

PREVALENCE OF GENERALIZED ANXIETY DISORDER AMONG MEDICAL STUDENTS: NATIONAL AND INTERNATIONAL STUDIES

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Abstract: Objective: To evaluate the prevalence of generalized anxiety disorder among medical students. Methods: an integrative literature review was conducted. Articles retrieved from the Virtual Health Library (VHL), Latin American and Caribbean Health Sciences Literature (LILACS), Scientific Electronic Library Online (SciELO) and Online System for Search and Analysis of Medical Literature (MEDLINE) were analyzed using the descriptors anxiety, anxiety disorder and medical students. Studies published in Portuguese, English or Spanish and that dealt directly with the subject of study were considered. Results: the prevalence of the analyzed outcome ranged from 19.7% to 50%. The factors associated with the outcome were: female gender, non-heterosexual orientation, feeling very/very afraid of violence in the neighborhood and perceiving access to psychological services as difficult and transition between the basic cycle and the beginning of mandatory internships. Conclusion: the prevalence of the disorder among medical students is significant, which is multifactorial and complex, requiring efforts from educational institutions and public mental health policies aimed at this specific public.

Keywords: anxiety; anxiety disorder; medical students.

INTRODUCTION

Anxiety is a feeling or state of mood that produces in the individual a negative apprehension

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related to the future, characterized by manifestations of internal restlessness of psychic, physiological or somatic origin (Fukuda; Stefanelli; Arantes et al., 2017). People can express it in the form of nervousness and irritability; difficulties in concentration, attention and memory; insomnia and tension; headache, sweating, tachycardia, palpitations, tremor, dizziness, nausea, and vomiting; muscle and abdominal pain (Dalgalarondo, 2019).

Demonstrations of anxiety are a reaction of the body in the face of situations of threat or danger, and in some cases are beneficial for allowing the body to prepare a necessary measure to contain losses and unwanted consequences. However, when the manifestations are excessive, they can cause high psychic suffering and lead to the development of a severe clinical condition or disorders such as depression, preventing the subject from performing their routine activities (Pereira, 2019).

In this context, signs and symptoms of anxiety can have a direct impact on the individual's quality of life due to psychological distress (Silva; Pear tree; Moura, 2020), related to individual and collective aspects, and is based on elements such as health satisfaction, functional capacity, self-esteem, well-being, life habits, education, socioeconomic level, emotional state, social interaction, intellectual activity, self-care, family support, housing conditions, safety, cultural and ethical values, religiosity, satisfaction with work and/or daily activities (Cruz, 2020).

Anxiety disorders are health conditions distinct from the feelings of sadness, stress, or fear that anyone experiences occasionally in their life, and are highly prevalent in the general population. The overall prevalence of generalized anxiety disorder is 3.6%. In Brazil, the prevalence rates are even higher, being 9.3% for anxiety disorder (WHO, 2017).

The prevalence in health professionals has generally been higher than in the general population (Vasconcelos; Martino; France, 2018; Maharaj; Lees; Lal, 2018; Beschoner; Limbrecht-Ecklundt; Jerg-Bretzke, 2019; Sampaio; Rabbit; France, 2018; Woon; Tiong, 2020; Silva Marcolan, 2020). In the international scenario, the prevalence ranged from 15% to 52.8% (Singh et al., 2021; Melnyk et al., 2018). In the national scenario, the prevalence ranged from 11% to 44.4% (Sampaio; Rabbit; France, 2018; Veloso et al., 2016). The wide range of this prevalence is highlighted, evidencing



the need for local studies, especially among medical students, as this public is exposed to specific conditions that significantly interfere with mental health. In this sense, the present study sought to evaluate the prevalence of generalized anxiety disorder among medical students.

METHODS

An integrative literature review was conducted, this method allows, in addition to reviewing the academic production, allows the synthesis of knowledge and organizes the productions on the selected theme, in the scientific context, thus ensuring methodological rigor and the critical presentation of the analysis of the evaluated studies (Souza; Silva; Carvalho, 2010).

