Binge Eating Disorder: An overview and update

Deborah Lynn Reas, PhD [1,2]

[1] Psychologist, Senior Research Scientist, Regional Department of Eating Disorders (RASP), Division of Mental Health and Addiction, Oslo University Hospital, www.rasp.no; deborah.lynn.reas@ous-hf.no

2 Associate Professor of Health Psychology, Institute of Psychology, University of Oslo

Agenda

- Definition
- Classification
- Prevalence and distribution
- Associated features
- Obesity and BED
- Mechanisms of action
- Treatment


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9 SANNHETER OM SPISEFORSTYRRELSER

- **Sannhet #1**:Mange med spiseforstyrrelser ser friske ut selv om de kan være svært ekstremt syke.
- **Sannhet #2**: Familien skal ikke klandres. De kan være både pasientens og behandlerens viktigste støttespillere.
- **Sannhet #3**: En spiseforstyrrelse er en kritisk helsetilstand som sterkt forstyrrer personens og familiens funksjon.
- **Sannhet #4:** Spiseforstyrrelser er ikke et valg, men en alvorlig lidelse som påvirkes av biolog faktorer.
- **Sannhet #5**: Spiseforstyrrelser kan ramme alle uansett kjønn, alder, etnisk bakgrunn, kropps vekt, seksuell legning og sosioøkonomisk status.
- **Sannhet #6**: Spiseforstyrrelser er forbundet med økt risiko for selvmord og medisinske komplikasjoner.
- **Sannhet #7**: Både arv og miljø spiller viktige roller i utviklingen av spiseforstyrrelser.
- **Sannhet #8**: Gener alene avgjør ikke hvem som utvikler spiseforstyrrelser.
- **Sannhet #9**: Det er mulig å bli helt frisk av spiseforstyrrelser. Tidlig oppdagelse og behandling er viktig.

Stigma and stereotypes

- Stigma toward BED **exceeds stigma** toward AN and BN and toward obese individuals without binge eating disorder (Murakami et al., 2016, *Appetite*)
- Beliefs that BED is [illegible] with stigma (Ebneter & La[illegible]
- Compar[illegible]
- Blame [illegible]
- Ma[illegible]pa[illegible]e [illegible]evels of [illegible]ome, unwilling[illegible]
- "Stigma adds to the terrible burden of [illegible] and acts as a barrier to effective care" John Morgan, UK Royal College of Psychiatrists' ED Section

Lack of willpower, lazy, weak, gluttonous, poor self control, personal blame, own fault, a woman's problem, shameful, disgusting

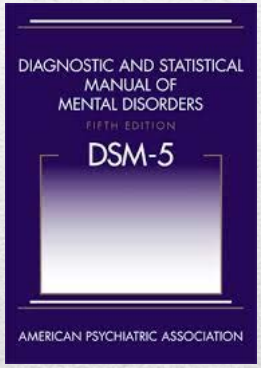
BED is real and treatable. BED is not a character flaw.

- *«It starts off with my thinking about the food that I deny myself when I am dieting. This soon changes into a strong desire to eat. First of all it is a relief and a comfort to eat, and I feel quite high. But then I can't stop, and I binge. I eat and eat fast and frantically until I am absolutely full. Afterward I feel so guilty and angry with myself.»*

Fairburn (1995). Overcoming Binge Eating (p.3), New York, Guilford Press

DSM-5

a. Recurrent episodes of binge eating: objectively large amount of food (larger than most people would eat under similar circumstances) within a discrete period of time (< 2 hrs) and **feeling a loss of control.**



b. Binge eating episodes are associated with three (or more) of the following:

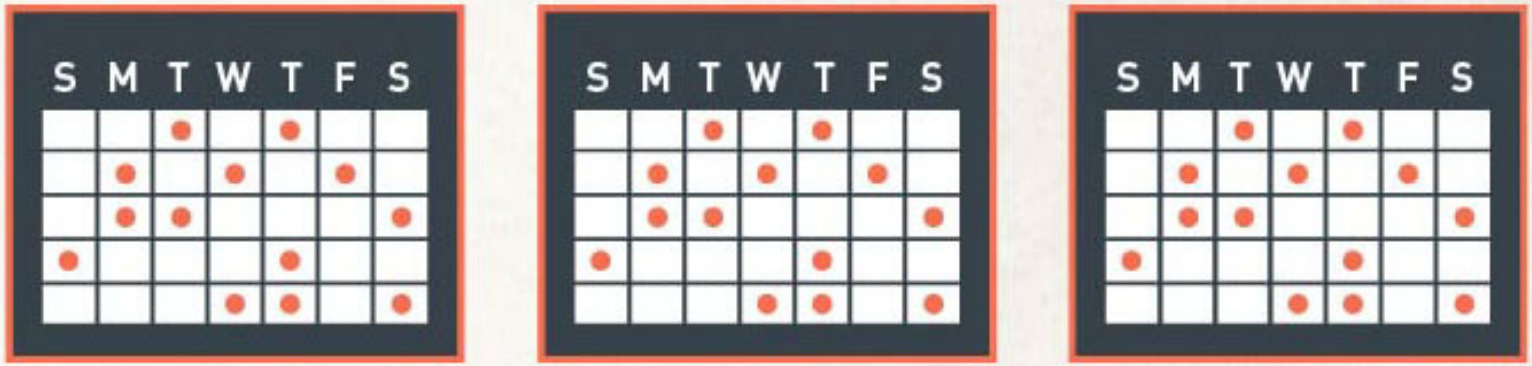
    1. Eating much more rapidly than normal.
    2. Eating until feeling uncomfortably full.
    3. Eating large amounts when not physically hungry.
    4. Eating alone because of embarrassment.
    5. Feeling disgusted with oneself, depressed, guilty after.

c. Marked distress regarding binge eating is present.

d. At least once a week for 3 months.

e. The binge eating **is not associated** with compensatory bx.

If these symptoms are present and binge eating takes place on average at least once a week for three months, it may be Binge Eating Disorder.



In recent years, clinicians and researchers have realized that a significant number of individuals with eating disorders did not fit into the DSM-IV categories of anorexia nervosa and bulimia nervosa. By default, many received a diagnosis of "eating disorder not otherwise specified." Studies have suggested that a significant portion of individuals in that "not otherwise specified" category may actually have binge eating disorder.

Binge Eating Disorder

Binge eating disorder was approved for inclusion in DSM-5 as its own category of eating disorder. In DSM-IV, binge-eating disorder was not recognized as a disorder but rather described in Appendix B: Criteria Sets and Axes Provided for Further Study and was diagnosable using only the catch-all category of "eating disorder not otherwise specified."

Binge eating disorder is defined as recurring episodes of eating significantly more food in a short period of time than most people would eat under similar circumstances, with episodes marked by feelings of lack of control. Someone with binge eating disorder may eat too quickly, even when he or she is not hungry. The person may have feelings of guilt, embarrassment, or disgust and may binge eat alone to hide the behavior. This disorder is associated with marked distress and occurs, on average, at least once a week over three months.

This change is intended to increase awareness of the substantial differences between binge eating disorder and the common phenomenon of overeating. While overeating is a challenge for many Americans, recurrent binge eating is much less common, far more severe, and is associated with significant physical and psychological problems.

Feeding and Eating Disorders Workgroup for DSM-5
doi: 10.1097/YCO.0b013e328365a321.

Overeating versus binge eating

- No loss of control
- Occurs typically during normal routine (meals, social functions)
- Often others are eating, too
- Occurs in different places and situations
- Across moods, often relaxed or positive mood
- Regular speed of eating
- Can be associated with *regret* (“wish I hadn’t)

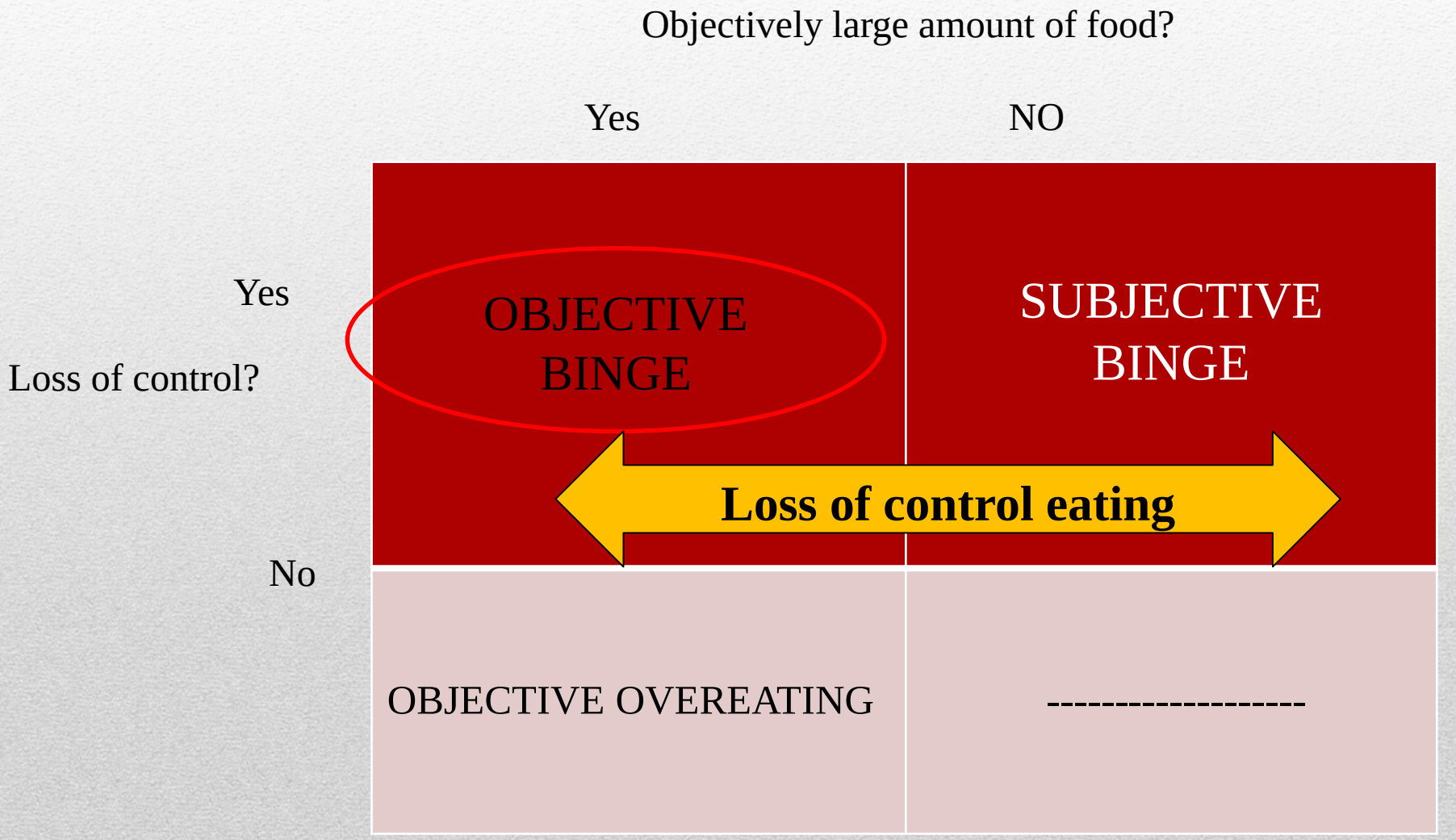
- *Loss of control* is key---feeling of not being able to stop, compelled to eat
- Done in private, alone
- Associated with negative moods
- Triggers (stress, being alone, bored, hunger, breaking a dietary rule, interpersonal problems, unstructured time, etc.)
- Eating more rapidly
- Marked distress
- Strong feelings of *shame* and *guilt* (feeling of doing something “wrong”)

Pollart et el., (2013)

In an obesogenic food environment,

What counts as an “unusually large” amount of food?

