


CLINICAL PERSPECTIVES

Current approach to eating disorders: a clinical update

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Key words

anorexia nervosa, bulimia nervosa, binge eating disorder, epidemiology, treatment.

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Received 11 May 2019; accepted 26 July 2019.

Abstract

This article presents current diagnostic conceptualisations of eating disorders, including new disorders such as binge eating disorder (BED) and avoidant/restrictive food intake disorder (ARFID). This is followed by contemporary findings in the epidemiology of eating disorders, their broad sociodemographic distribution and the increases in community prevalence. Advances and the current status of evidence-based treatment and outcomes for the main eating disorders, anorexia nervosa, bulimia nervosa and BED are discussed with focus on first-line psychological therapies. Deficits in knowledge and directions for further research are highlighted, particularly with regard to treatments for BED and ARFID, how to improve treatment engagement and the management of osteopenia.

Introduction

The conceptualisation of eating disorders has expanded rapidly in the last 10 years to include binge eating disorder (BED) and avoidant/restrictive food intake disorder (ARFID) in addition to anorexia nervosa and bulimia nervosa. These are now recognised as four well-conceptualised disorders, which have been reclassified as Feeding and Eating Disorders (FEDs) in the 5th revision of the American Psychiatric Association's *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5) published in 2013 and in the 11th revision of the World Health Organisation's *International Statistical Classification of Diseases and Related Health Problems* published in 2019.^{1,2} The common key diagnostic features of the main disorders of both schemes are shown in Table 1. The vast majority of research and clinical understanding is with anorexia nervosa, bulimia nervosa and BED, and thus this paper will focus on these.

Funding: Disclosure: P. Hay has received in sessional fees and lecture fees from the Australian Medical Council, Therapeutic Guidelines publication, and New South Wales Institute of Psychiatry and royalties from Hogrefe and Huber, McGraw Hill Education, and Blackwell Scientific Publications, and she has received research grants from the NHMRC and ARC. She is Chair of the National Eating Disorders Collaboration in Australia. In July 2017, she provided a commissioned report for Shire Pharmaceuticals on lisdexamfetamine and binge eating disorders and has received Honoraria from Shire for teaching at educational events for Psychiatrists.

Conflict of interest: None.

Anorexia nervosa and bulimia nervosa are eating disorders characterised by the internalisation of the thin ideal and extreme weight-control behaviours. In both, overvaluation of weight and shape – where such body image concern is of major or paramount importance to self-view – is a mandatory criterion. Anorexia nervosa is distinct as a condition of self-starvation, where people are underweight and engaged in behaviours to prevent weight gain. It includes people who do and do not binge eat or purge (induce vomiting or laxative/diuretic misuse). People with bulimia nervosa are not underweight, and are in a cycle of binge eating and purging and/or fasting/compulsive exercise. In contrast, BED and ARFID are the first FEDs that do not have body image concerns as core diagnostic criteria. They are distinguished by being disorders of eating behaviours, the former of recurrent binge eating without regular purging and the latter of avoidance and aversion to food and eating. All eating disorders occur across the age spectrum although anorexia nervosa and ARFID more commonly present in childhood and adolescence years, whereas bulimia nervosa and BED are uncommon in paediatric populations.

Advances in diagnosis and classification

The changes to diagnostic criteria for anorexia nervosa in DSM-5 and ICD-11 are subtle but important. Although physical consequences of starvation such as

