

Short communication

The changing body: Importance of adequate adolescent development

Abstract :

Adolescence is a phase of great physical, emotional and social transformations that human beings go through in the transition from childhood to adulthood. During this period, bodily changes and the maturation of emotions occur, which can cause difficulties in understanding on the part of adolescents. Body image, which is constructed at this stage of life, is one of the most worrying elements among adolescents, who try to follow the standards spread among their peers. This article presents some characteristics of adolescence, the formation of their body image and practices of modifying their appearance (tattoos and piercing), as well as suggestions so that those responsible for adolescents' health care can understand these conditions and act effectively.

Keywords: body image; adolescent; tattoo; piercing

Introduction

Adolescence can be understood as a specific and complex process of physical, social and emotional development that human beings go through to transition from childhood to adulthood. This process gives the changing body different values according to its origin and culture, to which individuals attribute beliefs and ideals that must adjust to biological parameters. In this context, physical development translates into what is called the pubertal spurt and is easily identified as it includes the modification and increase in body mass in all its segments, the emergence of secondary sexual characteristics and full reproductive capacity. [1].

Also during adolescence, the process of emotional development can be understood based on the maturational evolution of the different structures of the nervous system, initially the limbic system - which is responsible for some characteristics presented in the first years of adolescence, such as the search for autonomy, detachment of family members and search for peer groups, impulsiveness, impatience, immediacy and little ability to assess risk situations - which will be modified as maturation reaches the prefrontal lobe, generally at

Comment [DE21171]: try to minimize the background and more focus on the typical structure of abstract

Comment [DE21172]: implications are missing

Comment [DE21173]: citation

the end of the second decade of life or until mid-life. third decade, configuring a new personal identity. [2].

observation of the different events that occur during adolescence shows a variety of characteristics, including the search for oneself and one's new identity, temporal relocation and mourning for the child's body. These changes demonstrate how adolescents deal with the body modification process and the adjustment that these new conditions evoke. In this search, the teenager finds himself faced with new emotional, social, hormonal and physical demands. [3].

Body image

Within the integrative process of emotional evolution of adolescents, the development of body image (BI) can be observed, characterized by morphological assessments of size and physical appearance associated with emotional factors that affect satisfaction with the body or certain parts of the body. [4].

The importance of adequate adolescent development justifies this article, which aims to describe some factors that may be associated with changes in their body image. For this purpose, articles available on the "PubMed" and "Scielo" platforms were selected, using the descriptors "adolescence", "body image" and "adolescence", whose themes were related to the physical, social and emotional development of adolescents.

Adequate adolescent development

Nowadays, when appearance is worshiped intensely, the consequences can be even more disturbing for teenagers. BI is a complex human phenomenon with multidimensional aspects that encompass a person's thoughts, feelings and behaviors in relation to their own appearance, regardless of the actual condition of their body. In its conformation, it includes evaluative aspects (such as satisfaction or concern with appearance) mainly regarding shape and weight and is strongly influenced by social, ethnic, cultural and economic conditions. [5]. BI is linked to personal confidence, self-esteem, eating and exercise behaviors and other factors that can interfere with people's daily lives and well-being [6].

The concept of BI also includes cognitive aspects (such as thoughts and beliefs about the body), perceptual (how people perceive the size and shape of

Comment [DE21174]: significance of study is somehow vague

the body and its parts), affective (feelings about the body) and behavioral (attitudes and actions that people perform to examine, understand, modify or hide their bodies). [7] Therefore, recognition of their characteristics and acceptance of their own body and their ability to use it effectively depends on the adolescent's adequate, positive and realistic understanding of their body image.

Among several peculiar aspects that can stand out during adolescence, such as the appearance of acne, the occasional need to wear glasses, scars and congenital characteristics, among others, body weight is one of the factors of body concern most reported by adolescents. While women tend to avoid being overweight, men are more concerned about being thin and lacking muscle mass. The beauty standard created, forced and disseminated by the media, of slender and elegant bodies, has a great influence on the formation of body image, encouraging the appreciation of thinness and the perfect body, especially in females. [8].

Furthermore, the mandatory changes that occur in adolescents' bodies (increase in height, changes in the composition of lean mass and fat mass, emergence of secondary sexual characteristics) associated with little understanding of this physiological process and concerns arising from their emotional development can induce thoughts that they will not be accepted and approved by their peers, exacerbating attitudes to try to change their body and, consequently, body image. The search for acceptance from others, especially from peers, is one of the factors that generate anxiety in adolescents, as rejection by people or social groups to whom they attribute importance has a negative impact on their behaviors and emotions. [9].

