



Depression in medical students: a literature review

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1 INTRODUCTION

Depressive and anxiety disorders are characterized as a set of diseases that cause very strong consequences in the lives of the individual and their families, such disorders are included as a major public health problem. In addition, depression and anxiety are primarily responsible for the high burden of disease among other disorders (ABELHA, 2014; WHO, 2017).

Academic life involves the student to the demands of society in their field of professional activity, requiring effectiveness and adaptations to deal with oppressions and acceptances in their field of action contributing to symptoms of depression and anxiety. There are countless aspects that imply the mental health and performance of students, compromising their physical, mental and social integrity (BOLSONI; SILVA; GUERRA, 2014).

University students are more likely to acquire a depressive or anxious disorder, this happens by changing the daily life, thus causing the student to acquire such disorders. Anxiety and depression are found at a very high rate among university students, becoming higher among the population, in the first years students have a higher concentration of symptoms of depression and anxiety (IBRAHIM, KELLY, ADAMS; GLAZEBROOK, 2013).

There is a toxicity in the medical culture caused by a chronified stress in the exercise of the profession, given the demand for excellence in practices and the adoption of infallible knowledge. As a result, doctors and medical students have shown higher rates of psychological distress, burnout, diagnosed mental illness, suicidal ideation and attempted suicide than the general population (WARD; OUTRAM, 2016).

The rates among medical students are higher than the general population, and it is an issue about medical students who commonly do not recognize their own illnesses, especially psychic ones (MACHADO et al., 2015).



2 OBJECTIVE

The aim of this study is to learn about depression in medical students.

3 METHODOLOGY

This is an integrative literature review study, which seeks to produce current scientific knowledge from a systematic evaluation process, through existing studies, contributing to decision making and improvements in clinical practice and also indicates the need for new studies to fill existing gaps (MENDES et al, 2019).

This study consists of an integrative review of the literature through access to scientific articles through a selection made in the databases National Library of Medicine (MEDLINE), Latin American and Caribbean Literature on Health Sciences Information (LILACS), Scientific Electronic Library Online (SCIELO) and Google Scholar. The data collection period occurred from January to March 2023.

Inclusion criteria were: electronic scientific articles available in full, in Portuguese, English and Spanish, published from 2000 to 2022. The following descriptors were used: "students", "medicine"; "depression".

Exclusion criteria were: incomplete articles, articles unavailable in full and/or that were not available for free and that did not involve the theme of this research.

Therefore, 638 studies were found in the aforementioned bases, of these 346 in the MEDLINE base, 124 in LILACS, 166 in SCIELO and in Google Scholar 358 of these, 223 were available in full, after reading the titles 93 were filtered, after reading the abstracts and texts 26 articles were selected for this research.

4 DEVELOPMENT

According to the World Health Organization (WHO), mental health is a broad concept that covers the aspect of subjective well-being, autonomy, competence and the potential for intellectual and emotional self-fulfillment. It can be defined in different ways according to different cultures, and in general it is agreed that it involves not only the absence of mental disorders, but also the guarantee of cognitive and emotional quality of life (GIL et al., 2018).

Brazilian university students begin their education in late adolescence and early adulthood, a period in which some important psychosocial changes occur, such as the acquisition of a new identity, including greater autonomy over their lives and choices. In addition, for some students, entering university means leaving home, living in another city or even in another state, having to face the dilemma of parental and family separation. This implies being responsible for household chores,



having to cook, tidy up the house, manage financial resources, among other duties (MOREIRA; DUTRA, 2013).

National and international studies have analyzed the quality of life of medical students, because the experience that these students will go through during their academic life will reflect not only in their professional training, but also in the community in which they will work (MENDONÇA et al., 2019; COSTA et al., 2020).