Table 1 Key diagnostic features of the main feeding and eating disorders

	Anorexia nervosa	Bulimia nervosa	Binge eating disorder	Avoidant/restrictive food intake disorder
Eating	Severe restriction	Irregular, skipping meals common as well as restriction	Irregular but no extreme restriction	Severe restriction of all or selected foods
Weight	Underweight	Normal or above normal	Normal or above normal	Underweight and/or with nutrition deficiency
Body image	Overvaluation with or without 'fear of fatness'	Overvaluation	Overvaluation but not mandatory	No overvaluation
Binge eating	May occur	Regular and with compensation	Regular without compensation	NA
Purging, fasting, driven exercise weight control behaviour(s)	One or more is present	Regular as compensatory behaviours	Not regular	None

amenorrhoea and osteopenia still occur, the former is no longer a mandatory criterion to diagnose anorexia owing to its frequent lack of applicability, for example in men and women who are taking hormonal contraception. In DSM-5, there are also severity criteria based on body mass index (BMI; kg/m²) levels or their equivalent in children but no upper BMI, and whether a person is underweight (needed for a diagnosis of anorexia nervosa) is a clinical judgement. People with a BMI in the normal range but who otherwise resemble those with anorexia nervosa may be given the DSM-5 diagnosis of Atypical Anorexia Nervosa – a type of Other Specified Feeding or Eating Disorder (OSFED).

Another change to anorexia nervosa in both schemes is to no longer require the person to report a 'fear of fatness' or weight gain – regarded often as a culturally specific phenomenon. However, if this is not reported, evidence of weight prevention/loss behaviours is required to confirm a diagnosis of anorexia nervosa. Overvaluation and other body image concerns may occur in people with BED but are proscribed for individuals with ARFID in both schemes.

Bulimia nervosa has changed little, but the criteria have broadened, and binge eating (overeating on contextually large amounts of food over which the person has lost control of eating) with compensatory weight loss behaviours may now occur as little as once a week, but this must be for 3 months in DSM-5 or 1 month in ICD-11. Similarly, a minimum frequency of weekly binge eating over several months is required for a diagnosis of BED in both schemes. However, although overvaluation is not required in either scheme, marked distress associated with binge eating is mandatory for BED. In the DSM-5, 3/5 additional features associated with binge eating are also required for BED. These additional features are: (i) eating rapidly than normal; (ii) eating when

not hungry; (iii) eating until uncomfortably full; (iv) eating alone; and (v) negative emotions of depression, guilt or disgust following overeating.¹ Both bulimia nervosa and BED occur evenly across the weight spectrum, from normal to above normal bodyweights. In clinical settings, the diagnosis of bulimia nervosa is commonly made in the context of purging behaviours such as self-induced vomiting and laxative misuse for weight control. However, people with bulimia nervosa can also present without purging, but with extreme dietary restriction/fasting and/or driven exercise regimens. This non-purging form of bulimia nervosa is more common in the community³ and may differ from BED only in the manifestation of regular compensatory behaviours. ICD-11 differs from DSM-5 with regard to defining BED, in neither requiring the amount of food consumed in a binge to be unusually large – that is subjective binge episodes are included – nor requiring the 3/5 additional features of binge eating.² These broader criteria are likely to increase the clinical utility of the ICD scheme compared with DSM and are in line with the lived experience of BED, whereby it is the loss of control and perception of overeating that is the distressing quality of the binge episode, much more so than the amount of food eaten.

People with eating disorders that do not meet the behavioural frequency or other criteria of one of the main eating disorders and whose problems are less well conceptualised, previously termed as Eating Disorder Not Otherwise Specified, may be now classified as OSFED or Unspecified FED (UFED) in the DSM-5,¹ or as the poorly specified Other Feeding or Eating Disorder in ICD-11.² OSFED includes atypical anorexia nervosa, sub-threshold bulimia nervosa and BED, purging disorder and night eating syndrome.

Atypical anorexia nervosa, that is anorexia nervosa where BMI may be in the 'adequate' range of 20–25

kg/m² or higher, is probably becoming more common as the mean weight of the general population shifts to the right. Management is similar to anorexia nervosa. Night eating syndrome often presents in the context of sleep disturbance. It is similar to BED in assessment and management. Purging disorder (without regular binge eating) is not very common, and its management is similar to that for bulimia nervosa.

Although evidence is limited, the addition of these previously unrecognised eating disorders, such as BED and ARFID, has implications for clinicians, jurisdictions and more broadly public health. Prevention initiatives, clinician awareness and health service infrastructure may need to be expanded to ensure adequate identification and management of the now diverse spectrum of eating disorders.

