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Body Dysmorphic Disorder and Bigorexia: Should we be Concerned about Adolescents?

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Abstract
Body appreciation is a widely explored topic that has been increasingly gaining space in the media, generating great concern as it directly influences the most susceptible individuals, such as adolescents, who are people in process of evolving into physical maturity, emotional development and forming body image. Body dysmorphic disorder and bigorexia are serious behavioral disorders that require knowledge and training from health professionals to be identified early, as they affect people from adolescence onwards and can cause serious emotional and physical problems in current and future life. This article, in the form of a narrative review, presents some characteristics related to adolescence, body image and emotional disorders that refer to body appearance, highlighting their causes, consequences, methods for diagnosis and therapeutic proposals with the aim of expanding knowledge and discussion about this important health problem that affects adolescents.

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1. Introduction

Contemporary society has long emphasized the value of the body through factors that influence the conception and perception of aspects frequently publicized by the media, social networks, the fashion industry and success references, whose messages reach people who seek to conform to new beauty standards that are increasingly difficult to achieve. In this context, adolescents are considered a risk group due to the poor development of the central nervous system, as they have not yet reached the level of maturity sufficient to interpret and define which social stimuli can be accepted without being associated with negative repercussions and behaviors in their lives [1].

1.1. Adolescence and body image

Adolescence is the phase of life that presents major physical, emotional, neurobiological and social changes, comprising the transition from childhood to adulthood, characterized by the search for challenges, strong social influence, greater predisposition to risks and modification of relationships with groups of friends and family [2]. It is a period of great development of the brain and cognitive capacity that prepares to meet the specific demands of this phase, seeking to acquire maturity and full capacity by the end of the second decade of life. Another characteristic can also be observed in adolescence, which is the tendency to present risk behaviors, motivated by emotionally strong situations, the search for experimentation with novelties and a great participation of external factors [3]. During adolescence, the development of body image (BI) occurs, characterized by the complex relationships between individual, historical, social and cultural factors that permeate the individual's perception and satisfaction with their body and appearance [4]. The mental representation of the body is part of the mechanism of personal identity, involving subjective components that can alter satisfaction with the body or specific parts of it. Dissatisfaction with HF generates exacerbated concern with physical appearance, low self-esteem, stress, anxiety and fear of negative evaluation by others [5, 6], and is frequently observed among adolescents, as at this stage of life they are more vulnerable to pressures imposed by family

friends, the media and social networks to achieve the perfect body as a way of gaining acceptance and social success. The increasing use of social media is associated with greater body dissatisfaction and the search for alternative measures that can help deal with this reality [7, 8].

1.2. Body dysmorphic disorder

Body dysmorphic disorder (BDD) is an emerging condition, also known as reverse anorexia, characterized by excessive concern with body image in which the person perceives themselves differently from their reality, imagining that they have defects or appearance that cause discomfort and interfere with their daily life [9-12]. This concern leads the person to adopt repetitive behaviors to try to hide imaginary defects or modify the appearance of the body, which causes stress, shame, embarrassment and significant impairment in psychosocial and occupational life [5, 6, 13-15]. As a clinical condition, BDD was described in the late 19th century [16, 17] and became better known in 1980 when people began to adopt camouflage techniques, use excessive makeup and various types of clothing that hide the body or part of it [11]. BDD is considered a little-recognized psychiatric illness [18], which compromises health and quality of life. Individuals with BDD place a high emphasis on appearance and tend to imagine that others are observing and judging them unfavorably, which triggers thoughts of anticipating negative consequences such as rejection, social isolation, loss of respect or importance among their peers [19]. Individuals engage in inappropriate appearance-related compulsions, with the aim of checking (excessive mirror-looking), hiding or correcting perceived flaws (wearing clothes that hide body parts, makeup, accessories, avoiding public photos and exposure) in order to eliminate or minimize the anticipated consequences of appearance imperfections [19]. Other attitudes such as excessive exercise, alternative eating habits, use of supplements and psychoactive substances are also part of the repertoire of individuals with BDD [20].

2. Causes

BDD is considered a disease with multifactorial causes, such as the interaction of genetic factors, individual, emotional and cognitive variations [16, 17, 21-23]. Living in a society that values the body and having obsessive-compulsive tendencies are considered predisposing factors, while traumatic experiences with one's own body, being a victim of bullying, excessive use of social media and abuse in childhood [21, 23, 24] have been identified as triggering factors of a condition that persists when the person lives in an environment that reinforces their compulsive attitudes [7]. Currently, the great influence of the media has been discussed, highlighting the exaggerated valorization of physical aspects on the behavior of adolescents who, in turn, have difficulty recognizing and accepting their own bodies [17, 25-27].

3. Prevalence

The prevalence of BDD, which depends on the assessment criteria and tools used, varies between 1.7% and 2.4% [13, 28-31], with an emphasis on onset in adolescence [4, 13, 29, 32], a phase of life in which symptoms are more severe, given that it is the period of development and emotional maturation, affecting mainly men and persisting into adulthood if not adequately treated [10, 22]. The widespread use of social networks in recent times has contributed to the increase in prevalence, especially among adolescents [10].

