

BINGE EATING

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Binge-eating disorder

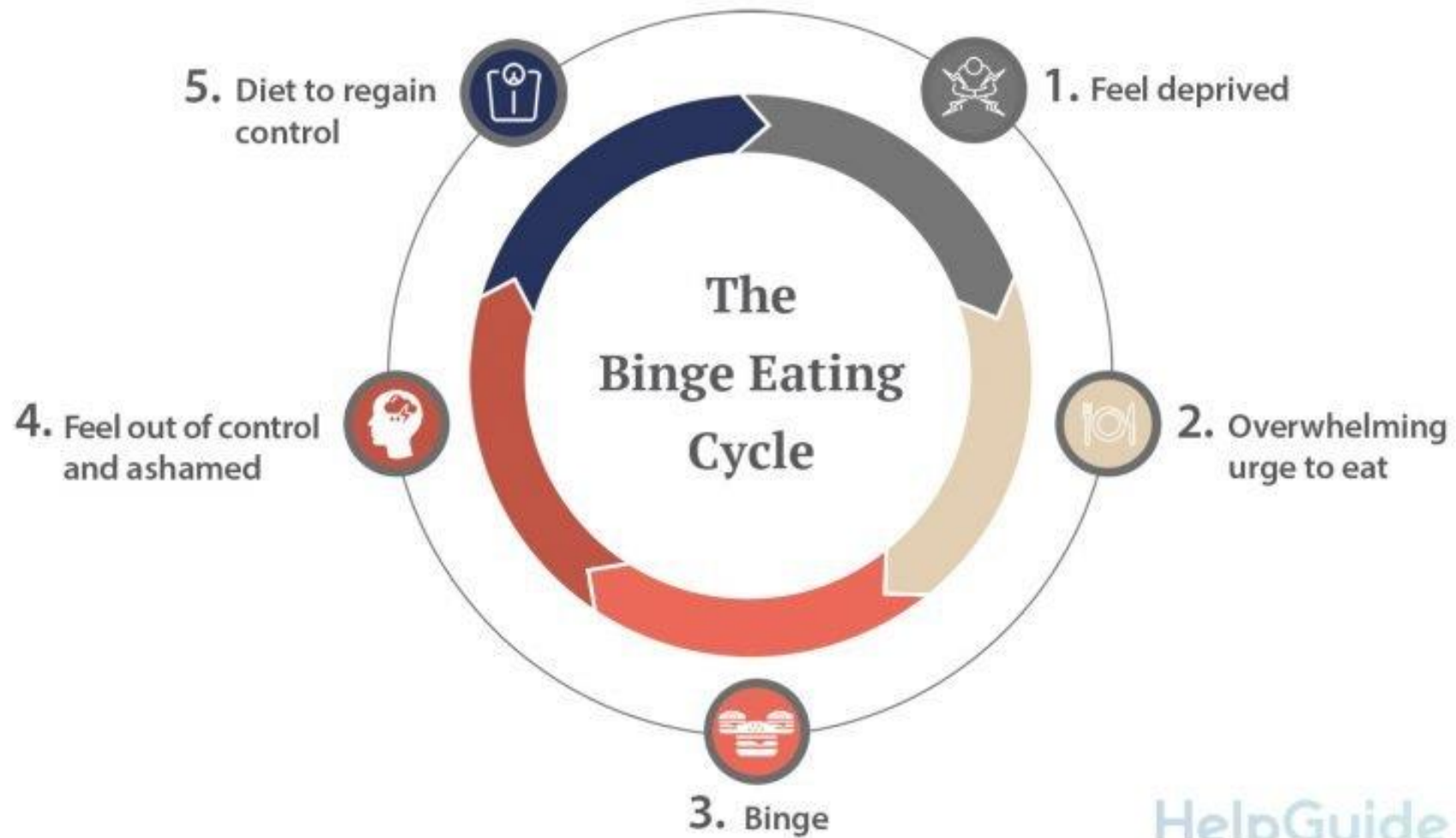
Binge-eating disorder is a serious eating disorder in which you frequently consume unusually large amounts of food and feel unable to stop eating.