In this context, dissatisfaction with body image stimulates the desire for change based on a negative evaluation of one's own body. Adolescents seek different ways to transform themselves to meet their immediate goals of satisfaction and appear acceptable to their peers, which makes them subject to various physical and mental health problems, including eating disorders, depression, anxiety, low self-esteem and behavior of risk such as alcohol and illicit substance abuse. [10,11]. And this problem acquires high proportions within society, since the prevalence of dissatisfaction with body image varies between 58% and 78% according to some studies carried out with adolescents

Comment [DE21175]: citation

Comment [DE21176]: relate this paragraph with your topic to build a strong rational

from different continents such as the United States, Portugal, Brazil and some Asian countries [12].

Modifying appearance: tattoo and piercing

Changing the appearance of adolescents through tattoos and piercings occurs frequently and a better understanding of the process that leads them to adopt these attitudes is very important. At this stage, concerns about body image have led adolescents to adopt these practices that may not be so innocuous.

Comment [DE21177]: coherence is missing

Tattoo

Tattooing is a form of body modification that is well known and worshiped around the world. It consists of a permanent coloring process applied to human skin through the subcutaneous and intradermal introduction or penetration of pigments using needles or by scarification, to form drawings or figures. History records that tattoos have been found since 4000 BC, among the Egyptians and, later, present on the bodies of natives of Indonesia, Polynesia, the Philippines and New Zealand, expressing cultural and mystical aspects throughout time. Although unintentional tattoos can occur - after injuries or trauma - in medicine they can be used as a dermatological camouflage technique in the presence of scars, vitiligo and in reconstruction processes after some surgical procedures. However, tattoos are more commonly used for aesthetic reasons, following current fashion or personal meanings. [13,14].

Although there may be a false belief that tattooing is harmless, the risks or complications inherent to this practice have been widely described and are related to allergic reactions to pigments, the appearance of papular lesions, nodules and/or granulomas and the exacerbation of pre-existing dermatoses. [15].

Piercing

Piercing or body piercing designates a type of adornment or decorative piece inserted through piercing in certain parts of the body such as the nose, lips, tongue, umbilical scar, ear, eyebrow region, nipple and genital region.[14].

Piercing is also a very old practice of body modification that dates back ancient cultures and civilizations, being used for a variety of reasons, mainly cultural and religious, in addition to aesthetics. According to historians, its use emerged between 3 thousand BC and 4 thousand BC and was practiced among

the Egyptians and Indians, having been later adopted in other regions of the world such as tribes in South America and Africa. [16,17].

The most important complications related to piercing implantation are bleeding, infections, trauma, allergies and scars. Infection is the most common complication and may be of viral or bacterial etiology. [18].

Given this knowledge, the process of supporting adolescents becomes fundamental. Due to the emotional characteristics that characterize adolescence and the importance of body image in the adolescent's personal maturation and future life, it is important to provide conditions for this phase to be overcome in a harmonious way, preventing the multiplicity of factors involved in creating body image predominates over other challenges that teenagers must overcome. In this sense, some guidance can be offered to support adolescents: [19-22].

1. focus on your positive characteristics
2. accept your own body even if you are not satisfied with all aspects
3. understand the changes in the body during the puberty process
4. find individual characteristics that distinguish people from others
5. think about the body's potential as an active being and not just through appearance
6. understand beauty as different appearances and forms, recognizing diverse models in the arts and cultural events
7. adopt positive thoughts and a posture of self-confidence
8. promote self-care with nutrition, physical activity and adequate mental hygiene and sleep
9. promote social coexistence with healthy family members and groups
10. avoid contacts on social networks that promote negative body image messages
11. identify and avoid inappropriate messages in the media
12. seek help from support networks and specialized professionals.

Comment [DE21178]: how they are effective

Conclusions:

Although maintaining an adequate body image during adolescence is very important, there are many important factors that can interfere with this process, such as those described in this article. They need to be recognized and

addressed, individually or collectively through public health care policies for adolescents, so that they can reach adulthood healthy.