In this sense, six interdependent and interrelated phases were considered: elaboration of the guiding question, search or sampling in the literature, data collection, critical analysis of the included studies, discussion of the results and presentation of the integrative review. How the guiding question was defined: What is the prevalence of generalized anxiety disorder among medical students? (Souza; Silva; Carvalho, 2010).

Studies were collected through an electronic search in the following databases available in the Virtual Health Library (VHL), Latin American and Caribbean Literature on Health Sciences (LILACS), the Scientific Electronic Library Online (Scielo) and the Analysis of Medical Literature (MEDLINE).

The inclusion criteria included complete articles available electronically, in Portuguese, English or Spanish and that presented the theme proposed in the title, abstract or descriptors. Regarding the eligibility criteria, letters to the editor, editorials, duplicate articles, and those that did not unequivocally address the theme under study were considered.

The survey of the studies was conducted during the months of January to March 2023. As research strategies, the Health Sciences Descriptors (DECs) were used, retrieved through the website: <https://decs.bvsalud.org/>, which were anxiety, anxiety disorder and medical students. For the



refinement of the search and better selection of data for analysis, the Boolean was used and and OR for combination of the selected descriptors.

For data collection, an instrument validated by Ursi (2005) for integrative reviews was developed, covering the following categories of analysis: identification code, title of the publication, author and author's education, source, year of publication, type of study, region in which the research was carried out and the database in which the article was published. After selecting the articles, the information that would be extracted from the studies was defined. To enable the apprehension of the information, a database prepared in the Microsoft Office Excel software 2010, composed of the following variables: title of the article, year of publication, study design, and main outcomes. The data obtained were grouped in a table and in thematic approaches and interpreted according to specific literature.

RESULTS AND DISCUSSION

In this study, the prevalence of generalized anxiety disorder among medical students was evaluated, in this sense, health students, as human beings capable of empathically bonding with their peers, in the face of a work condition that requires them to constantly access the patients' pain experience, may have their resources exhausted, since, knowing the pain of the other can mean feeling the pain of the other and, many times, they are not prepared for it (Lago; Codo, 2013).

Anxiety is among the most frequent psychiatric disorders in the general population and can be defined as an emotional state with psychological and physiological components, which is part of human experiences. It is defined as pathological when it is disproportionate to the situation that triggers it, or when there is no specific object to which it is directed (Andrade; Gorenstein, 2020).

In a study conducted with medical students in Rio Grande do Sul , a prevalence of severe generalized anxiety symptoms of 30.9% (95% CI: 27.9%-33.9%) was identified (Souza et al., 2022). In a study conducted in the northeast region of the country with students from an institution in



Pernambuco, in relation to anxiety, the mean score of the evaluation was 6.7 (SD: +/- 3.4), with 19.7% of the interviewees manifesting symptoms suggestive of the disorder (Vasconcelos et al., 2015).

In another survey conducted in Belo Horizonte, Minas Gerais, the study showed that the 6th grade is the one with the highest symptoms of anxiety, with 50% prevalence. In the comparison between genders, women showed greater anxiety than men, with a prevalence of 32.7%. Overall, the prevalence of people with a very likely diagnosis of GAD was 27.7% (Pinto; Melo; Ferreira, 2018). In another study also carried out in the state of Minas Gerais, but in the North region, it was found that 29.4% of the interviewees said they frequently presented symptoms that suggest some anxiety disorder (Souza; Coelho, 2021).

An international study identified an overall prevalence rate of anxiety among medical students of 33.8% (95% Confidence Interval: 29.2–38.7%). Anxiety was more prevalent among medical students from the Middle East and Asia. Subgroup analyses by sex and year of study found no statistically significant differences in the prevalence of anxiety. Approximately one in three medical students in the world suffers from anxiety — a prevalence rate substantially higher than in the general population (Quek et al., 2019).

