4 Diagnostic Classification of Eating Disorders: The Role of Body Image

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4.1 Introduction

A disordered body image is retained a hallmark feature of eating disorders (ED), and it is included as a diagnostic criterion for the two main phenomenological ED entities, namely anorexia (AN) and bulimia nervosa (BN), in all major contemporary psychiatric diagnostic systems. However, in the first diagnostic formulations of AN, the most well-known and long-studied ED, this aspect was almost completely neglected. William Whitney Gull, who coined the term "anorexia nervosa" in 1873 [1], although significantly contributed to identify many core features of AN, did not identify this aspect as a central element of the syndrome. Neither the French physician Ernest Charles Lasègue [2], who on the same year published one of the first series of AN cases in his paper entitled "*De l'Anorexie Hystérique,*" mentioned this feature specifically. The early clinical formulations of AN had the merit to identify several clinical cornerstones of the syndrome (e.g., the psychological nature of the disorder, the preference for female sex, the effects of prolonged starvation, the typical onset during adolescence/early adulthood, the role of family members, the typically chronic course, the refeeding therapeutic strategies). However, although reporting on the changes in body weight and shape induced by starvation, those descriptions did not unveil the psychological reverberations and the psychopathological underpinnings of such changes in terms of body image, along the course of the disease [3].

After a century, ED other than AN were identified and body image represented a crucial clinical feature of these syndromes. For example, Russell [4], when first

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describing the clinical picture of BN by the end of the twentieth century, posed as central diagnostic criteria the "irresistible urge to overeat, followed by self-inducing vomit," on the one hand, and the "morbid fear of becoming fat," on the other, heavily linking the essence of this ED to a disturbance of the body image. To date, all major ED have been widely recognized as to be intimately linked to body image disturbance, which serves both as a diagnostic and nosological criterion for ED.

4.2 Evolution of the Body Image Disturbance Construct in the ED Diagnosis

In order to explain why and how the body image disturbance in ED gained so much consensus as a diagnostic and classification element along the past century, it is probably necessary to take into account the seminal work on body image carried out in the first decades of last century by several psychopathologists, who probably provided the first proper conceptual framework to establish the centrality of the body image disturbance for the diagnosis of ED. Indeed, the tradition of transcendental phenomenology first posed specific attention to the analysis of the body, of the way people experience their own body ("embodiment") and of the "embodied subjectivity," clarifying the centrality of the function of the body when it comes to basic experience of self, other, and shape/space evaluations [5]. In more detail, Edmund Husserl started to supplement his theories on perception by including fundamental reflections on the relation between body and (inter-)subjectivity, with the greater aim to analyze systematically the intentional structure of consciousness. Indeed, he first put forward the notion of "kinaesthetic consciousness" seen as a form of "embodied subjectivity" in which the "lived body" (*leib*, differently from the physical body or *korper* and the object-body or *ding*) is conceived as a "center of experience," playing a key role in defining how we encounter other embodied agents in the explorable world and creating an essential link between subjectivity and perceptual experience [6]. In continuity with the original vision of the founder of phenomenology, Merleau-Ponty [7] also focused on the phenomenological reflection about the nature of perception and human embodiment for his entire life, contributing to a fundamental step towards a new ontology. In general, he conceived the entire human experience as the result of a unique relation between an embodied subject and that which shows itself to him/her at every instant, as an act of dialogic *connaissance* [8]. In more detail, Merleau-Ponty [9] conceptualized the objective/material body as already intentional and fully engaged in meaning constitution and the mind as an "incarnated" one, being these two levels of perception overlapping or rather naturally intertwined ("human embodiment"). Although he did not specifically focus on psychological disturbances of embodiment in humans, Merleau-Ponty [10] tied inextricably the reality of our corporeal existence, body image representation, and mental activity, providing a conceptual framework in which psychological motivations and bodily activity are woven together in the lived experience of existing in the world, being the external world seen as a natural setting of and field for all thoughts and explicit perceptions, the body as a "living envelope" of all our intentions and body scheme

(*schéma corporel*) as a representation of the intuitive understanding of one's own the body in its relation to the external space/world [11]. Finally, Jean Paul Sartre [12] also significantly contributed to the psychopathological debate on body representation, focusing on the concept of "lived corporality" and more specifically by adding to the duality "body-subject/body-object" a third dimension, the "lived body for others." Sartre focused on the idea that one's body, when looked by another person, becomes an object for that person and that this external point of view also contributes to create our own body image, in the sense that our sense of identity is constructed also through the gaze of the others. To note that this specific feeling of "being an object for others" has been recently proposed as a specific aberrant feature for ED, conceptualized as disorders of lived corporality in which specific disturbances of embodiment constitute a core aspect of the syndromes, affect the sense of personal identity and determine the anomalies of eating behavior [13]. According to these theories, it has been recently proved that this embodiment disorder, in terms of exaggerated tendency to experience one's body from an external perspective, is associated with attachment experiences and mediates the relationship between attachment and ED psychopathology [14].