EDE-interview classification of eating (Fairburn & Beglin, 2008)



Sonneville et al., (2013). JAMA Pediatrics, 67(2):149-155

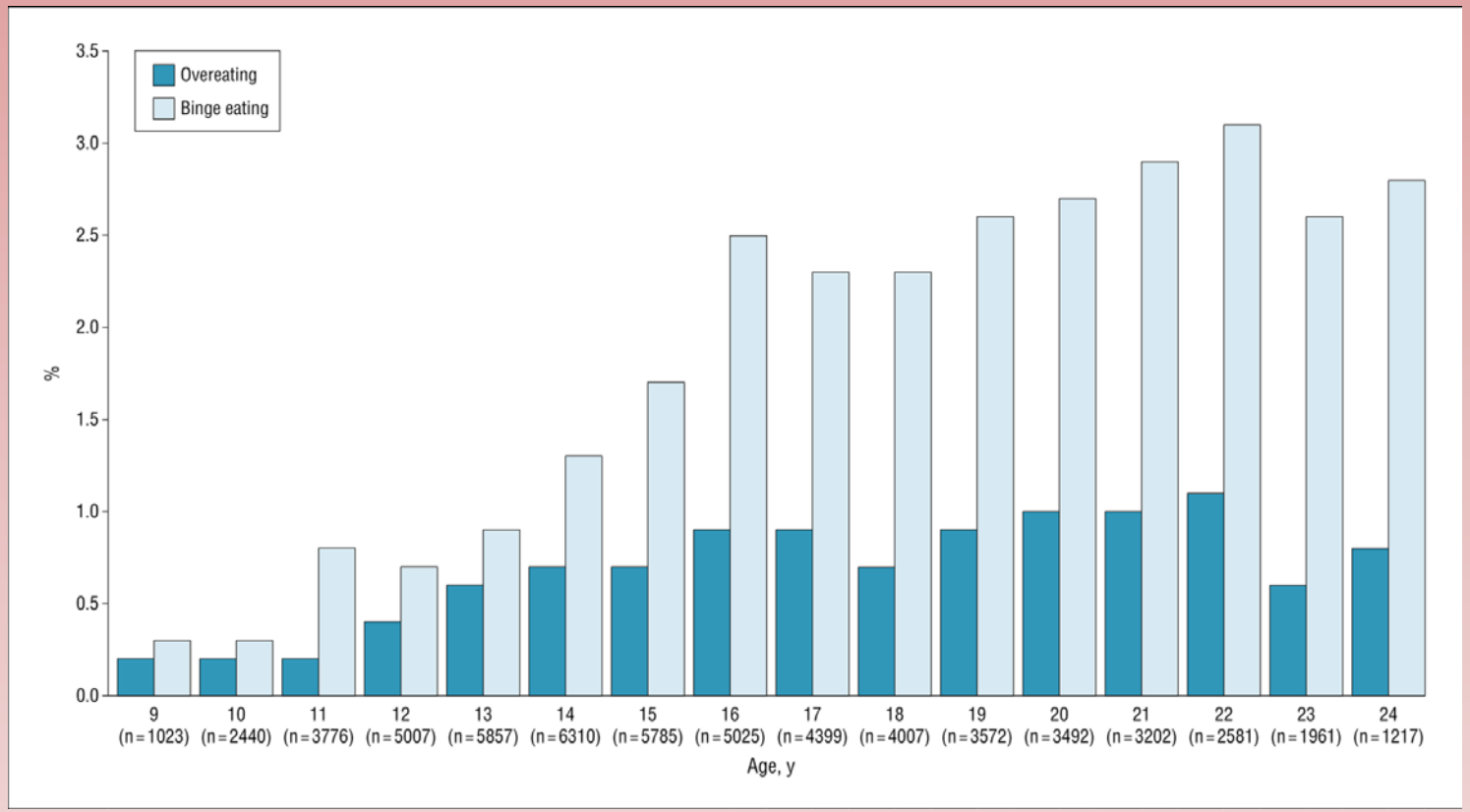


Figure 1. Weekly binge (LOC) episodes, but not overeating, predicted overweight and onset of depression among adolescent females.

Behav Res Ther. 2006 Jan;44(1):43-51.

Reliability of the Eating Disorder Examination-Questionnaire in patients with binge eating disorder.

Reas DL[1], Grilo CM, Masheb RM.

Author information

Abstract

This study examined the test-retest reliability of the Eating Disorder Examination-Questionnaire (EDE-Q) in patients with binge eating disorder (BED). Short-term (mean days = 4.8; SD = 3.6) test-retest reliability of the EDE was examined in a sample of 86 patients with BED. Test-retest reliability was excellent for objective bulimic episodes (correlation = .84), but poor to unacceptable for subjective bulimic episodes and objective overeating episodes (correlations = .51 and .39, respectively). Test-retest reliabilities were good for the EDE-Q scales (correlations = .66 to .77), albeit somewhat variable for the individual EDE-Q items (.54 to .78). These findings support the reliability of the EDE-Q for patients with BED. The EDE-Q has utility for assessing the number of binge eating episodes (objective bulimic episodes) and associated features of eating disorders in patients with BED. The results for subjective bulimic episodes are consistent with previous studies in suggesting that these eating behaviors may not be reliable indicators of eating disorders for patients with BED.

PMID: 16301013 DOI: 10.1016/j.brat.2005.01.004

[PubMed - indexed for MEDLINE]

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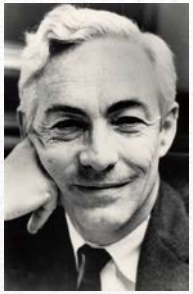
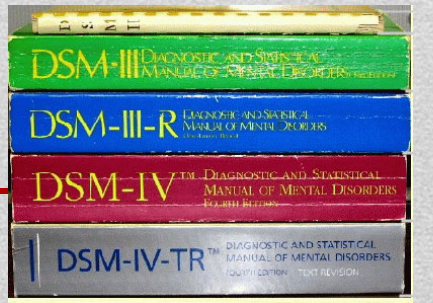
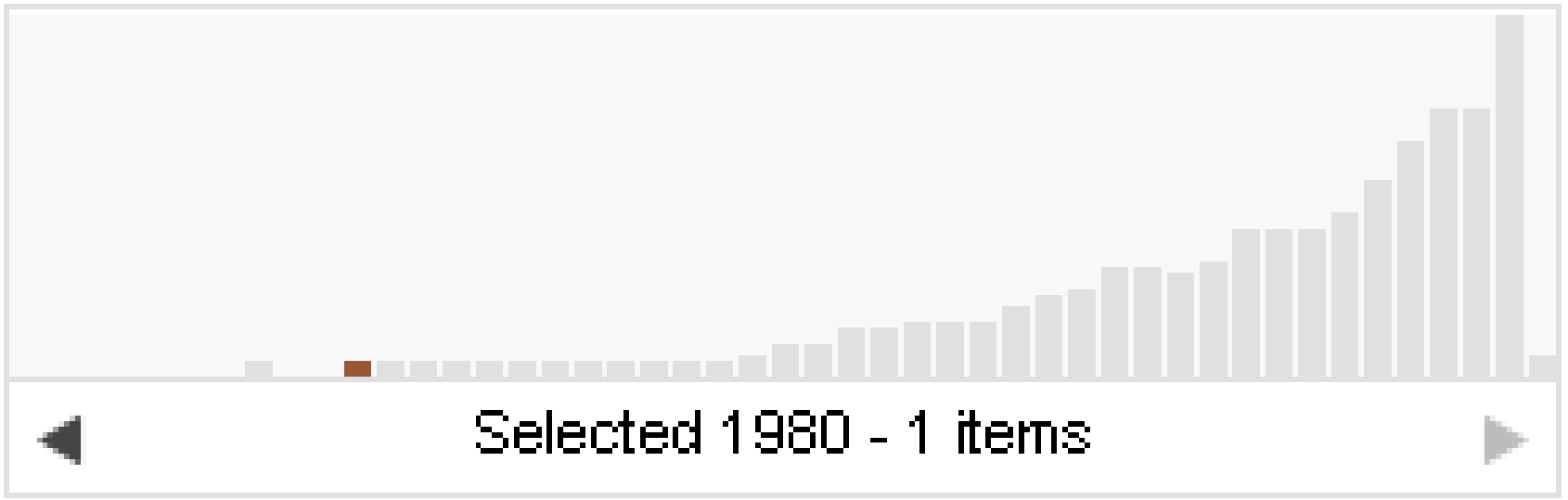
A “new” phenomenom?



- Binge eating disorder is not “new” – described in obesity literature already in 1950’s (Stunkard, 1959)
- Binge eating disorder was diagnosable in DSM-IV only by applying the diagnosis of “EDNOS”
- BED was included in DSM-IV (APA, 1994) as a “Criteria Sets and Axes Provided for Further Study” in Appendix B.



Results by year



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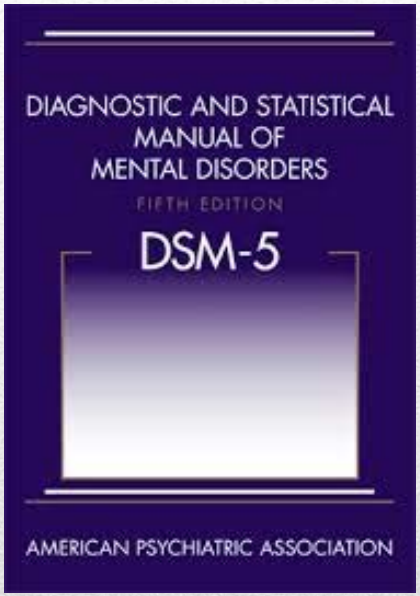
N = 2842 Pubmed hits

1 study in 1980, 350 studies in 2015

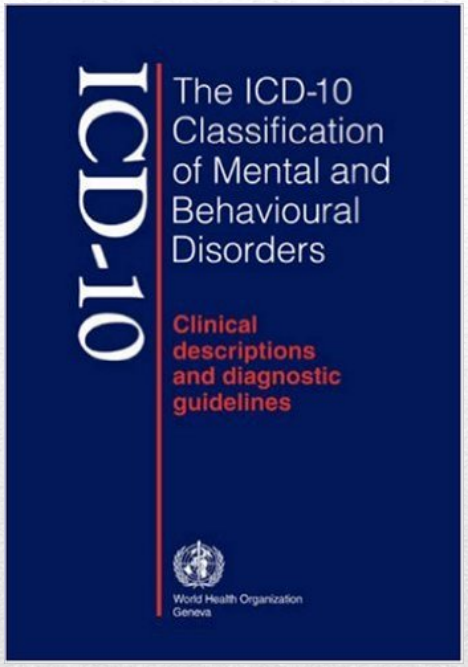
Only 34 hits for studies conducted in Norway or with authors affiliated with Norwegian institutions over past decades.