Almost everyone overeats on occasion, such as having seconds or thirds of a holiday meal. But for some people, excessive overeating that feels out of control and becomes a regular occurrence crosses the line to binge-eating disorder.



Symptoms

- ▶ Most people with binge-eating disorder are overweight or obese, but you may be at a normal weight.
- ▶ Eating unusually large amounts of food in a specific amount of time, such as over a two-hour period
- ▶ Feeling that your eating behavior is out of control
- ▶ Eating even when you're full or not hungry
- ▶ Eating rapidly during binge episodes
- ▶ Eating until you're uncomfortably full
- ▶ Frequently eating alone or in secret
- ▶ Feeling depressed, disgusted, ashamed, guilty or upset about your eating
- ▶ Frequently dieting, possibly without weight loss



HelpGuide

Diagnosis

- ▶ The severity of binge-eating disorder is determined by how often episodes of bingeing occur during a week.
- ▶ In order to make a diagnosis, your doctor will ask you questions about your recent and past eating behaviors. Binge eating may vary in terms of severity. Some people may experience milder symptoms and binge eat around once each week, while others may have more severe symptoms and binge 14 or more times per week.



Complications of Binge Eating

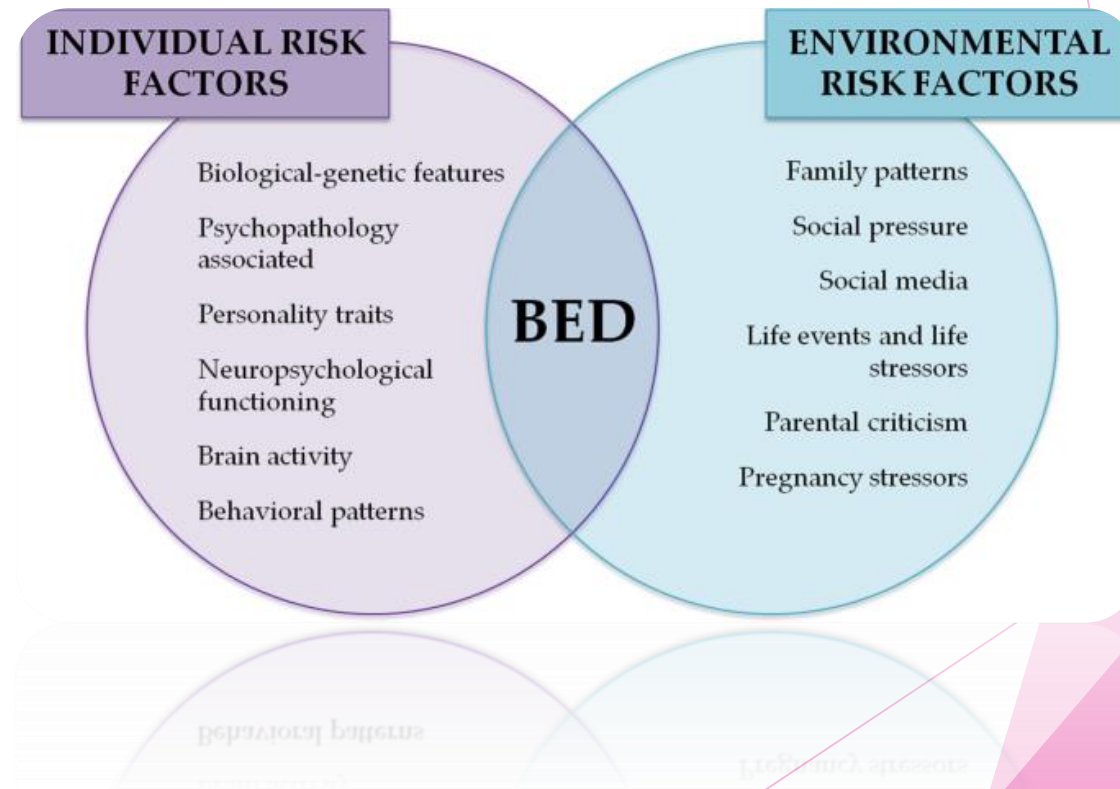
- ▶ Anxiety
- ▶ Depression
- ▶ Diabetes
- ▶ Heart disease
- ▶ High blood pressure
- ▶ Stroke
- ▶ Many of these health conditions are linked to obesity. Approximately half of all people with binge eating disorder are also overweight.