Epidemiology including distribution and determinants

A systematic review reported weighted population means (and ranges) of lifetime prevalence as: (i) anorexia nervosa 1.4% (0.1–3.6%) for women and 0.2% (0–0.3%) for men, (ii) bulimia nervosa 1.9% (0.3–4.6%) for women and 0.6% (0.1–1.3%) for men and (iii) BED 2.8% (0.6–5.8%) for women and 1.0% (0.3–2.0%) for men.⁴ There are few studies on the general population prevalence of DSM-5 eating disorders. An Australian adult general population study included cases of OSFED and ARFID.³ It found a 3-month prevalence of bulimia nervosa (1.2%) and BED (1.5%) respectively. (Note that the study did not, however, apply the DSM-5 3/5 binge eating specifiers.) The study also examined ARFID and OSFED and found a prevalence of 0.3% and 3.2% respectively. The majority of OSFED had atypical anorexia nervosa.³ Many people (around 10%) reported weekly binge eating but without marked distress, these were placed in UFED – however, this group did not have high levels of health impairment, casting some doubt on the clinical significance of this group.³

The true community incidence of eating disorders is unknown. However, cohort and clinical incidence studies suggest a community-wide increase in bulimia nervosa and in BED.

Increases in anorexia nervosa also have occurred and are greatest in young women.^{5,6} All three main disorders are also associated with moderate to high levels of psychosocial and work impairment.^{3,6}

The prevalence of eating disorders is higher in women and in young people. However, BED is more common in men. All problems may be more prevalent across socio-economic groups and in First Australians than previously thought.⁷ Risk minimisation may be achieved with improved media literacy, reduced thin idealisation and

promoting a positive/healthy relationship with weight and eating.⁸ Bulimia nervosa and BED shared intersecting risk factors for overweight/obesity (e.g. a child history of trauma). Therefore, weight loss management, if required, is best in a supervised environment where care can be taken to address and prevent emergence of eating disorders and other psychological co-morbidities.⁹

Management of eating disorders – overview

For all eating disorders (including ARFID), the main treatment as delineated in the current national and international guidelines is a form of psycho-behavioural therapy which can most usually be provided on an out-patient basis.^{9–11} People with more severe symptoms, or who are not improving with less restrictive care may be treated in a partial (day) or full hospital specialist programme.^{11,12} Evidence-based therapies delivered by an eating disorders-informed clinician are considered most efficacious, and are preferred by people with eating disorders.¹² This approach may also be more cost-effective and reduce hospitalisations.¹²

In addition to specific psychological therapy, treatment needs to address important nutritional, physical and mental health co-morbidities and thus is ideally from a multi-disciplinary team. These teams at a minimum would comprise a psychological therapist and a family doctor. In more complex cases of eating disorders, such as most people with anorexia nervosa, more severe cases of bulimia nervosa and BED, and those requiring hospital care, additional interdisciplinary supports are required. These include a registered dietitian, specialist physician/paediatrician, psychiatrist, nurse(s), an exercise therapist, activity/occupational therapist and social worker or family therapist.^{9–11}

Psychological therapies

Specific psychological therapies like the trans-diagnostic Cognitive Behaviour Therapy – Enhanced (CBT-E) are the first-line treatment for all eating disorders with the greatest impact on symptom reduction and other outcomes.¹³ This is usually delivered in 20 weekly sessions for bulimia nervosa and BED and in 40 sessions for anorexia nervosa.

Briefer forms (e.g. 10 sessions of online guided self-help CBT) as a first step in care or for people with less severe illness have been developed.⁹ These have a moderate evidence base, comparable to CBT delivered by an eating disorder informed therapist, but many people continue to be symptomatic and require further sessions. ‘Pure’ self-help, where there is no guidance, is

not recommended except as a first step while waiting for care.