DSM Feeding and Eating Disorders

- Anorexia Nervosa
- Bulimia Nervosa
- Binge Eating Disorder***
- Avoidant/Restrictive Food Intake Disorder
- Pica
- Rumination Disorder
- Other specified feeding and eating disorders
  - Atypical Anorexia Nervosa
  - Subthreshold Bulimia Nervosa
  - Subthreshold Binge Eating Disorder
  - Purging Disorder
  - Night Eating Syndrome
  - Other unspecified



- F 50.0 Anorexia nervosa
- F 50.1 Atypical AN
- F 50.2 Bulimia nervosa
- F 50.3 Atypical BN
- F 50.4 Overeating associated with other psychological disturbances
- F 50.5 Vomiting associated with other psychological disturbances
- F 50.8 Other eating disorders**
- F 50.9 Eating disorder, unspecified



ICD-10 to ICD-11

- 10th version of the International Classification of Diseases and Related Health Problems

- Approved by the WHO in 1990; 194 Member States use ICD as basis for global health reporting.

- ICD-11 revision principles
  - Global representation
  - Cultural diversity
  - Lifespan approach
  - Prioritization of clinical utility, facilitate identification and treatment by global front-line health workers
  - Help WHO member countries reduce burden of disease, undertaken in collaboration with stakeholders
  - Interface where possible with DSM

- Field trials completed.

Expected changes in ICD-11

- Merge feeding and eating disorders
- 6 main categories: AN, BN, BED*, ARFID*, Pica, Rumination (Regurgitation) Disorder (*new)
- Reduce frequency and duration of binge eating to match DSM-5 (1 x week frequency for 1 month)
- Subjective vs objective binges? Does size matter?
- Overvaluation of body weight and shape?

Al-Adawi, et al. (2013) Revision of ICD-status update on feeding and eating disorders. Adv Eat Disord, 1 (1), 10-20. DOI: 10.1080/21662630.2013.742971

A series of complementary studies has provided convergent empirical evidence that overvaluation demonstrates concurrent validity suggesting that overvaluation warrants consideration as a diagnostic specifier because it signals greater severity within BED, but not as a required criterion, because that would result in the exclusion of many persons with clinically significant eating-pathology (17–21,23). For example, Grilo and colleagues (18) found that participants with BED categorized with overvaluation had greater eating-disorder psychopathology and depression levels than BED participants without overvaluation, but both BED groups - regardless of the presence of overvaluation - had significantly greater eating disorder psychopathology and depression than an overweight comparison group without BED. Grilo and colleagues (19) found that patients with BED categorized with overvaluation had significantly higher levels of eating-disorder psychopathology than BED patients without overvaluation who did not differ significantly from either patients with BN or patients with subthreshold BN. Goldschmidt and colleagues (17), in a community-based study, found that overvaluation predicted membership in a more severe BED group and found it accurately predicted the presence of BED versus other psychiatric diagnoses.

The clinical significance of overvaluation in BED appears to be unrelated to excess weight or potential demographic confounds such as age or ethnicity. The significant group differences associated with overvaluation in the comparative studies with overweight non-binge-eaters (18) and average weight patients with BN (19) persisted even after adjusting for

Next revision of DSM 5.1 ?

Grilo, C.M. (2013). Why no cognitive body image feature such as overvaluation of shape/weight in the binge eating disorder diagnosis? IJED, 46 (3), 208-211

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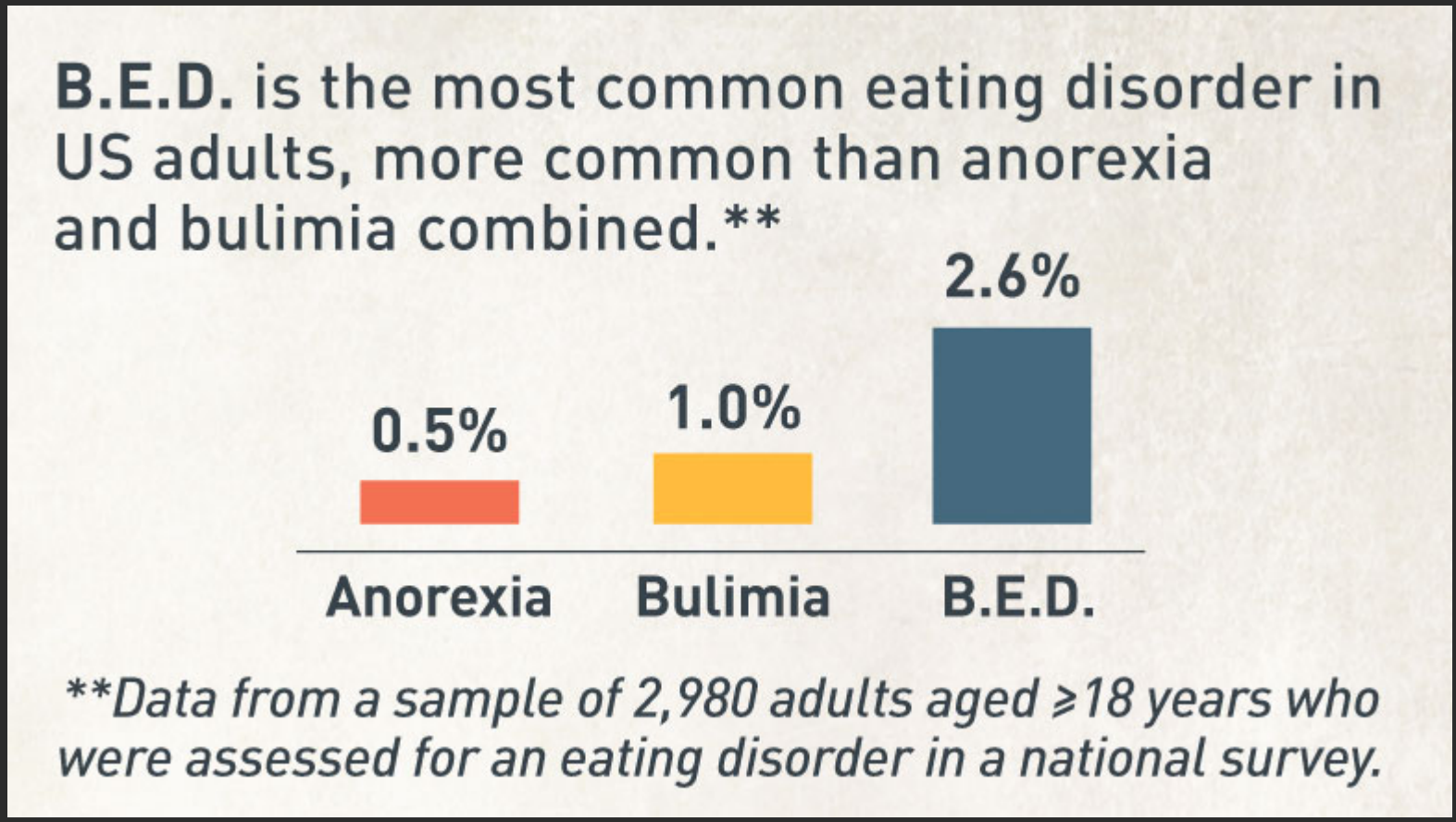


2.0% for males and 3.5% for females. A 2013 WHO report found 1.4% BED lifetime prevalence vs 0.8% BN using CIDI in 20,000 adults from 14 countries (Kessler et al., 2013).

**** Hudson, J. I., Hiripi, E., Pope, H. G., & Kessler, R. C. (2007). The Prevalence and Correlates of Eating Disorders in the National Comorbidity Survey Replication. *Biological Psychiatry, 61*(3), 348–358**

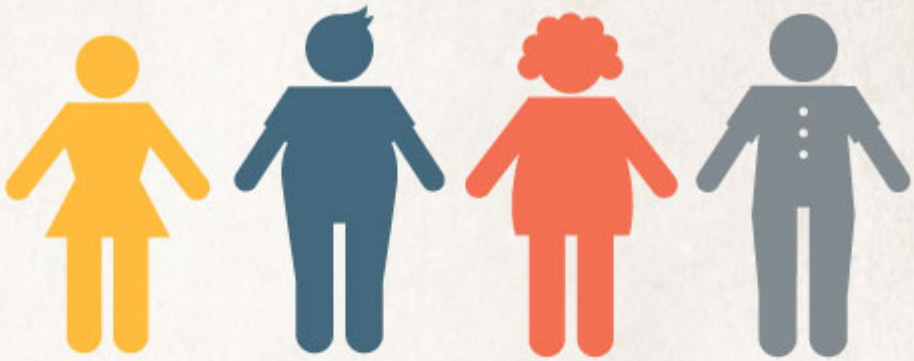
TABLE FROM SCREENSHOT PREVALENCE

Prevalence of BED in Norway

- Lindvall Dahlgren, C. and Wisting, L. (2016), Transitioning from DSM-IV to DSM-5: A systematic review of eating disorder prevalence assessment. Int. J. Eat. Disord. doi:10.1002/eat.22596
- Only 2 studies from Norway
- N =1960 adolescents (1026 girls and 934 boys), 14–15 years of age. Survey for Eating Disorders (SEDs), including DSM-III-R and DSM-IV diagnoses for all subcategories of ED (Kjelsås et al., 2004)
- Lifetime prevalence for BED was 1.2% for girls and 0.9% for boys
- N = 678 adolescents (Rosenvinge et al., 1999) screened with EDI, interviewed with DSED. Found point prevalence for BED was 1.0% for girls, 0.0% for boys

Kjelsås, et al. (2004). Prevalence of eating disorders in female and male adolescents (14–15 years). Eating Behaviors, 5 (1), 13-25. http://dx.doi.org/10.1016/S1471-0153(03)00057-6. Rosenvinge et al. (1999). The prevalence and psychological correlates of anorexia nervosa, bulimia nervosa and binge eating among 15-year-old students: A controlled epidemiological study. Eur Eat Disorders Rev 1999;7:382–391.

It occurs in both men and women.