Given the vast echo that phenomenological interpretation of perception and subjectivity had in the field of psychopathology, it is plausible that such concepts influenced the way of conceptualizing body image disorders, with obvious reflections in ED psychopathology. In this sense, it is not surprising that, within the first modern descriptions of ED, the abnormalities in body image perception and processing were reported as a typical and constant feature of the clinical picture of ED. More than half a century ago, Hilde Bruch [15] was the first to clearly affirm that AN was intimately linked to a perceptual body image/concept disorder and to define AN and all severe ED as *self*-disorders in which developmental deficits of the organization of the self are manifested in aberrant body perception and inefficient control of bodily sensations [3]. Actually, Bruch, besides suggesting that a perceptual body disorder and the denial of thinness are pathognomonic for AN, clarified that the concept of "interoceptive confusion" is a part of a more general "self-disorder" typical of the disease (i.e., people with AN not only tend to perceive their body image as distorted but rather show a disturbance in the accuracy of perception and cognitive interpretation of all bodily sensations—such as hunger/satiety, fatigue, weakness, pain—and inner feelings), that the pursuit of a thin body is used by AN patients as a "camouflage" for other underlying problems (such as control of bodily sensations, confusion of emotional states, fear or social disapproval) and highlighted that the body image disorder may reach "delusional proportions" in most severe cases of the disease [16]. Also, Bruch [17] considered a correction of body image misperception to be an essential precondition for recovery from AN.

Since Bruch's seminal clinical descriptions, many other researchers focused on the definition and meaning of body image in ED, highlighting the relevance of the phenomenon in clinical (e.g., the degree of body overestimation was predictive of food preference/aversion; [18]), diagnostic (e.g., the more distorted body image, the more severe psychopathology; [19]), and prognostic (e.g., the more distorted body image, the poorer outcome; [20]) terms.

4.3 Body Image and Current Diagnostic Criteria for ED

Such seminal aspects of body distortion and denial of thinness have been built into current diagnostic criteria for AN as a key feature. Indeed, after a long series of studies that examined the topic of body image in AN (for a review, see: [21]), a general consensus about the idea that a disrupted body image constitutes a primordial element of the psychopathology of AN and BN has gradually spread. Thus, it is not surprising that both major current international diagnostic systems include this psychopathological feature as a diagnostic criterion. The tenth edition of the international classification of diseases (ICD-10; [22]) is particularly explicit about considering the alteration of body image of patients with ED as an *overvalued* idea: ICD-10 clearly specifies that a significant distortion of the body image exists in AN patients, while for BN patients the manual stresses that its central psychopathological features are very similar to those of AN and confirms that, within the BN clinical picture, the morbid fear of gaining weight and the choice of a lower body weight/thinner body shape than the premorbid ones stay as crucial diagnostic aspects. ICD-11 is expected to be released along the year 2018 although no significant changes concerning the specific role of body image distortion in ED in diagnostic terms are expected [23]. The DSM-IV [24] considered that during the course of AN a “disturbance in the way in which one’s body weight or shape is experienced” and that “undue influence of body weight or shape on self-evaluation, and denial of the seriousness of the current body weight” are basic diagnostic features for AN; as for BN, DSM-IV was less explicit by stating only that “self-evaluation is unduly influenced by body shape and weight.” With the fifth edition of the DSM [25], the basic diagnostic features of ED concerning body image distortion and body dissatisfaction were left unaltered. Indeed, in DSM-5, the idea that “experience and significance of body weight and shape are distorted in these individuals” was recognized in the diagnostic criterion C for AN, despite the attempt to reduce the “atipicality” of the syndromes and to ease the diagnostic process of ED (in order to avoid the inflation of the “unspecified” and “other specified” disorders’ categories). Also for BN, the criterion D confirmed the excessive emphasis on body shape or weight for self-evaluation and self-esteem, remarking a close resemblance of subjects with BN and AN (for “their fear of gaining weight, in their desire to lose weight, and in the level of dissatisfaction with their bodies”).

However, especially for disorders other than AN and BN, the current diagnostic definition of ED is far from being satisfactory, with particular reference to the role of body image abnormalities within ED psychopathology, and a number of issues have to be considered when evaluating the impact of body image disturbances on the current nosology of ED.

