

Gender differences in eating disorders: the role of medicalisation

Jonathan M Mond^{1,2,3}

1. Rural Clinical School, School of Medicine and Psychology, The Australian National University, Canberra ACT, Australia

2. Centre for Rural Health, School of Health Sciences, University of Tasmania, Launceston TAS, Australia

3. School of Medicine, Western Sydney University, Campbelltown NSW, Australia

✉ Corresponding author: Jonathan Mond. Email: jonathan.mond@mq.edu.au

Abstract

Had a paper on gender differences in eating disorders (EDs) been written in the 1970s, it would likely have included discussion of whether males should be eligible for the diagnosis of the sole eating disorder that was recognised at that time, namely, anorexia nervosa. There might also have been discussion of the clinical characteristics of male patients and whether and how these differed from those of female patients. Otherwise, the focus would have been on the factors that led some young women to develop the "morbid preoccupation with weight loss" that was considered the defining characteristic of the condition. Since this time, the issue of gender differences in EDs has become increasingly complex as the number and diversity of conditions deemed to constitute an ED has proliferated and the proportion of these conditions accounted for by males has increased. In the current contribution, it is proposed that gender differences in EDs should be viewed in the context of an ongoing process of medicalisation, whereby problems that were previously deemed to be societal in nature or, indeed, not problems at all, have come to be seen as disorders demanding clinical and public health attention. It is suggested that medicalisation should be viewed as a key variable accounting for change in the gender distribution of EDs over time and that the occurrence, drivers and ramifications of this process warrant greater attention in future discussions of this issue.

Keywords: eating disorders, gender, medicalisation, social constructionist, feminist

Introduction and scope

The issue of gender differences in eating disorders (EDs) has become increasingly topical, and complex, in the past half-century as the number and diversity of conditions recognised as EDs in the Diagnostic and Statistical Manual of Mental Disorders (DSM) has proliferated (1, 2). One or two conditions, namely, anorexia nervosa (AN) and bulimia nervosa (BN), that were believed to be uncommon and largely confined to adolescent and young adult women have become numerous conditions and some, such as binge eating disorder (BED), are relatively common in both men and women (1, 2).

In the current paper, an attempt is made to distil this complexity while also highlighting issues that the author believes warrant greater consideration in future discussions of the topic. The text that follows is divided into three broad sections. First, an outline of the recent history of ED nosology is provided. Second, findings from the most recent reviews of epidemiological studies bearing on gender differences in EDs are summarised. Third, an attempt is made to interpret these findings in light of historical developments and to highlight key implications and directions for research, policy and practice moving forward.

Reflecting the author's interests and expertise, the focus is on gender differences in "cases" of EDs as these occur in the general population. Gender differences in the clinical presentation of individuals with specific ED diagnoses adds a further level of complexity, on account of the range of factors that determine whether or not individuals with "mental health disorders" choose to seek help and, if so, from whom. These factors include gender but also levels of distress and disability, and various aspects of "eating disorders mental health literacy" (2-4).

Also reflecting the author's expertise, interests and intellectual journey, the current contribution is influenced by sociological and critical feminist approaches to EDs and to "mental health disorders" more generally. Thus, a key contention of the current paper is that gender differences in EDs – and change in these over time – need to be interpreted in light of an ongoing process of medicalisation, whereby problems that were previously deemed to be societal in nature or, indeed, not problems at all, have come to be seen as disorders demanding clinical and public health attention (1, 2).

It should also be noted that certain considerations likely to be of interest to some readers are not addressed in the current contribution. For example, there is no coverage of the putative role of "biological" factors in accounting for gender differences in EDs. This is because research demonstrating gender differences in the associations between certain forms of eating and/or weight-control behaviours and certain biological variables (e.g., brain activity, genetic characteristics) is, in the author's view, of limited heuristic value. Indeed, continued efforts to highlight putative biological causes of EDs can be seen as another manifestation of medicalisation, the benefits of which are debatable (2,

5, 6).

There is also no consideration of whether and how gender differences in EDs are moderated by other socio-demographic variables, such as age, ethnicity and sexual orientation. This is because information from epidemiological studies remains largely confined to adult, Caucasian, "cisgender" persons (7, 8) and because there is only so much that can be covered in this relatively brief contribution. For the same reasons, no attempt is made to address gender differences in ED diagnoses specific to infancy or early childhood, namely, pica, rumination disorder and avoidant/restrictive food intake disorder (ARFID) (9, 10).