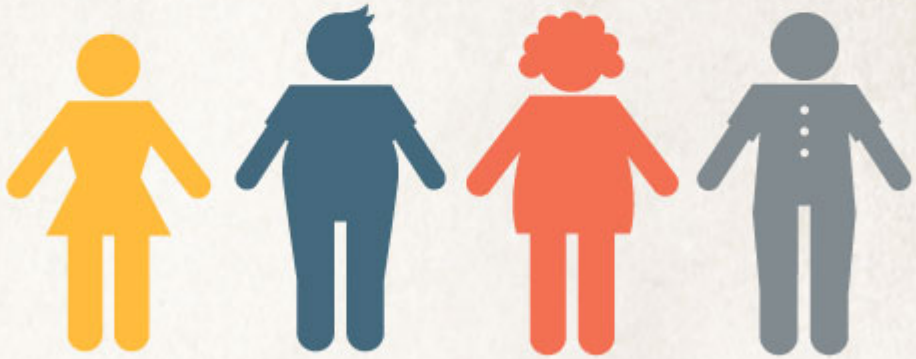
Approximately 40-50% are men (Uher et al., 2012)

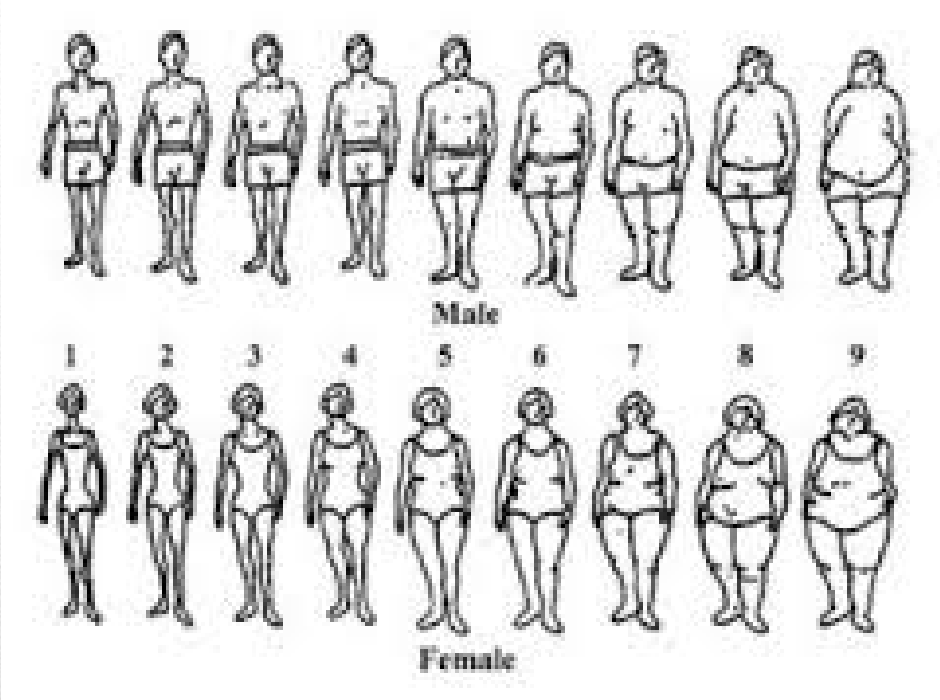
In epidemiological studies, BED is as prevalent in Black and Hispanic as White individuals (Hudson et al., 2007; Marques et al., 2011). **But** mental health service utilization was lower among ethnic minorities.

Age

- Age of onset is during late adolescence or young adulthood (median = 23.3 for BED vs 20.6 yrs for BN; Kessler et al., 2013)
- Mid-40s typical age at presentation (Lydecker and Grilo, 2016; APA, 2013)
- Although upon assessment, some recall binge eating during childhood “as long as I can remember”

Adults with **B.E.D.** may be of a normal weight, overweight, or obese.





BED can occur **across the BMI spectrum** , but is strongly associated with obesity (OR = 6.6; Kessler et al., 2013). Prevalence of obesity in BED estimated at approximately 36% to 42% (Villarego, Fernandez-Aranda et al., 2012) and is over-represented among those seeking weight loss treatment. BED (Hilbert et al., 2014). But most patients with obesity do not have BED. (i.e., 2.6% US adults est. to have BED, 69% are OAO)

Associated features

- Women with BED less likely to get married and men with BED are less likely to be employed (Kessler et al., 2013).
- 79% of individuals with BED had met lifetime criteria for at least one other DSM-IV disorder (Kessler et al., 2013), e.g., anxiety, depressive, impulse-control disorders (Grilo et al., 2013)
- Psychiatric comorbidity appear to be linked to severity of binge eating, **not BMI** (APA, 2013; Welch et al., 2016)
- Elevated risk of suicide (OR 1.8; 95% CI: 1.2-2.7) (Welch et al., 2016).
- Risk of metabolic and obesity-related comorbidity

Kessler RC, Shahly V, Hudson JI, et al. A comparative analysis of role attainment and impairment in binge-eating disorder and bulimia nervosa: Results from the WHO World Mental Health Surveys. *Epidemiology and psychiatric sciences.* 2014;23(1):27-41. doi:10.1017/S2045796013000516.

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BED and obesity

- BED shares many features with, **but is distinct from,** the other eating disorders and obesity (Grilo, et al. 2009).

- The subset **of obese patients with BED** have a **greater psychiatric illness burden** than patients with **just** obesity:

  - Consume more kcal in laboratory studies of eating behavior
  - Greater functional impairment, lower QOL
  - More subjective distress
  - Higher body image dissatisfaction
  - Lose less weight in BWL

- Obesity-related comorbidity

Int J Eat Disord. 2007 Mar;40(2):165-70.

Timing and sequence of the onset of overweight, dieting, and binge eating in overweight patients with binge eating disorder.

Reas DL[1], Grilo CM.

⊕ **Author information**

Abstract

OBJECTIVE: To examine the self-reported sequence and timing of onset of overweight, binge eating, and dieting in adult patients diagnosed with binge eating disorder (BED).

METHOD: Participants were 284 treatment-seeking adults (73 men and 211 women) who met DSM-IV research criteria for BED. Patients were interviewed with structured diagnostic interviews and were queried regarding history of overweight, dieting, and binge eating behaviors. Questionnaires were also administered to assess current eating disturbances, body dissatisfaction, and general functioning. Participants were classified as Overweight First, Binge First, or Diet First, and the three groups were compared on developmental sequence and using the battery of measures.

RESULTS: Sixty-three percent of the 284 participants reported becoming overweight prior to the onset of dieting or binge eating. Participants who reported they were overweight first had significantly greater BMI at the time of assessment. The 16% of the participants who reported binge eating first were significantly younger at the onset of BED diagnosis and reported significantly less dietary restraint. Onset order differed significantly by gender; proportionally more women (25%) than men (11%) reported that dieting preceded overweight or binge eating.

CONCLUSION: Weight problems preceded dieting and binge eating behaviors for a majority of treatment-seeking overweight participants diagnosed with BED.

- We hypothesized that binge eating was be a pathway to obesity and come first. However, 63% in our sample reported overweight came first.
  - **WHY?** Start of unhealthy or rigid diets? Increased preoccupation with weight? Internalization of thin-ideal= body dissatisfaction? Exposure to weight teasing?

Fat-blaming and fat-shaming

Weight stigma means negative attitudes, stereotypes, prejudice toward someone because of their weight. Last form of **socially acceptable discrimination** (Puhl and Suh, 2015)

WHY DOES WEIGHT BIAS EXIST?

Weight bias stems from beliefs that:

- stigma and shame will motivate people to lose weight
- people are responsible for their own weight and only fail to lose weight because of poor self-discipline or a lack of willpower

Weight bias also exists because our culture:

- sanctions its overt expression
- values thinness and perpetuates societal messages that obesity is the mark of a defective person
- blames the victim rather than addressing environmental conditions that cause obesity
- allows the media to portray obese individuals in a biased, negative way

RUDD REPORT WEIGHT BIAS

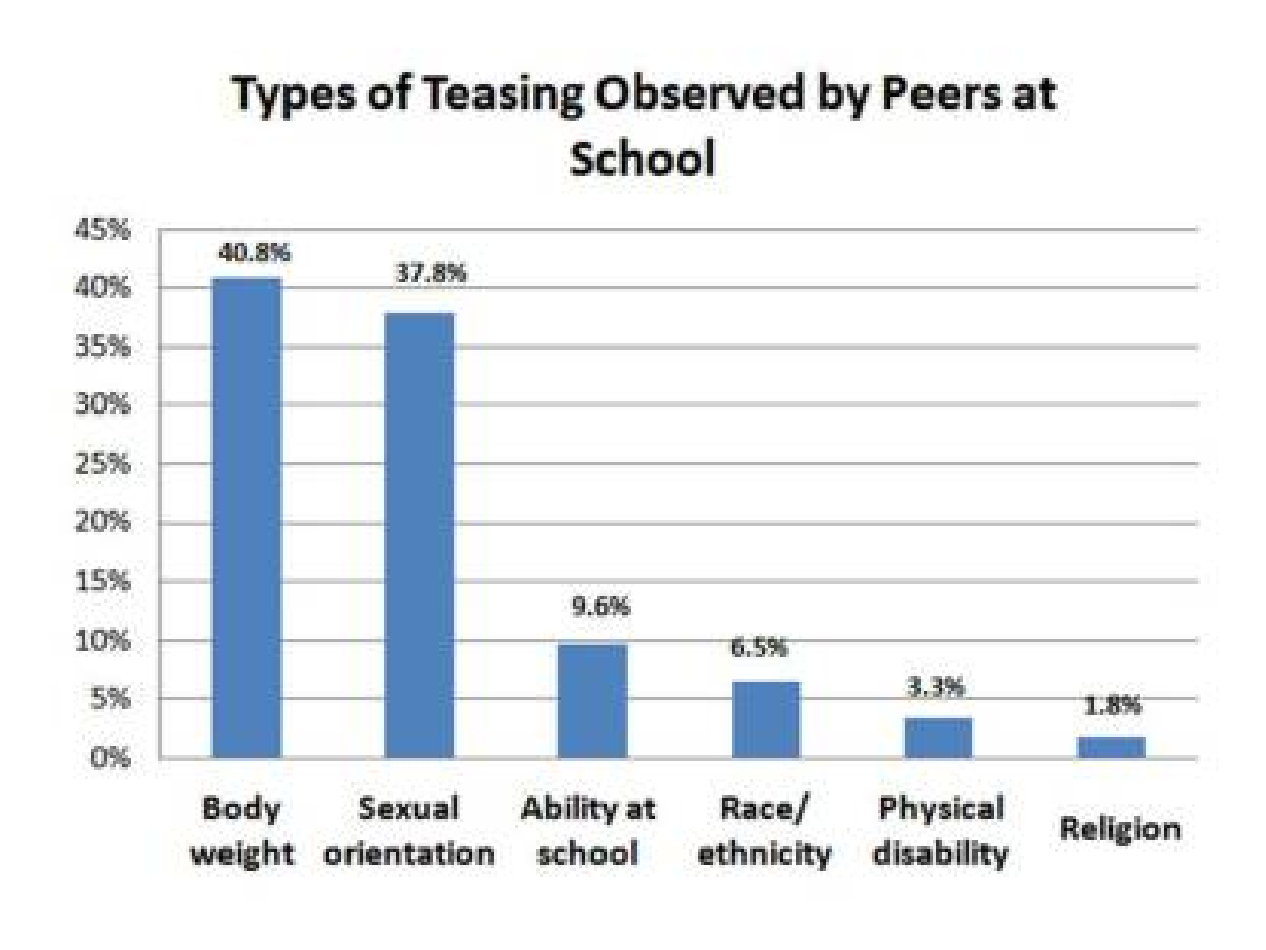
"There tends to be this public perception that maybe fat shaming is O.K. because it will provide motivation to lose weight. Instead, it is very harmful to health." Rebecca Puhl, PhD

Across life domains…

- Stigma occurs **across multiple domains of life** which means persons with overweight/obesity are vulnerable to stigmatizing situations **everywhere** and it starts **early in childhood**.