The most major recent advances in treatments for eating disorders have come from psychological therapy trials of child/adolescent and adults with anorexia nervosa supported by several systematic reviews and network and other meta-analyses.¹⁴ In children and adolescents, an atheoretical family-based treatment (FBT) is the leading modality of care. FBT may be delivered in whole family as well as separated family (where the parents are seen apart from the child).¹⁵ Family therapy has also been adapted for bulimia nervosa.⁹ An alternative, but with a weaker evidence base to FBT, is a form of CBT-E that has been modified to have additional brief family sessions.¹⁶ Similarly, adolescent focal psychotherapy can be used for younger people with anorexia nervosa.⁹

Although there is no similar leading therapy for adults with anorexia nervosa, CBT is the most commonly practised therapy in Australia. Other evidence-based psychological therapies for anorexia nervosa are the Maudsley Anorexia Nervosa Therapy for Adults (MANTRA),¹⁷ Specialist Supportive Clinical Management (SSCM)¹⁸ and Focal Psychodynamic Therapy (FPT).¹⁹ Table 2 summarises the key elements of the main evidence-based therapies for adults and a good description of all psychological therapies is found in the NICE guidelines.¹⁰ All therapies provide psycho-education and aim to restore the person's physical health with weight monitoring, nutritional counselling and meal planning, often alongside sessions from a registered dietitian. They were developed for individual outpatient care over 8 months or longer. CBT has been adapted for delivery in group settings, which is usual in hospital programmes. All have manuals to provide

guidance for therapies and which are used in training. In Australia, the most accessible training is for CBT, followed by SSCM and MANTRA. All have moderate levels of attrition.

Pharmacological therapies

In contrast to psychological care, there have been fewer advances in pharmacological treatments for anorexia nervosa. There are several small trials now of second-generation antipsychotics, such as olanzapine for anorexia nervosa with mixed results.¹¹ A recent large ($n = 152$) 16-weeks outpatient placebo-controlled trial of olanzapine (mean dose 7.77 mg/day) as a primary treatment for adults with anorexia nervosa found a moderate effect size on weight gain favouring the active drug.²⁰ However, the rate of weight gain was very small (approximately 0.7 kg/month) and negligible with placebo. There were no other significant differences on primary outcomes and only one secondary outcome difference for shape concerns favouring the placebo arm. Importantly, there were no differences on metabolic outcomes. Other psychotropic agents, such as antidepressants, have little direct role or evidence for treatment in anorexia nervosa, but antidepressants may be used where there is co-morbid major depression.¹⁴

There are several trials supporting agents for the treatment of BED and bulimia nervosa. Since the early trials of higher dose-selective serotonin reuptake inhibitors (e.g. fluoxetine 60 mg daily), there has been a small number of trials of topiramate and (for BED) lisdexamfetamine.^{11,21} Meta-analyses support a role for the second-generation antidepressants and lisdexamfetamine but not as standalone treatments as effect sizes are small to medium and attrition may be higher than with

Table 2 Comparative features of evidence based therapies for adults with anorexia nervosa

	CBT-E ¹³	MANTRA ¹⁷	SSCM ¹⁸	FPT ¹⁹
Theoretical model	CBT formulation and trans-diagnostic maintaining factors	Cognitive/interpersonal	Atheoretical	Psychodynamic formulation
Targets	Dysfunctional beliefs, disordered eating	Intra- and interpersonal maintaining factors, for example inflexibility	Undernutrition, other 'targets' as personalised goals	Intra- and interpersonal maintaining factors, for example low self-esteem
Therapy tools	Behavioural monitoring, behavioural experiments, cognitive restructuring, chain analyses	Motivational interviewing, social integration and cognitive remediation	Psychoeducation, supportive therapy	Exploration of beliefs/schema; interpersonal therapy, goal setting, new behaviours
Mood symptoms	Core mood intolerance module	Emotion skills training	Symptom management	Exploration/analysis of affective-emotional experiences

CBT-E, Cognitive Behaviour Therapy – Enhanced; FPT, Focal Psychodynamic Therapy; MANTRA, Maudsley Anorexia Nervosa Therapy for Adults; SSCM, Specialist Supportive Clinical Management.

psychological therapies.²¹ Most use in Australia is also ‘off label’, with the exception of lisdexamfetamine which is approved for BED that is moderate to severe and under specialist psychiatrist management. The longer term safety of lisdexamfetamine is considered commensurate with that found for its use in attention-deficit/hyperactivity disorder.