Gender differences in eating disorders in the medical literature: a potted history

The first "eating disorder": anorexia nervosa

Some of the earliest descriptions of self-starvation to appear in the medical literature involved male patients. These include cases of adolescent males described by the English physician Richard Morton in 1689 and the Scottish physician Robert Whytt in 1764 (11, 12). Further, it was because the "disease" was known to occur in males as well as females that William Gull advocated use of the term "anorexia nervosa" in preference to "apepsia hysterica" or "anorexia hysterica" (13). However, Gull also believed that AN was "a disease occurring mostly in young women" and in both his case series (13) and those of Charles Lasague (14) only cases involving females were reported. This is significant because Gull, an English physician, and Lasague, a French psychiatrist, are typically credited with having provided the first full medical descriptions of the condition now recognised in the DSM as AN (15, 16).

Serious interest in epidemiological studies of AN began only in the 1960s (17). Prompted by speculation that the prevalence of AN might be increasing, researchers began to document trends in incidence, relying on registers of patients attending psychiatric services and/or on hospital records. This research stimulated interest in the development of explicit diagnostic criteria, which in turn provided a platform for studies of population prevalence. However, the very low base rate of AN was such that estimates of population prevalence remained problematic (18, 19). Efforts to circumvent this problem entailed sampling of "high-risk" sub-groups, namely, adolescent and young adult women, identification of "partial-syndrome" cases and deriving estimates of population prevalence from studies of prevalence in primary care. In one, the first comprehensive reviews of the epidemiology of EDs, Hoek (18) concluded that the average point prevalence of AN among young females was 0.28%.

The issue of gender differences in AN received little or no scholarly attention at this time (20, 21). Case series conducted in the decades prior to the publication of DSM-III (22) consistently suggested that males comprised between 5% and 15% of individuals deemed to have AN (18, 23). Complicating interpretation of these findings is the fact that the diagnostic criteria for AN in use at the time were developed on the premise that this was – or should be – a condition solely or largely confined to females. In several case series, males were simply excluded because the diagnostic criteria included amenorrhea (20, 24).

When it came to attempts to develop standardised criteria, while some authorities (e.g., 25) continued to stipulate the occurrence of amenorrhea, Russell (26) proposed the occurrence of "amenorrhea in the female or loss of sexual interest in the male". Ultimately, Russell's view prevailed and males have remained eligible for the diagnosis of AN in successive editions of the DSM. Loss of sexual interest has never been required for the DSM diagnosis of AN in males; however, for females, amenorrhea was required for the diagnosis of AN in DSM-III-R (27) and DSM-IV (28) but not in DSM-III (22) or DSM-5 (9).

Second and third disorders: bulimia nervosa and binge eating disorder

The occurrence of episodes of "binge eating" and/or purging had been noted in several early clinical descriptions of AN (29) and was familiar to clinicians in the 1960s and 1970s (e.g., 26, 30, 31). However, the observation of recurrent episodes of both binge eating and purging among women of "normal weight" led to the description of BN as a disorder distinct from AN (32) and its inclusion as "bulimia" in DSM-III (22) and as BN in DSM-III-R (27).

The fact that BN appeared to be more common than AN reinvigorated interest in population-based surveys of prevalence. Nevertheless, BN, like AN, appeared to be largely confined to young women and most population-based prevalence studies were conducted in or entailed oversampling of this demographic (33). The consensus from initial reviews was that BN affected approximately 1% of adolescent and young adult women with a gender distribution similar to that of AN (18, 33). As with AN, preconceptions concerning the nature and occurrence of BN complicate interpretation of such estimates. Nevertheless, Fairburn and Beglin (33) felt justified in concluding that "the comparatively small number of men who present for the treatment of bulimia nervosa reflects a genuine difference in the prevalence of the disorder between the sexes rather than being an artifact attributable to factors such as differential case detection and referral".