- Media
- Education
- Employment
- Healthcare settings
- Interpersonal relationships
- Social media

Most common form of bullying at school



Rudd Center for Food Policy and Obesity http://www.uconnruddcenter.org/

Obesity is stigmatizing throughout the lifespan

Stereotypes worsen; leads to weight-based teasing, bullying victimization by

- Peers
- Parents
- Teachers
- Media

Bias becomes institutionalized as discrimination:

- Employment
- Healthcare
- Education

Continued health consequences

Age 3-5 | Youth | Adolescence | Adulthood | Mid/Late Adulthood

Negative weight stereotypes begin in preschool

Parental and media weight biases are present

Continued bias/bullying from multiple sources

Negative impact on psychological, social, academic, physical wellbeing

Inequities in education begin

Weight stigma and discrimination remain present, especially for women.
Some evidence that stigma may decrease in older age, and is lower than bias toward younger individuals

From: Rebecca Puhl, at the keynote address to The Obesity Society, 2014

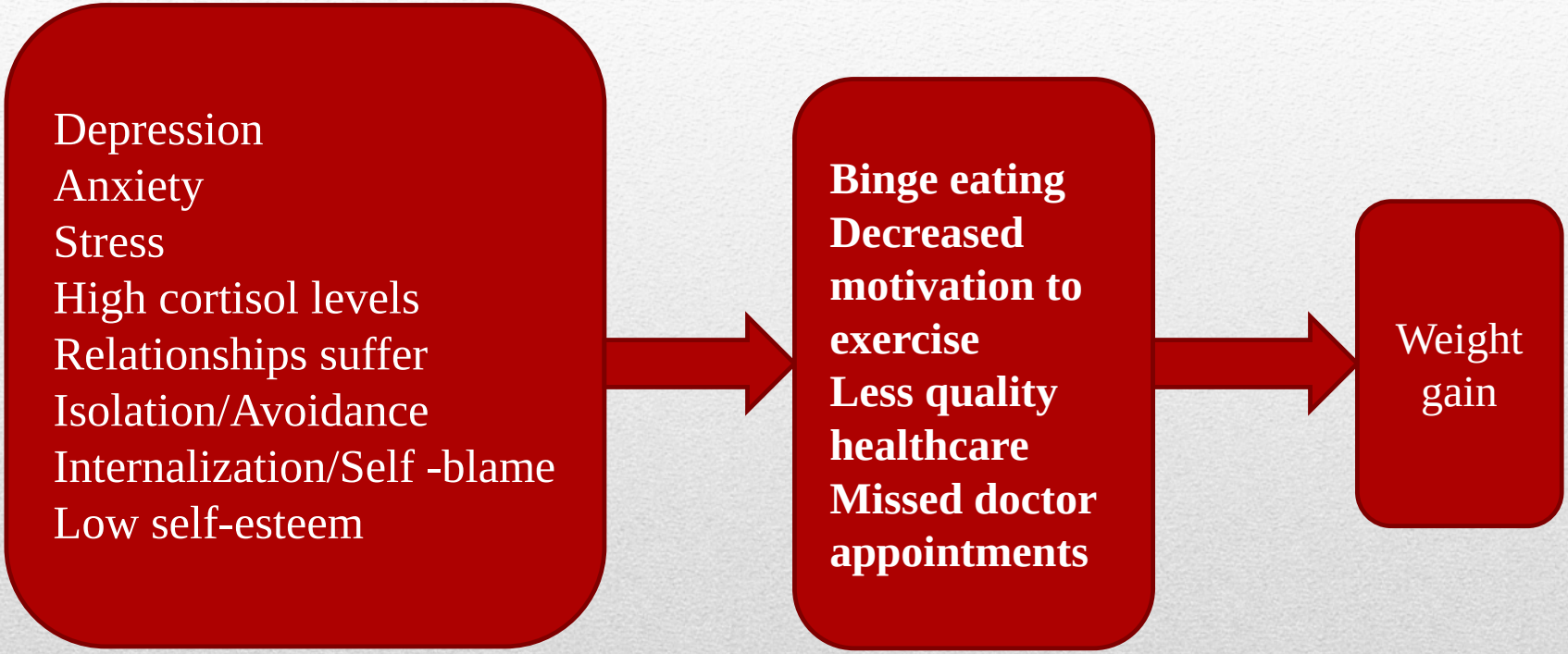
Effects of weight stigma on eating

- Females who experienced weight teasing during childhood (ages 6 and 12 yrs) reported **more binge eating** and LOC eating at age 20 yrs (Quick et al., 2013, Am J Public Health)

- **Experimental studies** show overeating increases following exposure to weight-bullying (Major et al., 2014, J. Experimental Social Psychology)

- Being called "fat" at age 10 **increases** risk of obesity at age 19, even after controlling for actual weight (Tomiyama et al., 2014 JAMA). *"We nearly fell off our chairs when we discovered this" said the UCLA researchers who conducted the study.*

Consequences of Weight Stigma



Nolan & Eslemann, 2016; Puhl & Latner, 2007; Pearl, White, & Grilo, 2013; Puhl, Neumark-Sztainer, & Austin, 2014; Puhl, R. & Suh, Y. (2015) Curr Obes Rep (2015) 4: 182. doi:10.1007/s13679-015-0153-z

Words matter

- Those with BED and obesity belong to two groups that have historically been stigmatized (i.e., individuals with excess weight and individuals with a mental health diagnosis)
- Study assessed how patients with BED and obesity view words their healthcare providers use when discussing body weight as well as feelings of loss of control during binge eating episodes.
- Patients with BED viewed *large size*, *obesity, excess fat,* and *fatness* negatively
- Terms such as *BMI*, and *unhealthy body weight or BMI* were viewed more favorably and ***weight*** **was the most preferred term**
- Concerns with eating and weight should be discussed, but care should be taken not to make patients feel negatively judged

- Kober et al. (2016) doi.org/10.1016/j.psychres.2016.09.045

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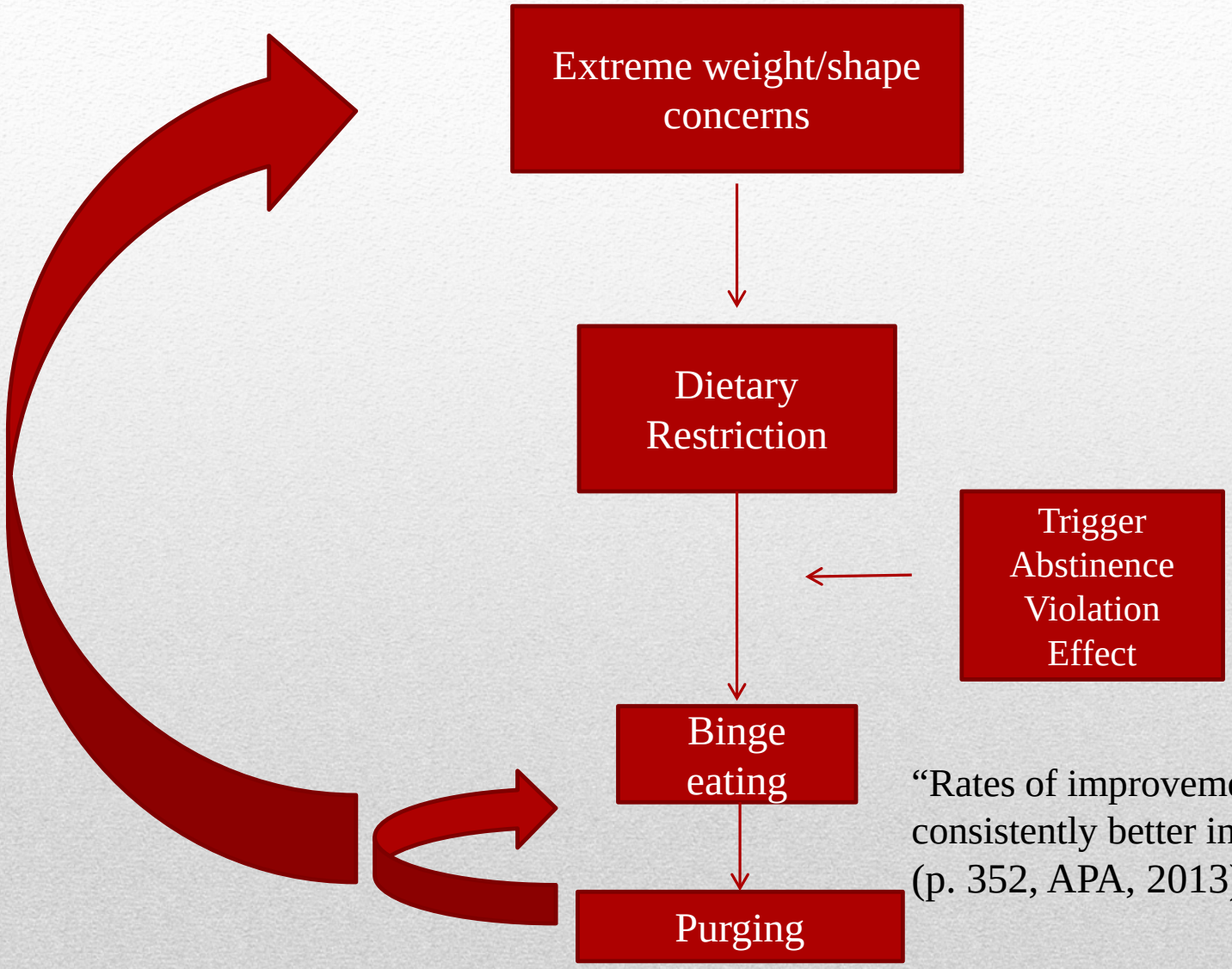


"Rates of improvement are consistently better in BED than BN" (p. 352, APA, 2013)