From Hippocrates to modern medicine, there are still stigmas that permeate mental illness. In Ancient Greece it was seen as a disease of the soul, a punishment of the gods, today many still relate mental illnesses as "madness" "drama" and trivialize the severity of diseases such as depression, anxiety, bipolar disorder, among others that often culminate in a tragic fate. In addition to its history, mental health is seen coming out of the stigma associated with it and taking center stage as a set of diseases that affect a significant amount of the population and that have a very large potential for "mental destruction". According to the World Health Organization (WHO), one billion people - including 14% of the world's adolescents - live with a mental disorder. Suicide accounted for more than one in 100 deaths and 58% of suicides occurred before the age of 50. Mental disorders are the leading cause of disability, causing one in six years lived with disability. People with critical mental health conditions die on average 10 to 20 years earlier than the general population, mainly due to preventable physical illnesses. Child sexual abuse and abuse through bullying are important causes of depression. Social and economic inequalities, public health emergencies, war and climate crisis are among the global structural threats to mental health. Depression and anxiety increased significantly, i.e. by more than 25% in the first year of the pandemic alone (QUECK, 2019; WHO, 2022).

In recent years, there has been growing concern about quality of life in the training of health professionals due to the high prevalence of anxiety and depression disorders, among other types of disorders among health students, especially medical students (RIBEIRO et al., 2020).

Rates of depression in medical students were also found to be higher than in the general population and compared to other courses. However, when evaluating the rates of Burnout Syndrome (BS) and depression, BS had higher rates. The studies were relatively based on the same variables related to the development of these diseases, which are leisure activities, hours of sleep, satisfaction with academic performance and contact with stressful factors (CYBULSKI; MANSANI, 2017; SOUZA; TAVARES; PINTO, 2017; MOUSA et al., 2016).

The social domain appears impaired in medical students, since a differential of this faculty is the extensive workload of classes, the dedication of part of the free time to other activities such as individual study, academic leagues, scientific initiation, monitoring and internships, significantly reducing the average number of leisure hours per day. The use of illicit and licit drugs was also



observed in 92% who answered having used alcohol in the last three months and the use of marijuana had a prevalence of 15% (GRETHER et al., 2019).

Depressive symptoms are more common in female students. Depressive symptoms and behavioral disorders are closely related to anxiety. And males are more susceptible to burnout (MAYER, 2016; MOUTINHO, 2017; PACHECO et al., 2017).

In line with this thought, Regis et al (2018) show prevalence rates of social anxiety disorder of 36.3% and rates of dissatisfaction with body image of 34.7%, and in the sample used the prevalent sex is female. This study observed that sociocultural influences, media pressures and the incessant search for an ideal body standard are among the causes of altered perception of self-image, generating dissatisfaction and consequent unhappiness. Compared to men, women in this study were 13.5 times more likely to present dissatisfaction with body image and almost 5 times more likely to present dissatisfaction associated with symptoms of social anxiety disorder.

As for religiosity, Gonçalves et al. (2018) stated that students who belong to the Spiritist religion are more susceptible to mental symptoms. And, Pacheco et al. (2017) show that depressive symptoms are less prevalent in Catholics. For the authors, it was the group that statistically least presented data indicative of depression or any other mental problems. In other research that addressed religiosity, its absence was a risk factor because religious students are more optimistic and have greater support in times of difficulty.

Students who sleep fewer hours may experience both increased depressive symptoms and anxiety. It is important to consider that changes in sleep habits characterize both disorders. It is difficult to identify whether the lower amount of hours slept is due to anxious and/or depressive symptoms. However, there are data indicating that poor sleep habits have an important relationship with mental health complaints (ORZECH; SALAFSKY; HAMILTON, 2011; APA, 2014).

Research points to some reasons for the high suicide rate among physicians, such as: denial of stress of a personal nature, denial of psychological discomfort, suicidal inclinations are covered up (more difficult treatment), physicians more often elaborate defensive schemes (they close themselves to any effective therapeutic intervention, neglect of family and colleagues ("he is a doctor, he knows how to take care of himself"); fear of suicide at hand (more effective methods for success) (DELLA SANTA; CANTILINO, 2016).

Studies state that there is a prevalence of 88.97% of depression in students who do not have a good quality of sleep and 11.03% of depression in those who have a good quality of sleep. In addition, it showed that of the 892 medical students analyzed, 32.5% suffered from depression; 52.9% had anxiety and 34.6% suffered from stress (CORNEJO, 2016).



The medical student is exposed to several stressful factors that impair mental health. Such individuals already encounter obstacles from the moment of the selection process, since the medical course is one of the most disputed in universities (BARBOSA et al., 2018).