Causes

The causes of binge-eating disorder are unknown. But genetics, biological factors, long-term dieting and psychological issues increase your risk.

- ▶ Genetics
- ▶ Family history
- ▶ Other psychological conditions
- ▶ Dieting and body image issues



Types

Not all excessive eating is the same, so it is important to distinguish between overeating and binge eating

Overeating

Overeating happens to everyone. You might indulge in too many slices of pizza, go back for seconds of a favorite meal, or even find yourself consuming too much popcorn as you watch a late-night movie.

There are no set guidelines for how much food is too much to be considered "normal" overeating. If you overeat on one or multiple occasions, you may want to ask yourself a few questions.

Treatment

Effective treatments are available that can help people manage their eating behaviors and overcome binge eating. These treatments may include psychotherapy, medications, or a combination of both.

- ▶ Psychotherapy
- ▶ Medications



Medications

- ▶ Medications that may be prescribed include antidepressants, anti-anxiety drugs, and drugs that help control appetite and compulsions.
- ▶ Vyvanse (lisdexamfetamine), a drug traditionally used to treat attention deficit hyperactivity disorder (ADHD), may also be prescribed to treat binge-eating disorder.
- ▶ In 2015, the Food and Drug Administration (FDA) approved the use of lisdexamfetamine in the treatment of binge eating disorder in adults.

Genetic studies



- ▶ Individuals Diagnosed with Binge-Eating Disorder Have DNA Hypomethylated Sites in Genes of the Metabolic System.
- ▶ Epigenetics is a conjunct of mechanisms (like DNA methylation) that regulate gene expression, which are dependent on environmental changes. Analysis of DNA methylation in eating disorders shows that it is reduced. The present study aimed to analyze the genome-wide DNA methylation differences between individuals diagnosed with BED.



- ▶ Most of the associations were found in genes related to metabolic processes (ST3GAL4, PRKAG2, and FRK), which are hypomethylated genes in BED.
- ▶ Cg0478I532, located in the body of the PRKAG2 gene (protein kinase AMP-activated non-catalytic subunit gamma 2), was hypomethylated in individuals with BED.
- ▶ Agonists of PRKAG2, which is the subunit of AMPK (AMP-activated protein kinase), are proposed to treat obesity, BED, and BN.
- ▶ The present study contributes important insights into the effect that BED could have on PRKAG2 activation.

| | BN (<i>n</i> = 25) | BED (<i>n</i> = 21) | Total (<i>n</i> = 46) |
|-------------------------------|---------------------|----------------------|------------------------|
| Gender | | | |
| Female (<i>n</i> , %) | 22 (88.00) | 12 (57.14) | 34 (73.91) |
| Male (<i>n</i> , %) | 3 (12.00) | 9 (42.86) | 12 (26.09) |
| Age (s.d) | 13.76 (1.56) | 14.10 (1.51) | 13.91 (1.53) |
| Body Mass Index | | | |
| BMI z-score (s.d) | 0.87 (0.74) | 1.69 (0.65) | 1.25 (0.81) |
| Normal weight (<i>n</i> , %) | 14 (56.00) | 1 (4.76) | 15 (32.61) |
| Overweight (<i>n</i> , %) | 5 (20.00) | 7 (33.33) | 12 (26.09) |
| Obese (<i>n</i> , %) | 6 (24.00) | 13 (61.90) | 19 (41.30) |
| Eating behavior | | | |
| Compensatory (<i>n</i> , %) | 25 (100.0) | 0 (0.00) | 25 (47.83) |
| Binge eating (<i>n</i> , %) | 17 (68.00) | 21 (100.00) | 38 (82.61) |

Notes. BN = Bulimia Nervosa, BED = binge-eating disorder, s.d = standard deviation.

2.4. DNA Extraction and Microarray DNA Methylation

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