Figure 1. Restraint Model of Binge Eating in BN

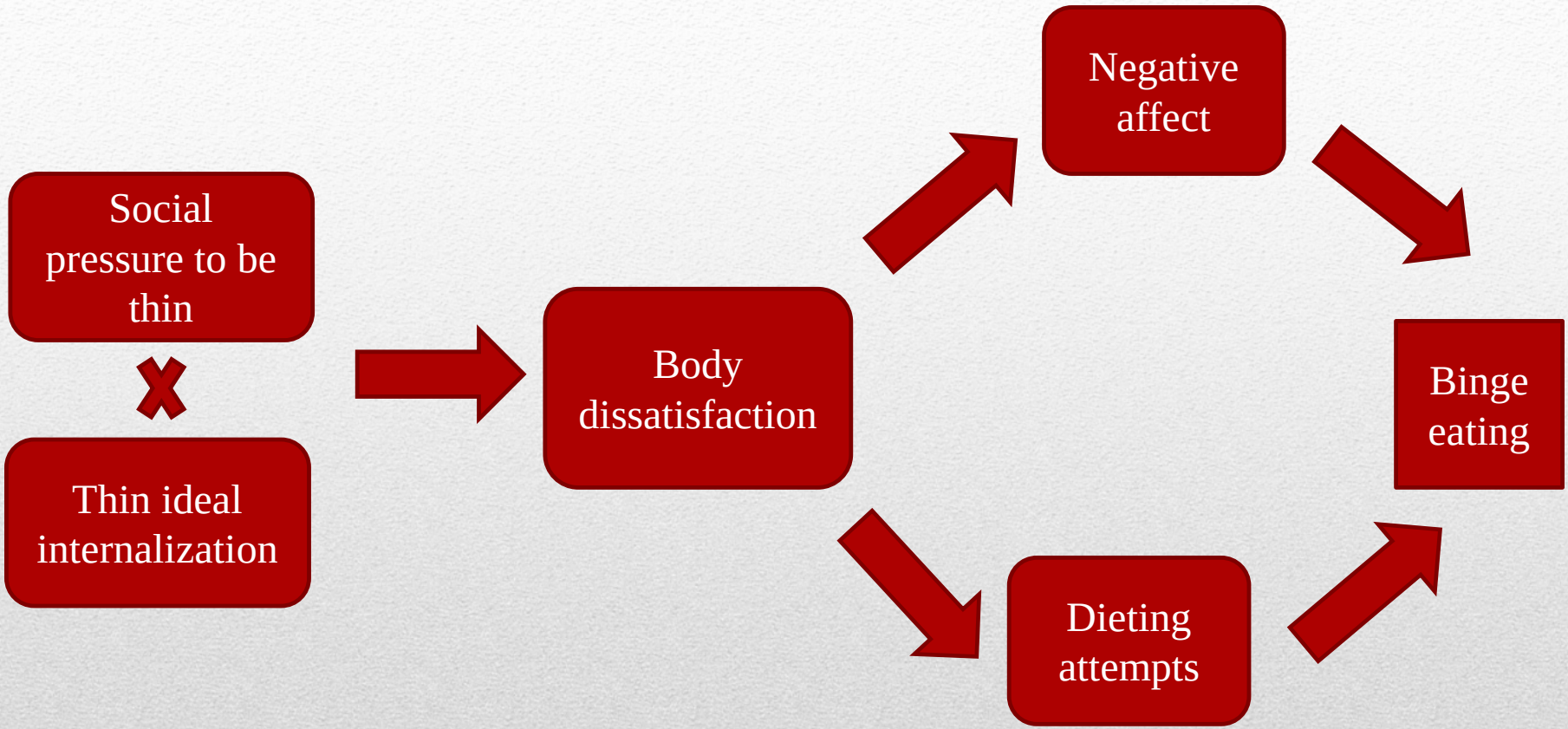
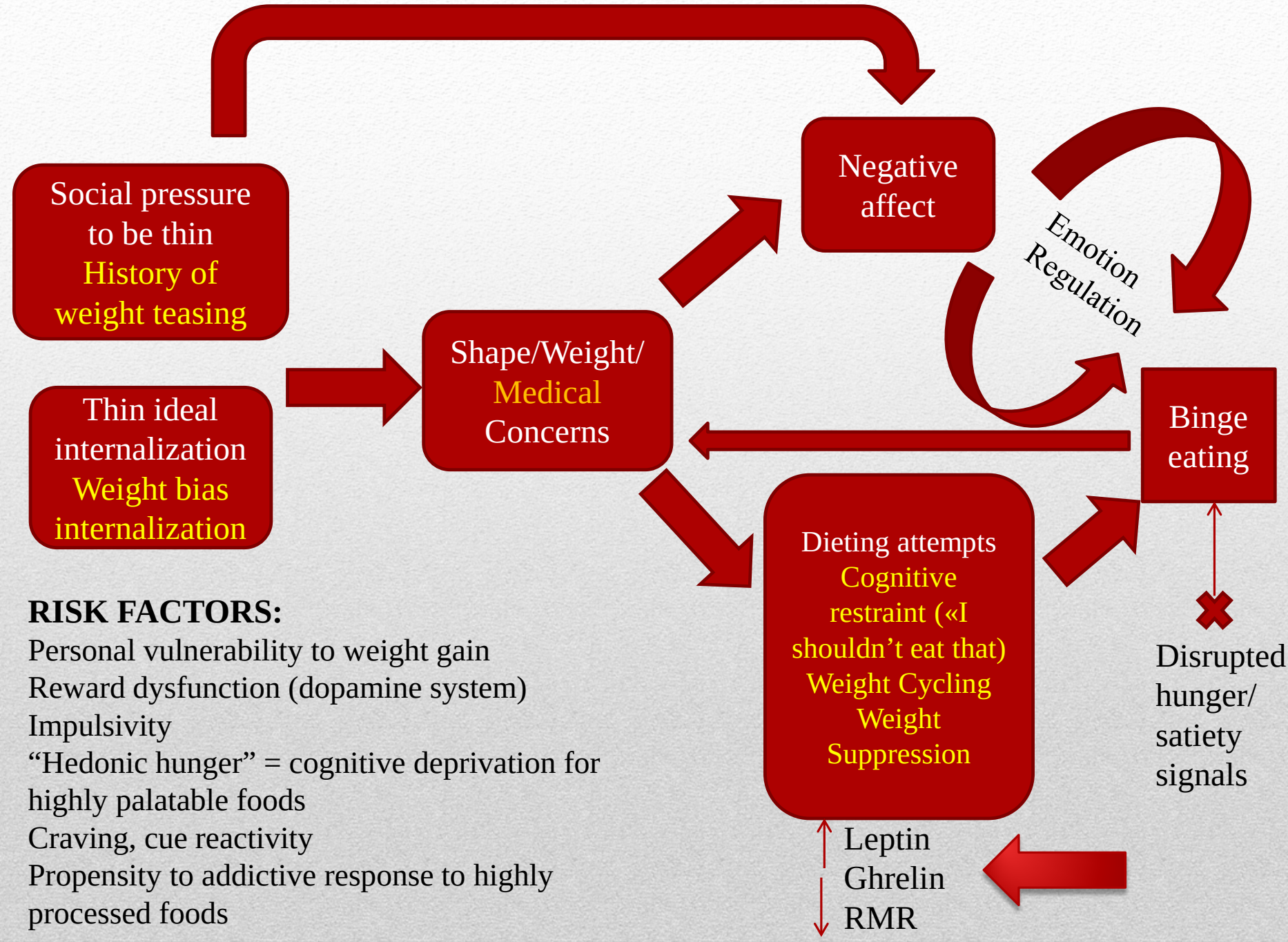


Figure 2. Dual Pathway of Binge Eating



RISK FACTORS:

Personal vulnerability to weight gain
Reward dysfunction (dopamine system)
Impulsivity
"Hedonic hunger" = cognitive deprivation for highly palatable foods
Craving, cue reactivity
Propensity to addictive response to highly processed foods

Biology of weight loss and binge eating

- "After the Big … ght to Regain Weight" http://www.nytim… loser-weight-loss.html
- Before show, Dan… ale, he weighed 191 pounds; 1 year lat…
- METABOLIC RA… **es a day than would be expected for a m…** ontrols hunger) and high levels of ghrelin (…

Fothergill, et al. (2016); Obesity, 24: 1612–1619. doi:10.1002/oby.21538

Agenda

- Definition ✓
- Classification ✓
- Prevalence and distribution ✓
- Obesity and BED ✓
- Mechanisms of action ✓
- Treatment

Treatment goals

- Reduce binge eating
- Address body image concerns and associated ED psychopathology
- Tackle depressive and comorbid symptomology
- Improve metabolic health and weight

Debate

Viewpoint #1: **Treat the obesity**

- "**Public health** experts who deal with obesity would say, 'If you're not treating the weight, it's like putting a band-aid on cancer,'" Kelly Brownell, PhD, Dean, Duke School of Public Health

Viewpoint #2: **Treat the binge eating**

- **Fears in ED community** that putting someone with an eating disorder on a ”diet”, that will make the eating problems worse (Restraint Model).
- Binge eating is distressing to patients and contributes to weight gain via a positive energy balance, so it’s important to treat outright

Viewpoint #3: **Try to treat both** (simultaneously or sequenced) in an interdisciplinary approach

Intervention Type	Treatment	Description
Psychological and behavioral	Cognitive behavioral therapy	Psychotherapy that focuses on identifying relations among thoughts, feelings, and behaviors, aiming to change negative thoughts about oneself and the world and, by doing so, reduce negative emotions and undesirable behavior patterns. Cognitive behavioral therapy is delivered is various ways—e.g., therapist-led individual and group sessions, self-help, and guided self-help.
Psychological and behavioral	Dialectical behavioral therapy	Behavioral therapy that focuses on increasing mindfulness and developing skills to improve emotion regulation, distress tolerance, and interpersonal relationships.
Psychological and behavioral	Interpersonal psychotherapy	Psychotherapy that focuses on the role of interpersonal functioning in negative mood, psychological distress, and unhealthy behaviors.
Psychological and behavioral	Behavioral weight loss	Treatment that incorporates various behavioral strategies to promote weight loss, such as caloric restriction and increased physical activity.
Pharmacological	Second-generation and tricyclic antidepressants	Treatment with a class of medications that works by selectively inhibiting reuptake of neurotransmitters involved in the regulation of mood and appetite (i.e., dopamine, norepinephrine, and serotonin). Common examples include bupropion, citalopram, desipramine, duloxetine, fluoxetine, and sertraline, commonly indicated for patients with depression.
Pharmacological	Anticonvulsants	Treatment with a class of medications used to treat epilepsy, bipolar disorder, major depression, and migraines; most commonly, topiramate.
Pharmacological	Antiobesity	Treatment with medications used to treat obesity. One example is orlistat, which inhibits pancreatic lipase, thereby decreasing fat absorption in the gut.
Pharmacological	Central nervous system stimulants	Treatment with a class of medications generally used to enhance or accelerate mental and physical processes, and specifically for treating patients with attention-deficit hyperactivity disorder and certain sleep problems. The only medication approved by the U.S. Food and Drug Administration for binge-eating disorder (lisdexamfetamine) belongs to this class.

From: Management and Outcomes of Binge-Eating Disorder. Agency for Healthcare Research and Quality (US); 2015 Dec. Report No.: 15(16)-EHC030-EF.

NICE guidelines

- CBT is recommended by NICE guidelines with a methodological grade “A” (self-help, with medication monotherapy as sufficient for some), APA guidelines (team-approach, therapist-led CBT) and 2015 Agency for Healthcare Research and Quality (Berkman et al., 2015) rated therapist-led CBT as “high benefit”.

- CBT generally achieves 50% binge abstinence within 12-16 wks, maintained up to 2-4 years.

- CBT and other specialist psychological interventions (IPT and DBT) do not address nor produce significant weight loss

Also see: Peterson et al. (2016). The three-legged stool of evidence-based practice in ED treatment: research, clinical and patient perspectives. BMC Medicine, 14:69. Brownley et al. (in press). BED in adults: A systematic review and meta-analysis. Annals of Intern Med.

- IPT vs CBT
- DBT
- BWL
- Combined approaches

ANZJP

APA Guidelines

Published in final edited form as:
Obesity (Silver Spring). 2008 September ; 16(9): . doi:10.1038/oby.2008.333.

Review and Meta-analysis of Pharmacotherapy for Binge-eating Disorder

Deborah L. Reas[1,2] and **Carlos M. Grilo**[3,4]

[1]Institute of Psychiatry, Faculty of Medicine, University of Oslo, Oslo, Norway

[2]Regional Eating Disorders Service (RASP), Psychiatric Division, Ullevål University Hospital, Oslo, Norway

[3]Department of Psychiatry, Yale University School of Medicine, New Haven, Connecticut, USA

[4]Department of Psychology, Yale University, New Haven, Connecticut, USA.

Abstract

This study evaluated available controlled treatment studies to determine utility of pharmacotherapy for binge-eating disorder (BED). The authors identified randomized placebo-controlled trials testing pharmacotherapy-only treatments and controlled trials testing pharmacotherapy with psychotherapy treatments. Meta-analysis was performed on placebo-controlled trials with data for attrition, remission, and weight loss. Qualitative review was performed on remaining controlled treatment literature. A total of 33 studies were considered of which 14 studies with a total of 1,279 patients were included in the meta-analysis of pharmacotherapy-only treatment and 8 studies with a total of 683 patients were included in the qualitative review of pharmacotherapy combined with psychotherapy interventions. No evidence suggested significant differences between medication and placebo for attrition. Evidence suggested that pharmacological treatments have a clinically significant advantage over placebo for achieving short-term remission from binge eating (48.7% vs. 28.5%) and for weight loss, although weight losses are not substantial. No data exist to allow evaluation of longer-term effects of pharmacotherapy-only treatment for BED. Combining medications with psychotherapy interventions failed to significantly enhance binge outcomes, although specific medications (orlistat, topiramate) enhanced weight losses achieved with cognitive behavioral therapy and behavioral weight loss. In summary, BED patients can be advised that certain pharmacotherapies may enhance likelihood of stopping binge eating short term, but that longer-term effects are unknown. Although some weight loss may occur, it is unlikely to be substantial with available medications. Combining medications with cognitive or behavioral treatments is unlikely to enhance binge outcomes, but specific medications (orlistat, topiramate) may enhance weight losses, albeit modestly.