In parallel to the disorders described, another phenomenon that has affected medical students is suicide, being associated with living alone, having thoughts of abandoning the course, depressive and obsessive compulsive symptoms (TORRES et al., 2017).

Regarding the prevalence of mental disorders in medical students, they found prevalences of 30.6% for depression; 62.1% (state) and 89.6% (trait) for anxiety and 49.9% for stress. Also in relation to depression, a meta-analysis with 77 countries estimated an overall prevalence of 28% in medical students. Additionally, suicidality (ideation, planning, suicide attempts) is a growing concern associated with depression in medical students. In this situation, it is questioned whether stress, anxiety and depression in these students would not be a public health problem, in the sense that it is in everyone's interest to face and solve this problem (AKERMAN, 2012; PUTHRAN; ZHANG, TAM; HO, 2016; PACHECO et al., 2017; GRANER; CERQUEIRA, 2019).

Health courses, especially medicine, are among the most researched in relation to the mental health of university students. There is particular concern about medical students and doctors, as they have higher suicide rates than the general population and other academic groups. As for medical students, risk factors associated with attempted suicide are being female; being homosexual; lower income; bullying at university; history of trauma in childhood or adulthood; positive family history for suicide; having had suicidal ideation in the last month; daily tobacco use and being at severe risk of alcohol abuse (SANTA; CANTILINO; CANTILINO, 2016; LEÃO, GOMES; FERREIRA; CAVALCANTI, 2018; MARCON et al., 2020).

Aspects related to quality of life such as frequency of leisure activities, hours of sleep and use of illicit and psychoactive drugs are also associated with the emergence of symptoms of depression, anxiety and stress. classified the medical students in their survey with regular quality of life, 72% had poor sleep quality and 17% had a possible sleep disorder. The pressure for good results and the amount of subjects to study usually causes students to decrease their sleep quantity and quality. Regarding the use of alcohol and drugs, there is evidence of a relationship between alcohol consumption, whose intake increases during the course periods, and other narcotic drugs, such as tobacco and marijuana, the most used illicit drug (MACHADO; MOURA; ALMEIDA, 2015; AMORIM et al., 2018).

It is possible that medical students become disillusioned with the profession during the course. The glamorous and prestigious vision they had is being destroyed as they realize how painful the working hours are for a newly graduated doctor, that it will not always be possible to save a patient, despite all the knowledge acquired, and that, after training, there is still a need to pass a residency test



in order to continue with their studies. The reality of medical practice ends up creating conflicts that potentially lead to mental illness (BENEVIDES; GONÇALVES, 2009).

The prevalence of depression and depressive symptoms in medical students is very much related to the challenges imposed by medical school, which requires both the development of the ability to care for the well-being of others and to try to care for one's own well-being, balancing all areas of personal life. Such challenges cause pressures that are able to explain the higher prevalence not only of depression, but also of anxiety and burnout in medical students (LUDWIG et al, 2009).

A study conducted in China showed that levels of depression in medical students were high and that the frequency of moderate to severe depression elicited in their study sample was comparable to recent studies in medical students in the USA. The same study stated that higher levels of depression in the third year compared to the second, this is because in this country the third year is longer and in some ways more complicated than the previous year. This research also reports the need for better support for medical students, who, in most cases, have access only to counseling (difficult to access) offered by the university (SOBOWALE et al., 2014).

Among the psychological disorders presented in medical students, common mental disorders (CMD) are the most prevalent, in addition to being important causes of disability in daily activities. Represented by depressive, eating, mood, sleep disorders, anxiety, neurasthenia and somatoform disorders, their main symptoms are forgetfulness, difficulty concentrating and making decisions, fatigue, insomnia and irritability, as well as somatic complaints (FUREGATO; SANTOS, SILVA, 2010; MAHMOUD et al., 2012).

A mitigating factor for these depressive conditions could be the practice of physical activities. However, according to Vasconcelos et al., (2015) these and the moments are sometimes inserted in a second plan.

5 FINAL CONSIDERATIONS

The study showed a variation of symptoms regarding depression in medical students, but it is something worrying. It is of great value that Higher Education institutions of medical courses provide health care, especially with regard to mental health seeking to mitigate or eliminate these consequences to the health of their students.