REFERENCES

1. Chulani VL, Gordon LP. Adolescent growth and development. *Prim Care*. 2014 Sep;41(3):465-87. doi: 10.1016/j.pop.2014.05.002.
2. Casey BJ, Jones RM, Hare TA. The adolescent brain. *Ann N Y Acad Sci*. 2008 Mar;1124:111-26. doi: 10.1196/annals.1440.010.
3. Dahl RE. Adolescent brain development: a period of vulnerabilities and opportunities. *Ann N Y Acad Sci*. 2004 Jun;1021:1-22. doi: 10.1196/annals.1308.001
4. Rodgers RF, Laveway K, Campos P, de Carvalho PHB (2023). Body image as a global mental health concern. *Cambridge Prisms: Global Mental Health*, 10, e9, 1–8 <https://doi.org/10.1017/gmh.2023.2>
5. Hidayati NU, Sutini T, Nurhidayah I. Interventions of body image disorder among adolescent: a literature review. *Indonesian Journal of Global Health Research* 2024;6:487-94.
6. Bodega P, Cos-Gandoy A, Fernandez-Alvira JM, Fernandez-Jimenez R, Moreno LA, Santos-Beneit G. Body image and dietary habits in adolescents: a systematic review. *Nutrition Reviews* 2023;82(1):104–127.
7. Hosseini AS, Padhy RK. (2020). Body Image Distortion. In: *StatPearls* [Internet]. Treasure Island (FL): StatPearls Publishing; 2024 Jan.
8. Chagas LM, Ferreira NG, Hartmann V, Kumpel DA. Perception of the Body Image and Nutritional Status in Adolescents. *Rev Psicol IMED* 2019;11:69-78.
9. Saylan E, Soyyigit V. Body image among adolescents: what is its relationship with rejection sensitivity and self-efficacy? *Clinical Child Psychology and Psychiatry* 2024;29(2):479–492.
10. Tort-Nasarre G, Pocallet MP, Artigues-Barberà E. The Meaning and Factors That Influence the Concept of Body Image: Systematic Review and Meta-Ethnography from the Perspectives of Adolescents *Int. J. Environ. Res. Public Health* 2021;18:1-16. 1140. <https://doi.org/10.3390/ijerph18031140>
11. Toselli S, Zaccagni L, Rinaldo N, Mauro M, Grigoletto A, Latessa PM et al. Body Image Perception in High School Students: The Relationship with Gender,

Comment [DE21179]: revise and make one format

Weight Status, and Physical Activity. *Children* 2023, 10,137.
<https://doi.org/10.3390/children1001013>

12. Guimarães IRB, Sá NNB, Costa GS, Figueira MS. Body-image dissatisfaction and risk behaviors for non-transmissible chronic diseases in Brazilian teenagers. *Brazilian Journal of Health Review* 2022;5:14163-14186.

13. Altunay IK, Mercan S, Özkur E. Tattoos in Psychodermatology. *Psych* 2021, 3, 269–278. <https://doi.org/10.3390/>

14. Breuner CC, Levine DA. Adolescent and Young Adult Tattooing, Piercing, and Scarification. *PEDIATRICS* Volume 140, number 4, October 2017:e20171962

15. Chalarca-Cañas D, Caviedes-Cleves MA, Correa-Londoño LA, Ospina-Gómez JP, Velásquez-Lopera MM. Tattoos: risks and complications, clinical and histopathological approach. *An Bras Dermatol.* 2024 Mar 22:S0365-0596(24)000345

16. Conti A, Bin P, Casella C, Capasso E, Fedeli P, Salzano FA et al. Piercing and tattoos in adolescents: legal and medicolegal implications. *Open Med.* 2018; 13: 148-152

17. Glans MR, Nilsson J, Bejerot S. Tattoos, piercings, and symptoms of ADHD in nonclinical adults: a cross sectional study. *Front Psychiatry* 2024;14:1224811
<https://www.frontiersin.org/articles/10.3389/fpsy.2023.1224811/full>

18. Karimi E, Nouri M, Hejripoor SZ, Darvishi M. Complications and Hazards Associated with Body Piercing: A Narrative Review. *Infect Disord Drug Targets.* 2024;24(2):e241023222637

19. Daniela Dias Barros. Body image: discovering one's self. *História, Ciências, Saúde – Manguinhos*, v. 12, n. 2: p. 547-54, maio-ago. 2005.

20. Sarah Grogan. *Body Image. Understanding Body Dissatisfaction in Men, Women and Children.* 4th Edition. 2021. Routledge, London.

DOI <https://doi.org/10.4324/9781003100041>

21. Vandenbosch L, Fardouly J, Tiggemann M. Social media and body image: Recent trends and future directions. *Current Opinion in Psychology* 2022, 45:101289

22. Gualdi-Russo E, Rinaldo N, Zaccagni L. Physical Activity and Body Image Perception in Adolescents: A Systematic Review. *Int J Environ Res Public Health*. 2022 Oct 13;19(20):13190

UNDER PEER REVIEW