EXPERT OPINION

1. Background
2. Medical need
3. Existing treatment
4. Market review
5. Current research goals
6. Competitive environment
7. Potential development issue
8. Conclusion
9. Expert opinion

Current and emerging drug treatments for binge eating disorder

Deborah L Reas & Carlos M Grilo[†]
[†]*Yale University School of Medicine, Department of Psychiatry, Program for Obesity Weight Eating Research, New Haven, CT, USA*

Introduction: This study evaluated controlled treatment studies of pharmacotherapy for binge eating disorder (BED).
Areas covered: The primary focus of the review was on Phase II and III controlled trials testing medications for BED. A total of 46 studies were considered and 26 were reviewed in detail. BED outcomes included binge eating remission, binge eating frequency, associated eating disorder psychopathology, associated depression and weight loss.
Expert opinion: Data from controlled trials suggest that certain medications are superior to placebo for stopping binge eating and for producing faster reductions in binge eating, and – to varying degrees – for reducing associated eating disorder psychopathology, depression and weight loss over the short term. Almost no data exist regarding longer-term effects of medication for BED. Except for topiramate, which reduces both binge eating and weight, weight loss is minimal with medications tested for BED. Psychological interventions and the combination of medication with psychological interventions produce binge eating outcomes that are superior to medication-only approaches. Combining medications with psychological interventions does not significantly enhance binge eating outcomes, although the addition of certain medications enhances weight losses achieved with cognitive-behavioral therapy and behavioral weight loss, albeit modestly.

EXPERT OPINION

Pharmacological treatment of binge eating disorder: update review and synthesis

Deborah L Reas[†] & Carlos M Grilo

[†]*Oslo University Hospital, Regional Department for Eating Disorders, Division of Mental Health and Addiction, Oslo, Norway*

Introduction: Binge eating disorder (BED), a formal eating disorder diagnosis in the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5), is characterized by recurrent binge eating, marked distress about binge eating, and the absence of extreme weight compensatory behaviors. BED is more prevalent than other eating disorders, with broader distribution across age, sex and ethnic/racial groups, and is associated strongly with obesity and heightened risk for psychiatric/medical comorbidities.

Areas covered: This article provides an overview of pharmacotherapy for BED with a focus on Phase III randomized controlled trials (RCTs). The search with minimal methodological inclusion requirements yielded 22 RCTs investigating several different medication classes; most were pharmacotherapy-only trials with 8 trials testing combination approaches with psychological–behavioral methods.

Expert opinion: The evidence base regarding pharmacotherapy for BED remains limited, although this year the FDA approved the first medication (i.e., lisdexamfetamine dimesylate; LDX) specifically for moderate-to-severe BED. Data from RCTs suggest certain medications are superior to placebos for reducing binge eating over the short term; almost no data exist regarding longer-term effects of pharmacotherapy for BED. Except for topiramate, which significantly reduces both binge eating and weight, tested medications yield minimal weight loss and LDX is not indicated for weight loss. Psychological–behavioral and combination approaches with certain medications yield superior outcomes to pharmacotherapy-only acutely and over longer-term follow-up.

Keywords: binge eating, binge eating disorder, medication, obesity, pharmacotherapy, placebo

Expert Opin. Pharmacother. [Early Online]

Combining Pharmacological and Psychological Treatments for Binge Eating Disorder: Current Status, Limitations, and Future Directions

Carlos M. Grilo [1] · Deborah L. Reas [2,3] · James E. Mitchell [4,5]

Abstract Binge eating disorder (BED) is characterized by recurrent binge eating and marked distress about binge eating without the extreme compensatory behaviors for weight control that characterize other eating disorders. BED is prevalent, associated strongly with obesity, and is associated with heightened levels of psychological, psychiatric, and medical concerns. This article provides an overview of randomized controlled treatments for *combined* psychological and pharmacological treatment of BED to inform current clinical practice and future treatment research. In contrast to the prevalence and significance of BED, to date, limited research has been performed on combining psychological and pharmacological treatments for BED to enhance outcomes. Our review here found that combining certain medications with cognitive behavioral therapy (CBT) or behavioral weight loss (BWL) interventions produces superior outcomes to pharmacotherapy only but does *not* substantially improve outcomes achieved with CBT/BWL only. One medication (orlistat) has improved weight losses with CBT/BWL albeit minimally, and only one medication (topiramate) has enhanced reductions achieved with CBT in both binge eating and weight. Implications for future research are discussed.

Keywords Binge eating disorder · Obesity · Cognitive behavioral therapy · Behavioral weight loss · Medication · Pharmacotherapy

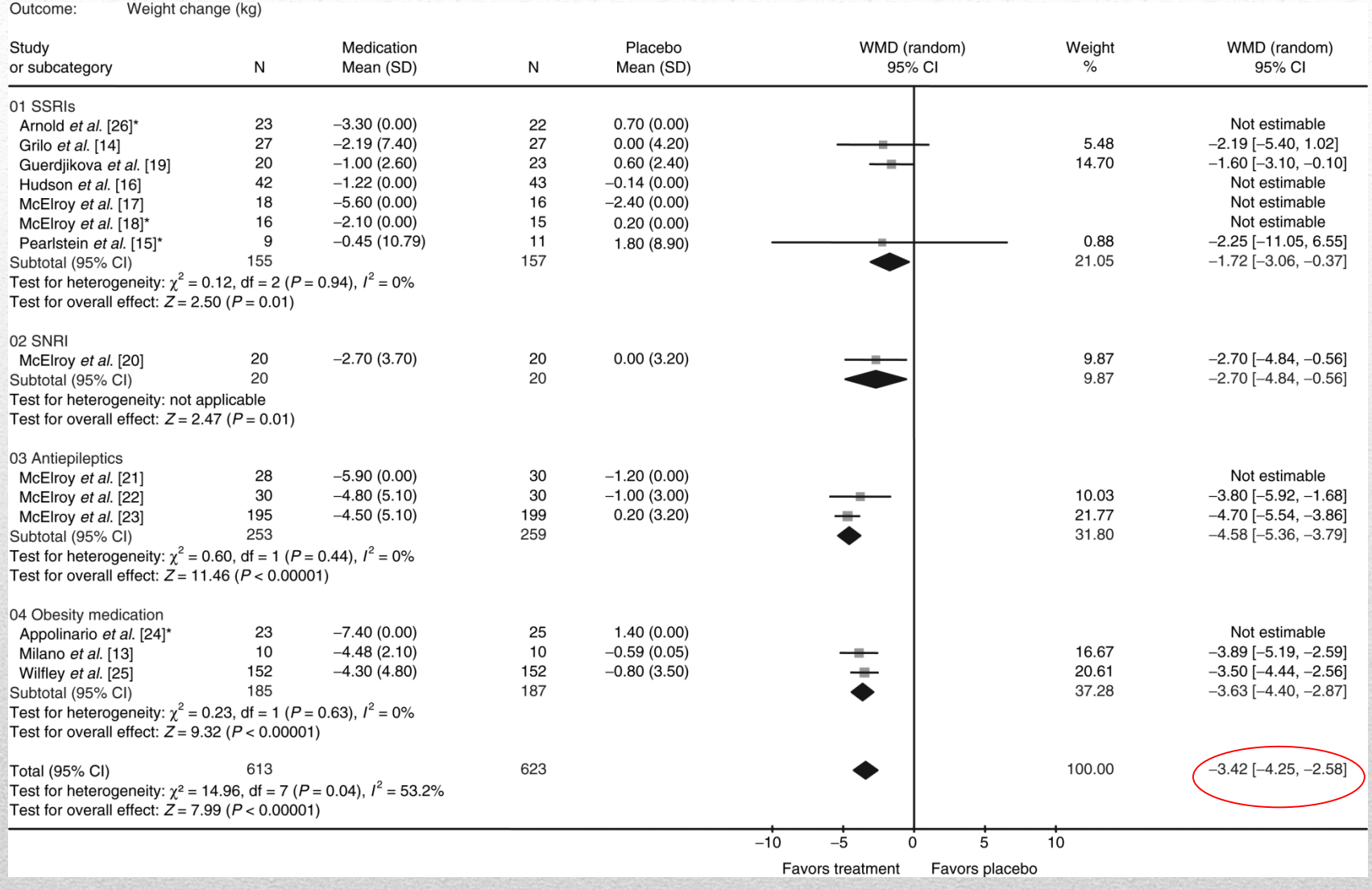
Introduction

Overview

- Between 1985-2016, over 30 phase II and III RCTS for BED
- Anti-obesity, anti-epileptic, and anti-depressive. Also new classes of medications tested (anti-craving, anti- addiction, ADHD, narcolepsy)
- Two anti-obesity drugs have been pulled from market (sibutramine and rimonabant).
- In 2015, first FDA-approved medication (lisdexamfetamine) was approved for moderate-to- severe BED in doses 50 mg/day and 70 mg/day (85% reduction in binge eating days versus 50% for placebo at 11-weeks)

Summary

- Pharmacological-only treatment have generally failed to produce clinically meaningful weight loss.
- Exception is topiramate (-4.5 kg loss vs +0.2 for placebo, but topiramate is associated with cognitive adverse events
- 3 trials for LDX vs placebo (50 and 70 mg/day) produced -4.9 kg losses (about 5-6% loss), but LDX is not indicated or recommended for weight loss due to cardiovascular problems associated with other sympathommimetric medications (“Limitation of Use”) and there are other restrictions (Schedule 2).