Emphasizing that accurate and early diagnoses can be very useful in the treatment of diseases, highlighting the theme of this study which is mental health. And that, despite being a course that has an extensive curriculum, there must be ways to preserve the quality of life of these future medical professionals.

Therefore, it is hoped that other studies in this area will contribute to this very important theme in the past, present and possibly in the future.



REFERENCES

- ABELHA, L. Depressão: uma questão de saúde pública. *Cadernos de Saúde Coletiva*, 22(3),223, 2014. Doi: 10.1590/1414-462X201400030001.
- AKERMAN, M. Estresse, ansiedade e depressão em estudantes de Medicina. In Baldassin, S (Coord). *Atendimento psicológico aos estudantes de medicina: técnica e ética*. São Paulo: Edipro, 2012.
- APA. American Psychiatric Association. *DSM-5: Manual diagnóstico e estatístico de transtornos mentais*. Porto Alegre: Editora; 2014.
- BARBOSA, M.L et al. Burnout Prevalence and Associated Factors Among Brazilian Medical Students. *Clinical Practice & Epidemiology in Mental Health*, v.14, p.188-195, 2018.
- BENEVIDES PEREIRA, A.M.T.; GONÇALVES, M. B. Transtornos emocionais e a formação em Medicina: um estudo longitudinal. *Revista Brasileira de Educação Médica*, [s.l.], v. 33, n. 1, p.10-23, mar. 2009.
- BOLSONI; SILVA, A.T.; GUERRA, B.T. O impacto da depressão para as interações sociais de universitários. *Estudos e Pesquisas em Psicologia*, 14(2), 429-452, 2014.
- CORNEJO, J. V., et al. Saúde mental e qualidade do sono em estudantes de oito faculdades de medicina humana do Peru. *Revista Chilena de neuropsiquiatria*, v.54, n.4, p.272-281, 2016.
- COSTA, D. S., et al (2020). Sintomas de Depressão, Ansiedade e Estresse em Estudantes de Medicina e Estratégias Institucionais de Enfrentamento. *Revista Brasileira de Educação Médica*, 44(1), e040. Epub Marc, 30, 2020.<https://doi.org/10.1590/1981-5271v44.1-20190069>
- DELLA SANTA, ND., CANTILINO A. Suicídio entre médicos e estudantes de medicina. *Revista brasileira de educação médica*, v.40, n.4, p.772-780, 2016.
- FUREGATO, A.R.F.; SANTOS, J.L.F.; SILVA, E.C. Depressão entre estudantes de dois cursos de enfermagem: autoavaliação da saúde e fatores associados. *Revista Brasileira de Enfermagem*. 2010; 63(4), 2010.
- GIL, I et al. Análise Transversal de Sintomas Depressivos em Estudantes de Medicina: Prevalência no Primeiro Ano de Graduação. *Revista PsicoFAE*, v.7, n.2, p.100-118, 2018.
- GONÇALVES, J. R. L., et al. A religiosidade está associada a algumas graduações de ansiedade, mas não de depressão, em estudantes de medicina e enfermagem. *Revista da Associação Médica Brasileira*, v.64, n.6, 2018.
- GRANER, K. M.; CERQUEIRA, A. T. D. A. R.Revisão integrativa: sofrimento psíquico em estudantes universitários e fatores associados *Integrative. Ciencia e Saude Coletiva*, 24(4), 1327–1346, 2019.
- GRETHER, E. O., et al. Prevalência de Transtornos Mentais Comuns entre Estudantes de Medicina da Universidade Regional de Blumenau (SC). *Revista Brasileira de Educação Médica*, 43(1), 276-285, 2019. <https://doi.org/10.1590/1981-5271v43suplemento1-20180260>
- IBRAHIM, A.K et al. A systematic review of studies of depression prevalence in university students. *Journal Psychiatric Research*, 47(3), 391-400, 2013. Doi: 10.1016/j.jpsychires.2012.11.015
- LEÃO, A. M et al. Prevalência e Fatores Associados à Depressão e Ansiedade entre Estudantes Universitários da Área da Saúde de um Grande Centro Urbano do Nordeste do Brasil. *Revista Brasileira de Educação Médica*, 42(4), 55–65, 2018.