Refeeding and osteopenia

The risks of refeeding too quickly and the refeeding syndrome are now well-recognised, but programmes may have become overcautious. Research supports optimising hospital care to allow more rapid weight regain protocols and more assertive refeeding protocols have been demonstrated to be safe when combined with assertive medical monitoring and nutritional supplementation of, for example phosphate.²² However, such regimens need to monitor psychological distress as this may be higher with more rapid weight gain.

Osteopenia in people with sustained periods of low weight and sex steroid suppression continues to be a known medical risk for which treatment remains an ‘unmet critical need’ (Schorr *et al.*, p. 78).²³ Bone loss may be irreversible, especially if this occurs during the critical growth period of post-pubertal bone accretion. People with anorexia nervosa thus may not reach their peak bone mass and hence later in life more quickly reach osteopenic levels, especially women in their post-menopausal years. Thus, there is both increased risk of fracture in youth as well as older age. Management relies on weight restoration and normalisation of endocrine homeostasis. There is a small number of trials of anti-resorptive and anabolic agents. There has been one positive trial of transdermal oestrogen physiological replacement and teriparatide respectively. Studies into raloxifene, denosumab and other parathyroid hormone analogues, such as abaloparatide, are lacking or are limited to case reports. Most success has been reported for bisphosphonates. However, safety concerns and potential teratogenicity caution against the use of bisphosphonates in young women.²³

Outcomes and prognosis

Research supports cautious optimism for recovery from an eating disorder, albeit it may be slow. A recent, large 22-year follow-up study of 228 women with anorexia

nervosa or bulimia nervosa treated in a specialist centre found the majority (around two-thirds) recovered, and that most with bulimia nervosa achieved this within 9 years, but only about half of those with anorexia nervosa achieved recovery within 9 years.²⁴ This is consistent with the body of outcome literature.⁶ Less is known about long-term outcomes for BED and other eating disorders, but treatment is important as spontaneous remission appears to be low and early symptom change is the best predictor of outcome across all eating disorders.²⁵

A meta-analysis has reported the presence of binge eating and purging behaviours, lower BMI, early stage of change (low motivation), concurrent depressed mood and other co-morbidities, higher body image concerns and poorer quality of current relationships to be consistently associated with poorer treatment outcomes both in the medium to longer term across all eating disorders. Attrition was also associated with binge eating and purging behaviours and low motivation to change. However, effect sizes varied highly across studies and were small to moderate indicating many people recover despite having negative prognostic features.²⁵

A major challenge in improving treatment outcomes is to close the ‘treatment gap’. A majority of people with anorexia nervosa and a large majority with bulimia nervosa and BED delay seeking care for a decade or longer.¹⁰ Many factors contribute to this problem, but important issues are low levels of health literacy, help-seeking for weight loss management rather than the eating disorder, stigma, shame and poor affordability and access to evidence-based psychological therapies.

Conclusion

Eating disorders are common in Australians and may be increasing. Effective psychological therapies are the first-line in care and most people recover in the medium to longer term. Hospital care can be life-saving and efficient access to care is important – the major challenge is the wide treatment gap and delays. Few pharmacologic agents are helpful in the management of bulimia nervosa and BED. Further research is needed particularly in the management of osteopenia, achieving earlier treatment engagement, an improved understanding of which therapies work best for whom, prognostic factors and outcomes. Research is urgently needed for the newer eating disorders, BED and ARFID.

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