Outcome: Weight change (kg)
Study or subcategory
N
Medication Mean (SD)
N
Placebo Mean (SD)
WMD (random) 95% CI
Weight %
WMD (random) 95% CI
01 SSRIs
Arnold et al. [26]* 23 −3.30 (0.00) 22 0.70 (0.00) Not estimable
Grilo et al. [14] 27 −2.19 (7.40) 27 0.00 (4.20) 5.48 −2.19 [−5.40, 1.02]
Guerdjikova et al. [19] 20 −1.00 (2.60) 23 0.60 (2.40) 14.70 −1.60 [−3.10, −0.10]
Hudson et al. [16] 42 −1.22 (0.00) 43 −0.14 (0.00) Not estimable
McElroy et al. [17] 18 −5.60 (0.00) 16 −2.40 (0.00) Not estimable
McElroy et al. [18]* 16 −2.10 (0.00) 15 0.20 (0.00) Not estimable
Pearlstein et al. [15]* 9 −0.45 (10.79) 11 1.80 (8.90) 0.88 −2.25 [−11.05, 6.55]
Subtotal (95% CI) 155 157 21.05 −1.72 [−3.06, −0.37]
Test for heterogeneity: χ2 = 0.12, df = 2 (P = 0.94), I2 = 0%
Test for overall effect: Z = 2.50 (P = 0.01)
02 SNRI
McElroy et al. [20] 20 −2.70 (3.70) 20 0.00 (3.20) 9.87 −2.70 [−4.84, −0.56]
Subtotal (95% CI) 20 20 9.87 −2.70 [−4.84, −0.56]
Test for heterogeneity: not applicable
Test for overall effect: Z = 2.47 (P = 0.01)
03 Antiepileptics
McElroy et al. [21] 28 −5.90 (0.00) 30 −1.20 (0.00) Not estimable
McElroy et al. [22] 30 −4.80 (5.10) 30 −1.00 (3.00) 10.03 −3.80 [−5.92, −1.68]
McElroy et al. [23] 195 −4.50 (5.10) 199 0.20 (3.20) 21.77 −4.70 [−5.54, −3.86]
Subtotal (95% CI) 253 259 31.80 −4.58 [−5.36, −3.79]
Test for heterogeneity: χ2 = 0.60, df = 1 (P = 0.44), I2 = 0%
Test for overall effect: Z = 11.46 (P < 0.00001)
04 Obesity medication
Appolinario et al. [24]* 23 −7.40 (0.00) 25 1.40 (0.00) Not estimable
Milano et al. [13] 10 −4.48 (2.10) 10 −0.59 (0.05) 16.67 −3.89 [−5.19, −2.59]
Wilfley et al. [25] 152 −4.30 (4.80) 152 −0.80 (3.50) 20.61 −3.50 [−4.44, −2.56]
Subtotal (95% CI) 185 187 37.28 −3.63 [−4.40, −2.87]
Test for heterogeneity: χ2 = 0.23, df = 1 (P = 0.63), I2 = 0%
Test for overall effect: Z = 9.32 (P < 0.00001)
Total (95% CI) 613 623 100.00 −3.42 [−4.25, −2.58]
Test for heterogeneity: χ2 = 14.96, df = 7 (P = 0.04), I2 = 53.2%
Test for overall effect: Z = 7.99 (P < 0.00001)
−10
−5
0
5
10
Favors treatment
Favors placebo

WEIGHT LOSS

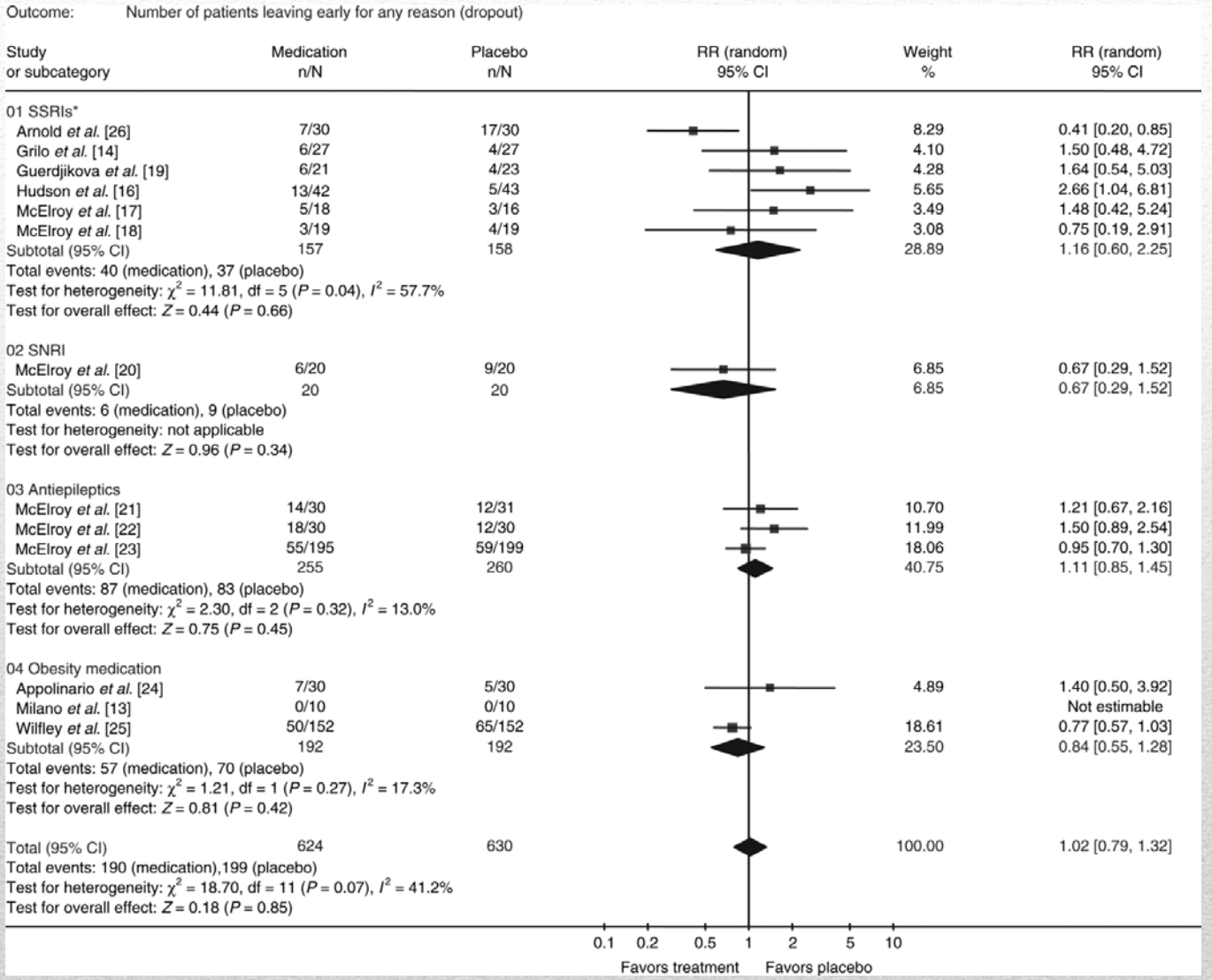
Summary

- For *binge eating*, combining pharmacotherapy with psychotherapy produces superior outcome than pharmacotherapy alone, but is not better than psychotherapy alone.

- For *weight loss*, topiramate (anti-epileptic) has enhanced weight loss achieved with CBT (e.g., 6.8 kg vs 0.9 kg). Orlistat (prevents absorption of fats) has improved weight losses with CBT alone, albeit minimally (32% vs 8% of participants achieved a 5% weight loss at 3-months)

Methodological Limitations

- RCTs short (generally 6-24 weeks)
- Lack of long-term FUP ("acute-care" design for BED compared to obesity trials generally "life-long").
- Most subjects are female, white
- Many trials exclude patients with depression or comorbidity, reducing generalizability and representativeness


Outcome: Number of patients leaving early for any reason (dropout)
Study or subcategory
Medication n/N
Placebo n/N
RR (random) 95% CI
Weight %
RR (random) 95% CI
01 SSRIs*
Arnold et al. [26] 7/30 17/30 8.29 0.41 [0.20, 0.85]
Grilo et al. [14] 6/27 4/27 4.10 1.50 [0.48, 4.72]
Guerdjikova et al. [19] 6/21 4/23 4.28 1.64 [0.54, 5.03]
Hudson et al. [16] 13/42 5/43 5.65 2.66 [1.04, 6.81]
McElroy et al. [17] 5/18 3/16 3.49 1.48 [0.42, 5.24]
McElroy et al. [18] 3/19 4/19 3.08 0.75 [0.19, 2.91]
Subtotal (95% CI) 157 158 28.89 1.16 [0.60, 2.25]
Total events: 40 (medication), 37 (placebo)
Test for heterogeneity: χ^2 = 11.81, df = 5 (P = 0.04), I^2 = 57.7%
Test for overall effect: Z = 0.44 (P = 0.66)
02 SNRI
McElroy et al. [20] 6/20 9/20 6.85 0.67 [0.29, 1.52]
Subtotal (95% CI) 20 20 6.85 0.67 [0.29, 1.52]
Total events: 6 (medication), 9 (placebo)
Test for heterogeneity: not applicable
Test for overall effect: Z = 0.96 (P = 0.34)
03 Antiepileptics
McElroy et al. [21] 14/30 12/31 10.70 1.21 [0.67, 2.16]
McElroy et al. [22] 18/30 12/30 11.99 1.50 [0.89, 2.54]
McElroy et al. [23] 55/195 59/199 18.06 0.95 [0.70, 1.30]
Subtotal (95% CI) 255 260 40.75 1.11 [0.85, 1.45]
Total events: 87 (medication), 83 (placebo)
Test for heterogeneity: χ^2 = 2.30, df = 2 (P = 0.32), I^2 = 13.0%
Test for overall effect: Z = 0.75 (P = 0.45)
04 Obesity medication
Appolinario et al. [24] 7/30 5/30 4.89 1.40 [0.50, 3.92]
Milano et al. [13] 0/10 0/10 Not estimable
Wilfley et al. [25] 50/152 65/152 18.61 0.77 [0.57, 1.03]
Subtotal (95% CI) 192 192 23.50 0.84 [0.55, 1.28]
Total events: 57 (medication), 70 (placebo)
Test for heterogeneity: χ^2 = 1.21, df = 1 (P = 0.27), I^2 = 17.3%
Test for overall effect: Z = 0.81 (P = 0.42)
Total (95% CI) 624 630 100.00 1.02 [0.79, 1.32]
Total events: 190 (medication),199 (placebo)
Test for heterogeneity: χ^2 = 18.70, df = 11 (P = 0.07), I^2 = 41.2%
Test for overall effect: Z = 0.18 (P = 0.85)
0.1 0.2 0.5 1 2 5 10
Favors treatment
Favors placebo

ATTRITION

Future directions

- Limited evidence base for available pharmacotherapy approaches tried for BED (in combination or alone) to achieve clinically meaningful weight loss
- Need for longer-term outcomes
- Greater sample diversity
- More comprehensive assessment
- “Clinically-logical” strategy of adding new FDA-approved anti-obesity medications to empirically-supported psychological tx to enhance weight loss has not been tested
- How to tailor treatment to the individual, identify treatment-specific mediators and moderators, staging and stepped-care models, greater consideration of patient preferences and values (“three-legged stool”, see Peterson et al., 2016)

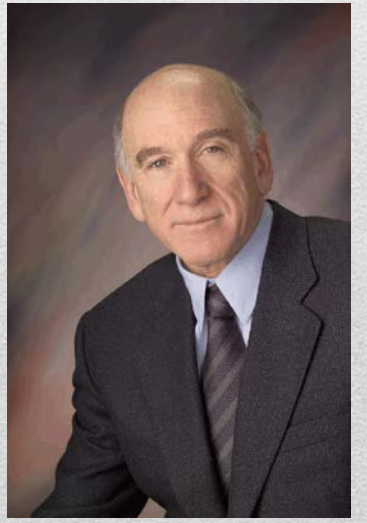
Agenda

- Definition
- Classification
- Prevalence and distribution
- Obesity and BED
- Mechanisms of action
- Treatment

- The Binge Eating Disorder Association (BEDA) is the largest national organization focused on providing leadership, recognition, prevention, and treatment of BED and associated weight stigma. Founded in 2008. Through outreach, education and advocacy, BEDA facilitates increased awareness, proper diagnosis, and treatment of BED.

http://bedaonline.com/

- “There is powerful biology underlying both obesity and eating disorders, it's not just a matter of willpower.” Walter Kaye, MD, Director of UCSD Eating Disorders Center for Treatment and Research



THANK YOU!

deborah.lynn.reas@ous-hf.no