Also relevant when considering gender differences in the prevalence of BN is the distinction between purging and non-purging weight-control behaviours. Like binge eating, but unlike purging, "excessive exercise" is relatively common in men with EDs (34, 35). Had the diagnosis of BN been confined to individuals engaging in purging behaviours, as Russell and others had envisaged, then the prevalence of BN in males would be lower still. A similar consideration

arises in relation to gender differences in the occurrence of so-called "purging disorder" (PD) (36).

While episodes of binge eating among obese individuals has been described for decades, the observation of a subgroup of individuals who otherwise met criteria for BN but whose episodes of binge eating occurred in the absence of purging or other extreme weight-control behaviours, and who may or may not be obese, prompted calls from some authorities for the recognition of a third ED, namely, BED (37). In an initial validation study, led by the Chair of the DSM-III task force, Robert Spitzer, "full-syndrome BED" was observed among 2.5% and 1.1% of female and male community participants, respectively (37). Thus, BED was not only more common than AN and BN but relatively common among men. This likely reflected, in part, the fact that the proposed diagnostic criteria for BED did not include a "body image disturbance" criterion of the kind required for the diagnoses of AN and BN (38, 39). It is well known that the extreme concerns about weight or shape characteristic of AN and BN are more common in women than in men (4, 35). Subsequently, BED was included as provisional diagnosis in DSM-IV (28) and as a formal diagnosis, alongside AN and BN, in DSM-5 (9).

Other disorders and potential disorders

Provision for conditions that do not satisfy all criteria for a given ED diagnosis has been made in the DSM since the third revision (DSM-III) (22). In DSM-III, the term "atypical eating disorder" was introduced as a residual category for EDs that could not be adequately classified in any of the specific categories recognised at the time, namely, AN, BN, pica and rumination disorder of infancy. Examples were not provided, however. In DSM-III-R (27), the "eating disorders not otherwise specified" (EDNOS) category included the examples of "a person of average weight who does not have binge eating episodes, but frequently engages in self-induced vomiting for fear of gaining weight" (subsequently known, among other things, as PD), "all of the features of anorexia nervosa in a female except absence of menses" and "all of the features of bulimia nervosa except the frequency of binge eating episodes". In DSM-IV (28), these and several other examples of EDNOS are mentioned, including a variant of AN in which "despite significant weight loss, the individual's current weight is in the normal range" and the (then) provisional diagnosis of BED. In the DSM-5 other specified feeding or eating disorder (OSFED) category (9), all of the abovementioned examples are retained while two new exemplars, namely, "binge eating disorder of low frequency and/or limited duration" and "night eating syndrome" (NES), are introduced. Further, a second residual category, "unspecified feeding or eating disorder" (UFED), is introduced for situations in which "the clinician chooses not to specify the reason that the criteria are not met for a specific feeding and eating disorder". This conspicuous increase in the number of, and attention given to, specific exemplars of the DSM EDNOS/OSFED categories is a key component of the medicalisation process (1).

The inclusion of a sub-threshold form of BED and of NES as exemplars of the OSFED category is notable in the current context because, like BED, these conditions are relatively common in males. In the US National Comorbidity Survey Replication Study (40), for example, the lifetime prevalence of "sub-threshold BED" was 1.9% in men and 0.6% in women. While epidemiological studies of NES have been hampered by a lack of agreed-upon criteria, available evidence suggests that the prevalence of NES in the general population is approximately 1% to 1.5% with little or no gender difference (41, 42). NES, like BED, was first described in the 1950s (43, 44).

At least two other conditions may be considered for inclusion in future revisions of the DSM. Muscle dysmorphia (MD), also known as "bigorexia" and "reverse anorexia", is a condition characterised by a morbid concern that one's body is not sufficiently muscular. It was included as a subtype of "body dysmorphic disorder" in the DSM-5 "obsessive-compulsive and related disorders" section, although some authorities have argued that it should instead be classified as an ED and it is invariably included in reviews of EDs in men (45-48). A recent large-scale study of adolescents (49) found that the point prevalence of MD was 2.2% among boys and 1.4% among girls. The status of "orthorexia nervosa" (ON), a putative new ED involving obsessive preoccupation with the consumption of foods deemed to be "healthy", has also been a focus of attention in the academic literature, and popular media, in recent years (50, 51). Issues of high – and highly variable – estimates of prevalence aside, ON appears to be equally common in men and women (52, 53).

