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## The non-discriminatory nature of eating disorders: transcending age and weight

*A natureza não discriminatória dos transtornos alimentares: transcendendo a idade e o peso*

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Eating disorders (ED) are complex mental health conditions characterized by persistent disturbances in eating behaviour that alter the consumption and metabolism of foods<sup>1</sup>. Individuals who exhibit ED symptomologies often experience disordered eating behaviours (e.g., binge eating, food restriction, and inappropriate compensatory behaviours), but many also experience severe body image disturbances (BID); a hallmark of anorexia nervosa (AN), bulimia nervosa (BN), and some types of other specified feeding and eating disorders (OSFED)<sup>1</sup>. However, a 2017 systematic review by Lewer and colleagues identified that BID also occurs in binge eating disorder (BED)<sup>2</sup>. Even after treatment, many individuals with an ED continue to experience significantly elevated BID. In addition, there is evidence that demonstrates an association between the treatment of BID and more favourable long-term outcomes as well as decreased risk of relapse<sup>3</sup>. Given that ED symptoms usually emerge between adolescence and early adulthood regardless of gender, economic status, and body mass index (BMI) range<sup>1</sup>, there is a need for research to both understand the risk factors that precipitate ED development as well as for regular screening for ED behaviours to occur in clinical practice.

Eating behaviours such as cognitive restraint, uncontrolled eating, and emotional eating are all congruent with ED symptomology. In addition, these behaviours appear to be more prevalent among individuals with BMI  $\geq 25$  kg/m<sup>2</sup> compared to those within the “adequate” range (18.5–24.9 kg/m<sup>2</sup>)<sup>4</sup>. Specifically, emotional eating, that is, eating in response to negative emotions, has also been associated with an increased risk of having a BED diagnosis, engaging in disordered eating behaviours, and the greater consumption of energy-dense foods<sup>4,5</sup>. In Brazil, Biagio and colleagues assessed the eating behaviour of 100 individuals with higher BMI ( $\geq 30$  kg/m<sup>2</sup>) from a cardiology institution and found that 76% exhibited cognitive restraint, 30,9% experienced uncontrolled eating, and 30,1% engaged in emotional eating<sup>6</sup>. In addition, emotional eating was correlated with the increased consumption of fats<sup>6</sup>. These symptoms reflect a subset of behaviours consistent with eating and weight disorders, which are consistently studied. However, more recently, body image concerns and disturbances in people with higher BMI have also been found to be significantly greater than in individuals with an “adequate” BMI<sup>7</sup>.

Body dissatisfaction is a term that encapsulates the negative self-evaluation of one’s body in relation to weight, body size, shape, muscularity/muscle tone, and is often associated with a discrepancy between an individual’s evaluation of their own body and their perception of their ideal body<sup>8</sup>. Whilst various classifications have been used to define the factors influencing body image, most agree that adolescence is a particularly vulnerable time for developing BID due to the plethora of biological, psychological, and social changes that occur. BID has been found to develop and become fixed in early adolescence, with the prevalence of BID

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ranging from 24%-46% in adolescent girls, and 12%-26% in adolescent boys<sup>9</sup>. Significantly, BID is not only a hallmark of ED psychopathology but also prospectively predicts disordered eating and the diagnosis of an ED<sup>9</sup>. In a prospective study following two cohorts of Brazilian adolescents, Santana and colleagues found a high frequency of BID in both boys and girls in middle and high school<sup>10</sup>. In addition, BID was related to BMI increases in different phases of adolescence, particularly in girls with high socioeconomic status<sup>10</sup>.

Undergraduate students, notably those from health-related sciences, are also at higher risk for developing EDs due to the shift in routine and expectation that often occurs during this period, including extended hours of studying, increased range of curricular and extracurricular activities, and more focus being placed on physical appearance and academic performance<sup>11</sup>. In Brazil, a meta-analysis by Trindade and colleagues estimated that the pooled prevalence of ED symptoms is 28.2% among dietetics students, 15.1% among those studying sports sciences, and 14.9% among students from medical programs<sup>11</sup>. Moreover, a recent cross-sectional study assessed 364 undergraduates from five health-related sciences and found that the prevalence of BID was 9.1%<sup>12</sup>. In this study, higher rates of body image concern were also reported in students who: had non-white skin colour, underwent weight loss treatment, engaged in disordered eating behaviours, had a regular/poor self-reported health status, reported moderate/severe anxiety, or had a larger waist circumference<sup>12</sup>.

There is a shift in understanding that EDs affect individuals at any life stage and in any body size. However, despite the rising prevalence, EDs are still often missed and left untreated due to a lack of both clinician and public knowledge about EDs, especially in individuals who have a high BMI. There is a need to better understand the factors that contribute to ED development to create early prevention and intervention strategies for adolescent populations and undergraduates. There is also a need to implement effective ED screening strategies for individuals with higher BMI and understand how these individuals can benefit from nutritional and

psychological counselling; whether that be helping with the development of a more balanced dietary pattern, and/or adequate mental health care to provide alternate methods of managing emotional distress, outside of food. Further, given EDs are not purely physical disorders related to eating behaviours, and are primarily mental health disorders, it is paramount that clinicians and researchers consider BID when developing or implementing ED treatment and prevention, irrespective of an individual's age or size.

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