First, while in DSM-IV [24] binge eating disorder (BED) was listed as a “research category,” DSM-5 included BED among fully fledged ED diagnosis [25]; furthermore, the DSM-5 has also introduced a revision of the frequency and duration of binge eating episodes (once weekly for past 3 months). However, BED is the only formal ED major diagnosis which does not require a criterion focusing

on the cognition of body image, not paralleling the DSM-5 AN and BN diagnoses, both including disturbances in both eating behavior and in how the body is evaluated [25]. As noted by Grilo [26], the simple absence of a diagnostic criterion/specifier covering the presence of a disturbance in body image may imply the risk to reduce the BED-specific diagnosis to a mere "behavioral overeating construct". Actually, the DSM-5 admits only three behaviors (i.e., eating much more rapidly than normal, eating until feeling uncomfortably full, and eating large amounts of food when not feeling physically hungry) and two feelings (embarrassment by how much one is eating and disgust with oneself), besides the generic presence of distress. The lack of a reference to body image overvaluation is somehow surprising if one considers the research evidence that piled up over the last decades concerning the well-known psychopathological analogies that BED subjects shares with AN and BN ones about shape/weight concerns [27, 28]. Similarly, the absence of this feature in obese non-BED subjects (i.e., overvaluation of body image is unrelated to excess weight or other potential major demographic confounds; [29, 30]) and the relative stability of the construct (which is reported to be influenced by self-esteem rather than by mood fluctuations; [26]) seem to point to the same psychopathological aspects of body image perception. Furthermore, such body image abnormalities have been found to be significantly related to greater severity of eating disorder psychopathology [31], more severe levels of mood psychopathology [32] and of psychological problems [33], poorer outcome [34, 35] as well as to be able to predict remission from binge eating [36]. The omission of any reference to any body image-related cognitive criterion from the DSM-5 criteria for BED is even more puzzling, if one considers that the retention of criteria B and C is not supported by a substantial empirical evidence [37]. While the possibility that having body shape overvaluation listed as a diagnostic criterion for BED may imply a greater risk of false negatives (as it may exclude from the BED diagnosis many persons with clinically significant eating pathology; [31]), the recent suggestion of including it as a course specifier or a distinct subtype [26] is probably worth of thorough consideration because of its diagnostic and prognostic relevance.

Second, the recent inclusion of the avoidant/restricting food intake disorder (ARFID) within the DSM-5 group of "feeding and eating disorders" also deserves attention from a psychopathological viewpoint. The APA Task Force [25], when revising and updating the DSM-IV diagnostic criteria for eating and feeding disorders, explicitly aimed to reduce the prevalence of the residual diagnostic category of "eating disorders not otherwise specified" (EDNOS) and to combine together the diagnostic criteria for adult and infancy/early childhood EDs. However, the inclusion of ARFID within the section leaves behind some doubts and open some issues. A recent multi-center study on ARFID [38] confirmed that one of the main clinical features of the syndrome is food avoidance in the lack of any body image disorder although associated with a reduction of body weight. The latter condition may easily lead the clinician to think that ARFID and other restrictive ED share common aspects. However, along the past decades a robust evidence has proven that, in the case of AN, body weight loss is strictly

linked to the drive for thinness and to a disturbed body image, and many specific psychological therapies for this disorder tend to include specific modules on body image psychopathology [39]. While DSM-5 Task Force aimed to improve clinical utility of their diagnostic criteria and to capture a population of children who had pathological eating habits, the simple inclusion of ARFID (and "pica," the other main ED of infancy/childhood) within a diagnostic class, whose all other diagnostic categories share the "abnormal body image" feature, cannot be evaluated as a simple and straightforward decision and probably deserves further consideration.

4.4 Complexity of Body Image Disturbance Definition

Some ambiguity concerning the concept of body image disturbance in ED is derived from its very same definition. One of its simplest definitions is the one provided by the DSM [25] for diagnostic purposes, which sounds as "disturbance in the way in which one's body weight or shape is experienced." However, the contemporary understanding of body image is a multidimensional construct, complex in its nature and including perceptual, affective, cognitive, evaluative, and behavioral components [40]. The relative role of each component in creating a clinically relevant body image disorder has been less than satisfactorily explored by empirical research. Historically, most attention has been devoted to the "perceptual" component of body image estimation while the negative thoughts and feelings towards one's own body (the so-called body dissatisfaction) gained more spotlight over the past decades. However, recent brain imaging evidence [41] seem to point to the presence of an abnormal connectivity in cortico-limbic circuitry of subjects with ED, involving abnormalities of complex brain functions (such as cognitive control, visual and homeostatic integration) in the genesis of body image disturbances. Such neurobiological evidence is in line with a more complex model of body image in which different components may play different roles in determining the clinical emergence of such disorder in ED. Another issue that is of great relevance for body image disturbance in ED is that of cultural influences over the body perception: it has been long demonstrated that body image represents an unstable construct and that many different (internal and external) factors may significantly influence it [42]. In particular, several studies have reported that body image distortion in ED seems to represent the result of an "acculturation process, spread through the therapeutic milieu and the mass media" [43]. Furthermore, recent evidence witnessed a cultural change in that male subjects also exhibit a significant degree of body image disturbances in adolescence [44], in young adulthood [45], middle-age, and in old-age [46].