Gender differences in eating disorders: current status

Readers familiar with the history of epidemiological studies of EDs will know that interpretation of findings from these studies is replete with difficulties (19, 54). These findings vary widely depending on the population sampled, the operational criteria for specific diagnoses employed, the measures used to assess these criteria, response rates and the various biases inherent in the use of survey and/or interview methods. Further, as noted above, the low base rates of AN and BN – and very low rates in males – were such that early estimates of gender differences in prevalence relied solely on treatment-seeking samples. However, more reliable information concerning gender differences in the population prevalence of EDs – and change in this over time – continues to accumulate.

Since the early 1990s, population-based studies of the prevalence of EDs that have included both women and men have increasingly been conducted and the best available evidence concerning gender differences in ED prevalence comes from systematic reviews of findings from these studies. As with findings from individual studies, findings from reviews are difficult to interpret and compare due to variability in the study methods employed (see (8, 55)). For the present purpose, the 2019 Galmiche et al. review of ED prevalence for the period 2000 to 2018 (7) is most useful

	AN		BN		BED		EDNOS/OSFED		Any ED	
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
Point prevalence	0.3% (0 - 0.4%)	2.8% (0 - 4.8%)	0.1% (0 - 1.3%)	1.5% (0 - 8.4%)	0.3% (0 - 0.5%)	2.3% (0 - 0.5%)	0.9% (0 - 1.7%)	10.1% (0.5 - 31.1%)	2.2% (0.2 - 7.3%)	5.7% (0.9 - 13.5%)
12-month prevalence	0.1% (0 - 0.2%)	0.5% (0 - 0.8%)	0.4% (0 - 1.1%)	0.7% (0.3 - 2.2%)	0.6% (0 - 1.2%)	1.4% (0.5 - 3.0%)	NA	NA	0.7% (0.3 - 0.9%)	2.2% (0.8 - 13.1%)
Lifetime prevalence	0.2% (0 - 0.3%)	1.4% (0.1 - 3.6%)	0.6% (0.1 - 1.3%)	1.9% (0.3 - 4.6%)	1.0% (0.3 - 2.0%)	2.8% (0.6 - 5.8%)	3.6% (0.3 - 5.0%)	4.3% (0.6 - 14.6%)	2.2% (0.8 - 6.5%)	8.4% (3.3 - 18.6%)

Table 1. Weighted means (ranges) for point, 12-month and lifetime prevalence (%) of DSM eating disorder diagnoses by sex for the period 2000 to 2018 as reported by Galmiche et al. (7)

Abbreviations: AN = anorexia nervosa; BED = binge eating disorder; EDNOS = eating disorder not otherwise specified; NA = not available; OSFED = other specified feeding or eating disorder

because it is the only recent review that includes point, 12-month and lifetime prevalence data stratified by sex for most DSM-5 ED diagnoses. The findings from this review are summarised in Table 1.

While the variability within and between rows highlights the difficulties inherent in interpreting findings from population-based epidemiological studies, the consistency of findings relating to sex differences in the prevalence of any ED across rows is impressive. These findings, when taken with those from early epidemiological studies as outlined above, suggest that the proportion of cases of ED in the general population accounted for by males has changed from approximately 5% to 10% to approximately 25% to 30% in recent decades. Since very few studies including the DSM-5 OSFED (or UFED) category were available at this time, males would likely account for a higher proportion of EDs still were this study to be updated.

Additionally, Galimiche and colleagues considered change in ED prevalence over time (7). In this regard, the authors reported that the average weighted point prevalence of any ED increased from 3.5% for the period 2000–2006 to 4.9% for the period 2007–2012 and 7.8% for the period 2013–2018. While data for the latter findings were not stratified by either sex or diagnosis, it would be reasonable, given the considerations outlined above, to infer that the prevalence of EDs has increased more rapidly in males than in females over time. It is also reasonable to speculate that, if current trends continue then, at some point in the future, the population prevalence of EDs will no longer differ by gender.