Another Chinese study with medical students also showed a prevalence of anxiety of 21%. Subgroup analysis revealed no significant differences in prevalence between the sexes, nor significant differences in the prevalence of depression among individuals of different age groups. Among medical students in Egypt, the prevalence was anxiety 73% (Zheng et al., 2019; Fawzy; Hamed, 2017).

Regarding the factors associated with the prevalence of these disorders, the following stand out: female gender, non-heterosexual orientation, feeling very/very afraid of violence in the neighborhood and perceiving access to psychological services as difficult (Souza et al., 2022). Having access to a high level of social support and having some level of physical activity is evaluated as a protective factor for this disorder. In this context, some possible outcomes of generalized anxiety symptoms are: poorer sleep quality, use of over-the-counter psychotropic drugs, negative interference with academic performance, in addition to low quality of life, among others (Souza et al., 2022).



Universities and educational institutions in general, as well as several places where the population is inserted, is an environment that contains stressors and mainly affects the academic community, often being a central point for individuals with mental suffering and low quality of life (Costa, 2020). Students, when they start a higher education course, confront multiple adaptations that include autonomy, new identity and the need to make choices. In this segment, among the many changes, we mention the distance from the family, change of residence, domestic responsibility, management of the financial part, new relationships and a study routine, sometimes associated with a paid activity, which makes the daily life exhausting. This will contribute to a series of changes in the quality of life of undergraduates (Costa, 2020; Santana, 2018). In addition, these adaptations make the academic universe prone to the development of generalized anxiety disorder (Almeida, 2017; Leão, 2018).

Medical courses are more susceptible to psychological suffering due to exposure to stressors inherent to academic training and the uniqueness of the work performed (Facioli, 2020). In this sense, they cause greater vulnerability to stress and anxiety, because they are commonly associated with direct care for people, as well as suffering and complex situations typical of human beings and life, which has a direct impact on quality of life (Hirsch, 2018).

Medical students have higher levels of stress and anxiety in their professional training. Studies carried out with this public in Brazil showed a prevalence of common signs and symptoms of stress and anxiety, pointing to higher percentages than the general public (Almeida, 2017; Pedro, 2017). And, consequently, the quality of life of students varies from low to medium and this may be associated with mental health (Freitas, 2018).

University students face stressful situations, such as insecurity and fear in practical and theoretical activities; adaptation to the environment of the internships, as well as displacement; knowledge about the reality of health services in internships, as well as the functions and conduct of the working professional; the relationship with new colleagues and teachers; the first contacts with patients and families, as well as suffering and deaths; the concern with evaluations and the absence



of time for leisure (Mendes, 2018). All these factors contribute to the prevalence of anxiety and low quality of life during training (Pedro, 2017).

Thus, it is important that educational institutions consider these factors so that the medical course does not aggravate the situation of students, seeking ways to reduce the interference of negative factors to mental health, it is also important to build public policies that are based on the singularities of this public.

The limitations of the present study are related to the fact that the source of studies was only articles published in scientific journals, which may have limited a more tangible overview of the subject, indicating the possibility of a broader review in a future study that analyzes books, dissertations, book chapters and theses. Another limitation is the scarcity of studies for analysis and the heterogeneity of the studies analyzed.

CONCLUSION

The results of the present study indicate that the prevalence of the analyzed outcome ranged from 19.7% to 50.0, rates considered significant, in this context, the factors associated with the outcome are female gender, non-heterosexual orientation, feeling very/very afraid of violence in the neighborhood and perceiving access to psychological services as difficult and transition between the basic cycle and the beginning of mandatory internships. Finally, it is important that educational institutions consider these factors so that the medical course does not aggravate the situation of students, seeking ways to reduce the interference of negative factors to mental health, it is also important to build public policies that are based on the singularities of this public.

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