However, the role of cultural factors in determining body image disturbances has been largely overlooked by current diagnostic systems and in order to fully understand this psychological construct and evaluate its impact in the diagnosis and the classification of ED a thorough rethinking of the concept within the clinical field is awaited.

4.5 Body Image Disturbance and Differential Diagnosis

The relevance of body image disturbances for ED diagnosis and classification is of particular relevance also in terms of differential diagnosis. Along the past decades, several other psychological and medical disorders have been demonstrated to be significantly associated to a disordered body image although with different degrees and charachteristics. Ranging from newer eating disorders such as "bigorexia" [47] to body dysmorphic disorder [48], a variety of psychiatric syndromes have been postulated to be strictly related to classical ED on the shared ground of a relevant body image distortion but, to date, none of such evidence has been properly considered within currently available diagnostic systems. A clearer differentiation between body dissatisfaction and body image disturbance should be established in clinical and nosological terms. Such lack of clarity will likely create a certain degree of diagnostic ambiguity and might pose relevant problems in the clinical field. Some examples of clinical situations in which body image disturbance may create diagnostic ambiguity possibly include patients with low weight who deny any body dissatisfaction at any point during the development of their disorder (e.g., due to spiritual concerns, fears of choking, selective aversion for certain foods, food allergies), somatoform disorders and delusions concerning body image representation (in which a dimensional rather than a categorical approach may seem more valuable), chronic acquired physical diseases, and traumatic injuries which imply rapid changes in physical appearance.

Moreover, some recent evidence also prompted the issue of body image representation in obese people [49] and confirmed that overweight and obese youth tend to underestimate their body shape, with associated behavioral and psychological distresses. Although this preliminary evidence seems to converge towards a common ground with ED, obesity is yet not considered as part of the ED spectrum.

Finally, the relevance of body image disorders for the diagnosis and classification of ED also lies in the little explored potential of psychological treatment programs focusing on this psychopathological feature. Although evidence exists concerning the positive clinical impact of such psychotherapeutic approaches, associated with distinct neurobiological changes in temporal and frontal areas (e.g., see [50]), the dissemination of psychological interventions specifically focused on body image approaches is still in its early phase. Same applies to early detection and prevention programs for ED based on early identification of body image distortion in "at risk" populations although the presence of body image distortion has been proved to have a clear prognostic value at least in AN [51].

Conclusions

It is evident from the above that the disturbance of body image is a key psychopathological feature of ED. Indeed, the aberrant eating behaviors of people with ED can be considered as epiphenomena secondary to a possible common deeper psychopathological core including body image disturbance that leads to persistent body weight and shape dissatisfaction [52, 53]. It has been reported that body image distortion precedes the onset of AN [54] and its persistence over the

course of treatment may predict a poor outcome of AN and/or a relapse of EDs [55]. Therefore, addressing this component of the ED psychopathology is mandatory in the treatment of these disorders although successful interventions are still lacking. This is likely due to the complexity of the construct of body image, which includes several components whose individual contribution to the body image disturbance of people with ED still awaits to be fully elucidated.

Recently, studies employing functional magnetic resonance imaging techniques, which allow direct "in vivo" exploration of neuronal activity associated to specific mental activities, have been employed to investigate the brain processing of body image perception in patients with ED, and more knowledge on this topic is emerging. Indeed, evidence has been provided that body image disturbance in EDs might be associated with dysfunctional brain circuits involved in body-image-processing with concomitant involvement of affective structures although the direction of such dysfunctions and the brain areas involved were not consistent among the studies. Furthermore, the implications of those findings for the treatment of EDs still await to be defined.

In conclusion, the relevance of body image disturbance is widely recognized for both the diagnosis and the treatment of ED. However, several critical issues still remain in its conceptualization and application to the different ED categories. This should be an area of continuous revision in future studies.

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