Gender differences in eating disorders: the role of medicalisation

Medicalisation, a term originating in the sociology literature in the early 1970s, has been defined as the process by which previously nonmedical aspects of appearance or behaviour become defined, and treated, as medical problems, usually as diseases or disorders (56, 57). Often-cited examples include behaviour issues in children and adolescents, shyness, sadness, reactions to traumatic experiences, sexual performance and mood changes associated with menstruation (56, 57).

As suggested above, the most conspicuous manifestation of the increasing medicalisation of eating and weight-control behaviours in recent years is the proliferation of conditions included as EDs in successive editions of the DSM (1, 2). This has occurred alongside a conspicuous increase in the number of, and attention given to, specific exemplars of the DSM residual categories of EDNOS and OSFED (1). The net effect of these changes is a progressive lowering of thresholds such that previously normative behaviours become "risk factors", risk factors become "sub-threshold disorders" and sub-threshold disorders become "full-syndrome disorders" (58–61). Further, there is a well-worn path by which each new development gives rise to new rounds of activity on the part of researchers, clinicians, lobby groups, public health agencies and the media, thereby consolidating and perpetuating the medicalisation process (57, 62, 63).

It is important to note that medicalisation, as conceptualised by Conrad and others, is a neutral term used to describe a process that may be associated with both positive (e.g., improved treatment) and negative (e.g., unnecessary or potentially harmful treatment or intervention) outcomes (2, 56, 57). Hence, when applied to "mental health problems", medicalisation is distinct from the "anti-psychiatry" movement, exemplified in the work of Szasz and others and more recent work in the critical psychiatry and critical public health fields (see 2, 64, 65). This "neutrality" may be one reason why the construct of medicalisation remains a central theme in medical sociology and popular discourse (66, 67).

Challenges to medicalisation

In theory then, both positive and negative outcomes might follow from the increasing medicalisation of eating and weight-control behaviours evident in changes to the DSM classifications of EDs over time. In the currently dominant discourse, evident in the ED, clinical psychology and psychiatry literatures, the increasing number and range of conditions recognised as EDs in the DSM is apt to be seen as a welcome development affording sufferers the promise of improved quality of life through diagnosis and appropriate intervention (e.g., 47, 68–70). Nevertheless, alternative views have periodically been expressed (1, 2).

Concerns relating to the medicalisation of eating and weight-control behaviours have been expressed in the feminist literature for at least three decades (71–74) alongside con-

cerns relating to the medicalisation of women's health and mental health issues more generally (75-78). These accounts have focused on the construction of eating and weight-control behaviours as a form of "individual pathology", a construction that is seen to obscure the roles of sociocultural and political factors in shaping the occurrence of EDs and their over-representation among young women. However, concerns of this kind have been expressed less often in recent years. This likely reflects, at least in part, the success of efforts to portray EDs as "brain-based diseases" or "illnesses" in the academic literature and popular media (2, 74) and consequent diminution of the role of sociocultural factors (79-81). Additionally, medicalisation may be less salient from a feminist perspective now that both men and women are affected.

There have also been pockets of resistance to the proliferation of ED diagnoses in the ED and general psychiatry fields. Following Russell's (32) description of BN and the inclusion of bulimia in DSM-III, there was considerable debate as to the status of these conditions as disorders distinct from AN (29, 82). Some authors questioned whether AN, BN and variants of these conditions might better be viewed as different manifestations of or points on a spectrum rather than as discrete entities (e.g., 83-85). Others questioned whether the emergence of BN might reflect iatrogenic effects (e.g., 86, 87). Beumont and colleagues (88) argued that the time had come to apply Occam's Razor to the classification of EDs and recognise just a single disorder with the defining characteristic of a "morbid preoccupation with weight loss". Others have argued that EDs are best viewed as variants of an underlying anxiety and/or affective disorder (e.g., 89, 90).

Proposals for the inclusion of BED as a provisional diagnosis in DSM-IV and as a formal diagnosis in DSM-5 raised concerns about "trivializing the construct mental disorder" and turning over-eating from "a manifestation of gluttony and the easy availability of really great tasting food into a psychiatric illness" (60, 61, 91). More recently, Vandereycken (63) questioned whether conditions such as purging disorder, NES, MD and ON should be viewed as examples of "diagnostic fads produced by media hype" rather than as "genuine disorders" and whether research addressing the occurrence and correlates of these conditions merely consolidates the process of reification. The status of ON provides particularly fertile ground for research informed by these different perspectives. In the ED, general psychiatry and public health literatures, attention has focused on the occurrence and correlates of, refinement of diagnostic criteria for, causes of and risk factors for, and clinical management of ON (e.g., 51, 92). Social science scholars, by contrast, have considered whether ON might constitute an example of "over-medicalisation" and its relation to the construct, well known in the sociology literature, of "healthism" (e.g., 50, 93).

