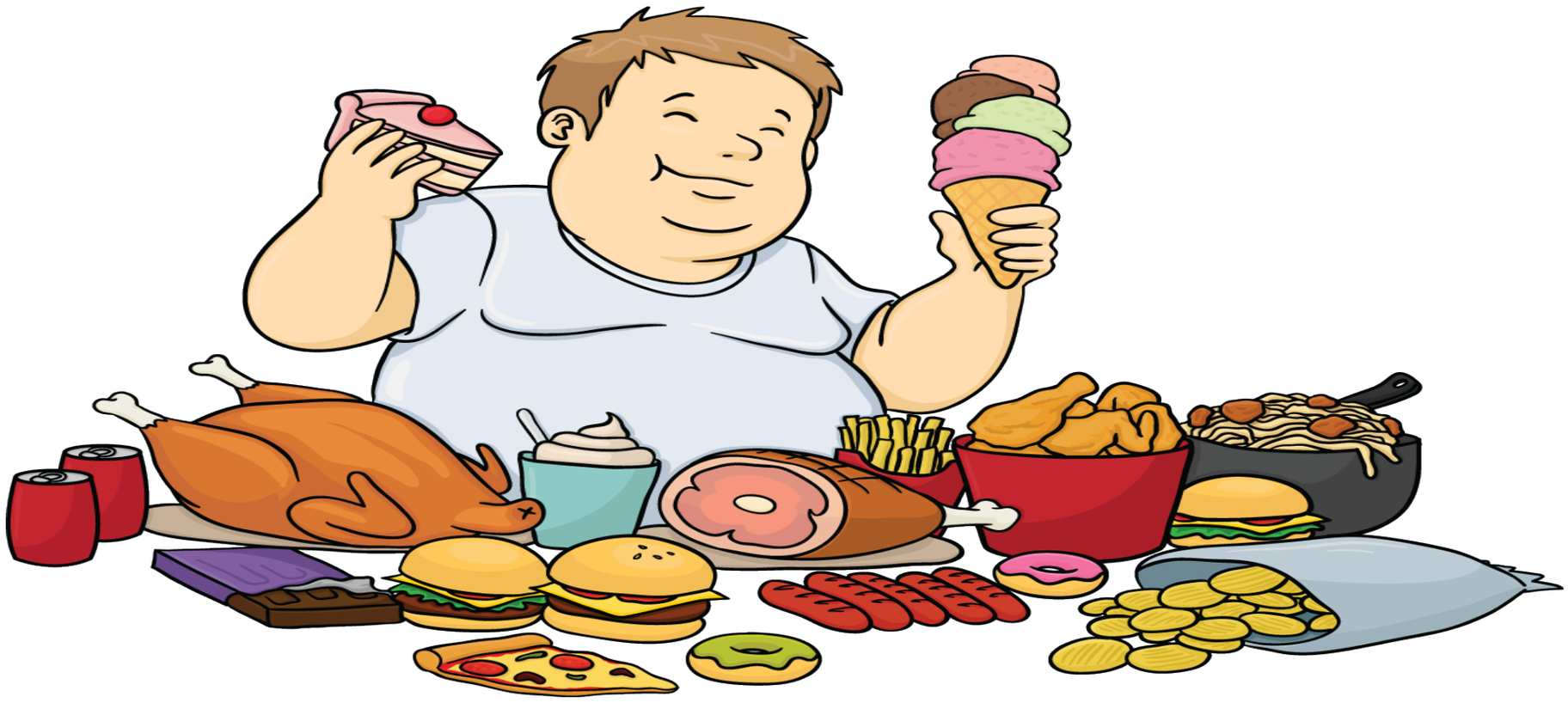
2- Pharmacotherapy

Antidepressant medications have been shown to be helpful in treating bulimia.

The only FDA approved drug for bulimia nervosa is fluoxetine (increase serotonin so satiety) .

Avoid bupropion because increase risk of seizure .

Binge Eating Disorder



Binge Eating Disorder

- Individuals with binge eating disorder engage in recurrent binge eating during which they eat an abnormally large amount of food over a short time.

- Binge episodes often occur in private, generally include foods of dense caloric content, and during the binge the person feels he or she cannot control his or her eating.

- •Unlike bulimia nervosa, patients with binge eating disorder do not compensate in any way after a binge episode .

DSM-5 criteria for Binge Eating Disorder

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

1. 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.

2. 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).

DSM-5 criteria for Binge Eating Disorder

B. The binge-eating episodes are associated with:

1. Eating much more rapidly than normal.

2. Eating until feeling uncomfortably full.

3. Eating large amounts of food when not feeling physically hungry.

4. Eating alone because of feeling embarrassed by how much one is eating.

5. Feeling disgusted with oneself, depressed, or very guilty afterward.

DSM-5 criteria for Binge Eating Disorder

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.

Etiology

The cause of binge eating disorder is unknown but it runs in families, reflecting likely genetic influences.

Impulsive personality styles are linked to the disorder as persons who place themselves on a very low calorie diet.

- Binge eating may also occur during periods of stress. It may be used to reduce anxiety or depressive moods.

Epidemiology

Binge eating disorder is the most common eating disorder.

It is more common in female (4%) than in male (2%).

•It appears in approximately (25 %)of patients who seek medical care for obesity and in (50 to 75 %) of those with severe obesity (body mass index [BMI] greater than 40).

Course and prognosis

Little is known about the course of binge eating disorder.

Severe obesity is a long-term effect in over 3% of patients with the disorder .

Patients are typically obese and suffer from medical problems related to obesity including metabolic syndrome, type II diabetes, and cardiovascular disease.

High comorbidity with other psychiatric disease as anxiety and substance abuse (25% with alcohol) .

Treatment

Psychotherapy

Most effective psychotherapy in binge eating disorder is CBT.

But SSRI + CBT show better result than CBT alone.

Pharmacotherapy

SSRI .

Appetite suppressant drugs (amphetamine and phenteramine)

Antiepileptic drugs with weight loss topiramate and zonisamide.

Antiobesity drugs as orlistat.

However, the weight loss was ordinarily short lived, even when medication was continued, and weight always returned when medication was discontinued

The End