4. Consequences

Due to dissatisfaction with HF, people with BDD are subject to interference in executive functions and social cognition, such as reducing social interaction and avoiding situations with public exposure, poor academic performance, abandoning school, work, leisure activities, and worsening quality of life [5, 11, 12, 17, 22, 23, 33]. In addition, the use of harmful supplements and androgenic-anabolic steroids [34, 35], overexercise and eating disorders are frequently found. This condition can also be associated with other emotional disorders such as depression, anxiety, obsessive-compulsive disorder [10, 11, 22, 23, 29], even leading to suicide [6, 13].

5. Diagnosis

The correct diagnosis of BDD is usually difficult, requiring a complete and specialized clinical evaluation, since patients tend to hide the reality of the symptoms [17] and, when seeking specialized care, they bring other complaints to camouflage the behavior. Furthermore, on many occasions, professionals are not adequately prepared to recognize the disease, as people's behavior tends to be minimized or confused with vanity [23]. Currently, to aid in the diagnosis, instruments such as specific and validated questionnaires such as the Self-report Questionnaire and The Dysmorphic Concern Questionnaire [10, 17, 22, 24] have been used, which tend to increase the sensitivity of the clinical evaluation [10, 17, 24, 36].

6. Treatment

Early recognition [23] of BDD is essential for the provision of currently recommended treatment options, such as cognitive behavioral therapy and interpersonal psychotherapy [24]. Pharmacological treatments can also be instituted, alone or in combination with psychotherapy, after careful evaluation and with specialist supervision [10, 11, 15, 16, 18, 19, 22, 23, 29, 37]. In addition to individualized treatment, family involvement is highly recommended as complementary support to the therapeutic proposal [22].

7. Bigorexia

Bigorexia is a type of BDD that mainly affects men, in which the individual overvalues real or imaginary aesthetic defects. As a result, the person begins to feel very uncomfortable, imagining themselves as weak and small, when they have muscles that are developed to levels that are even above the average for the male population [38]. The most important variables related to this muscle dysmorphia are the distortion of the perception of body image, dissatisfaction with the body and the construction of an internalized ideal body image. These three variables, associated with low self-esteem, negative affection and perfectionist traits, favor the onset of muscle dysmorphia [39].

Bigorexia causes great emotional suffering, as it especially affects men from late adolescence to 25 years of age who aim to achieve maximum muscle hypertrophy with minimum body fat. To this end, the individual exercises compulsively, losing control over the intensity, frequency and time spent on these activities, thinking only about the result on their appearance [40, 41]. Also known as muscle dysmorphia, reverse anorexia nervosa, and Adonis syndrome, bigorexia was recently described as a variation of BDD that involves a concern about not being strong and muscular enough in all parts of the body. People with this condition avoid exposing their bodies in public because they feel embarrassed and wear several layers of clothing in order to avoid exposure [42, 43]. In

addition to excessive physical activity, people also adopt high-protein, high- carbohydrate, and low-fat diets, indiscriminate use of protein supplements, and consumption of anabolic steroids. These individuals experience great suffering from having their bodies observed by others, have impaired occupational and social functioning, miss classes and work schedules, and are subject to health-risk behaviors [38].

Genetic, biological, and social factors can be identified as causes of bigorexia. Some factors, such as negative attitudes towards obesity and the physical appearance of peers, narcissism and perfectionist traits, have been identified as contributing factors to bigorexia. It should also be noted that feelings of rejection, negative life experiences, anxiety disorders and perfectionism [44] may be associated with dissatisfaction and distortion of the body's appearance, leading to the onset of this disease. For a correct diagnosis of bigorexia, behavioral aspects (excessive physical activity and restrictive diets) and cognitive aspects (obsession with the appearance and size of the body, especially related to musculature) must be considered. Tools such as the Adonis Complex Questionnaire have already been validated and are very useful [45].

7.1. Risks of bigorexia

The repetitive use of the musculoskeletal system can cause overload and stress on bones, joints and ligaments and predispose to the occurrence of fractures and hernias, which are more serious in adolescents whose physical structure is still developing. Secondary damage to the cardiovascular, renal and digestive systems can also be highlighted, due to the type of diet and improper use of medications and supplements [38, 45].

8. Conclusion

As a disease that begins at younger ages, with chronic development and is still difficult to treat, the lack of knowledge and little publicity contribute to the fact that BDD, in its different manifestations, is often misunderstood, underdiagnosed or incorrectly diagnosed, which is worrying given the consequences it can have on people's lives, especially among adolescents. Specifically, regarding bigorexia, although physical activity is essential for the physical and emotional well-being of human beings, contributing to improving quality of life, raising self- esteem and preventing various types of physical and emotional health problems, it has been observed that it has been practiced inappropriately and as a response mechanism to behavioral deviations. Therefore, there is a need for a greater understanding of BDD among doctors of all specialties, nurses, psychologists, nutritionists and other members of health teams, using informative material and meetings to discuss the topic. In addition, it is essential that health organizations develop and implement initiatives that provide health professionals with the necessary tools to identify and treat this problem. This is expected to improve mental health conditions and reduce the number of cases and their consequences. Family involvement is also essential for early recognition of symptoms and seeking specialized help, which will contribute to the success of treatment.

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