These challenges notwithstanding, there has been surprisingly little critical analysis of the ramifications of the increasing medicalisation of eating and weight-control behaviours evident in changes to the classification of EDs over time. In particular, there has been virtually no analysis of whether, to what extent and how these changes have been beneficial for the increasingly large and diverse group of people deemed to suffer from an ED (1, 2, 8). It is also striking that while the role of sociocultural factors in driving changes in the occurrence and manifestation of EDs over time has consistently been highlighted in the ED literature (94, 95), the role of medicalisation as such a factor has been largely ignored (1, 2).

Implications and future directions

A key goal of the current contribution has been to highlight the way in which the process of medicalisation, often driven by the work of influential advocates at key points in time, has influenced gender differences in ED prevalence. Had AN and BN remained the only ED recognised in classification schemes, then attention would have remained focused on the factors that led some young women to develop a morbid preoccupation with weight loss (96). The inclusion of BED was a turning point, in that it cemented the view that this preoccupation need not be a *sine qua non* for ED diagnosis (97). Similarly, whether diagnostic criteria for EDs, and the measures used to assess these, are unduly "female-centric", as some authors have suggested (e.g., 46, 48), depends on one's view concerning the nature and definition of "eating disorder".

If, as has been suggested, gender differences in the occurrence of EDs continue to diminish, then a key concern becomes how best to respond to the increasingly large number of males who believe that they have a mental health problem for which treatment is required (2, 4). The role of medicalisation is again key in this regard because adherence to a biomedical model has implications for the types of intervention deemed most likely to be helpful by researchers, health professionals, public health agencies and the public (2, 98). In the currently dominant, medical-model approaches to intervention, EDs are conceived of as diseases that must be prevented through targeting of "high-risk" individuals or managed by medical and allied health professionals. As noted elsewhere (2, 98), the dominance of these approaches has been maintained despite their benefits being debatable. As would be expected, evidence for the benefits of prevention and treatment programs for EDs in males is particularly limited (45, 48, 99).

At the same time, possible alternative approaches, focused on health promotion, have been marginalised (2, 98). Such approaches include population-based interventions designed to address stigma and other aspects of ED mental health literacy, bolster resilience and tolerance of distress, draw on the engagement of peers and, perhaps, reduce reliance on health services (2, 100-102). Ideally, approaches of this kind would extend to the education of health and

allied health professionals and those training in these professions (46, 101). This might include, for example, improving awareness and understanding not only of the increased demand for services entailed in the expansion of EDs in males but also the need to consider alternative perspectives when considering the drivers of this demand and different possible approaches to intervention.

Of course, these different approaches are not mutually exclusive (2, 98, 103). With public health resources perennially limited, however, priorities typically need to be designated. As noted above, there has, thus far, been virtually no critical analysis of whether and how the increasing medicalisation of eating and weight-control behaviours evident in changes to the classification of EDs over time has been beneficial for people deemed to suffer from these conditions. In the absence of such analysis, it is difficult to know which approaches to intervention should be prioritised in either males or females. Addressing this gap in the literature may be the most pressing direction for future research.

Conclusion

What was once a single ED largely confined to adolescent and young adult women has become numerous conditions, some of which are relatively common in males. A key factor in this change has been an ongoing process of medicalisation by which patterns of behaviour previously deemed to be normative have become EDs, demanding clinical and public health attention. If these trends continue, then it is reasonable to hypothesise that, at some point in the future, the population prevalence of EDs will not differ by gender. If so, then this would serve as a striking example of the influence of sociocultural and political factors on "illness presentation". The occurrence, drivers and ramifications of the medicalisation process warrant greater consideration in future research addressing gender differences in EDs.

Declarations of interest

The author declares that he has no conflicts of interest.

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