- LUDWIG, A. B et al. Depression and stress amongst undergraduate medical students. *Bmc Medical Education*, [s.l.], v. 15, n. 1, p.141-145, 2015.
- MACHADO, C. de S., MOURA, T. M. de; ALMEIDA, R. J. de. Estudantes de Medicina e as Drogas: Evidências de um Grave Problema. *Revista Brasileira de Educação Médica*, 39(1), 159–167, 2015.
- MACHADO, Cleomara de Souza et al. Estudantes de Medicina e as Drogas: Evidências de um Grave Problema. *Rev. bras. educ. med.*, Rio de Janeiro, v. 39, n. 1, p. 159-167, 2015.
- MAHMOUD, J.S.T et al. The relationship among young adult college students depression, anxiety, stress, demographics, life satisfaction, and coping styles. *Mental Health Nursing*, 33(3):149- 156, 2012.
- MARCON, G et al. Who attempts suicide among medical students? *Acta Psychiatrica Scandinavica*, 141(3), 254–264. Saúde mental do estudante de Medicina: psicopatologia, estresse, sono e qualidade de vida. *Revista Psicologia, Diversidade e Saúde*, 7(2), 245, 2018.
- MAYER, F., et al. Factors associated to depression and anxiety in medical students: a multicenter study. *BMC Medical Education*, v.16, n.1, p.282, 2016.
- MENDES, K. D. S et al. Uso de gerenciador de Referências Bibliográficas na Seleção dos Estudos Primários em Revisão Integrativa. *Rev. Texto e Contexto Enfermagem*,01(28), 01-13, 2019. <https://doi.org/10.1590/1980-265X-TCE-2017-0204>
- MENDONÇA, A. M. M. C., et al. Perspectiva dos Discentes de Medicina de uma Universidade Pública sobre Saúde e Qualidade de Vida. *Revista Brasileira de Educação Médica*, 43(1, Suppl. 1), 228-235, 2019. <https://doi.org/10.1590/1981-5271v43suplemento1-20190043>
- MOREIRA, S.; DUTRA, E. S. As implicações existenciais do sofrimento psíquico na vida acadêmica do estudante. Inclusão no ensino superior: docência e necessidades educacionais especiais. Natal: EDUFRN; p. 235-46, 2013.
- MOUTINHO, I., et al. Depressão, estresse e ansiedade em estudantes de medicina: uma comparação transversal entre estudantes de diferentes semestres. *Revista da Associação Médica Brasileira*, v.63, n.1, p.21-28, 2017.
- MOUTINHO, I., et al. Depressão, estresse e ansiedade em estudantes de medicina: uma comparação transversal entre estudantes de diferentes semestres. *Revista da Associação Médica Brasileira*, v.63, n.1, p.21-28, 2017.
- OMS. Organização Mundial de Saúde. World mental health report: transforming mental health for all. Revisão da OMS sobre a Saúde Mental no Mundo. ISBN 978-92-4-004933-8 (electronic version). ISBN 978-92-4-004934-5, 2022.
- ORZECZ; K.M.; SALAFSKY, D.B.; HAMILTON, L.A. The state of sleep among college students at a large public university. *J. am. col. Health*, 59(7):612-9, 2011.
- PACHECO, JP., et al. Mental health problems among medical students in Brazil: a systematic review and meta-analysis. *Revista Brasileira de Psiquiatria*, v.39, n.4, p.369-378, 2017.
- PUTHRAN, R et al. Prevalence of depression amongst medical students: A meta-analysis. *Medical Education*, 50(4), 456–468, 2016.
- QUEK, T. T et al (2019). The Global Prevalence of Anxiety Among Medical Students: A Meta-Analysis. *International journal of environmental research and public health*, 16(15), 2735, 2019. <https://doi.org/10.3390/ijerph16152735>



SOBOWALE, K et al. Depression and suicidal ideation in medical students in China: a call for wellness curricula. *International Journal Of Medical Education*, [s.l.], v. 5, p.31-36, 15 fev. 2014.

TORRES, A.R; CAMPOS, L.M; LIMA, M.C.P; CERQUEIRA, A.T.A.R. *The Journal of Nervous and Mental Disease*, v.206, n.03, p.160-168, 2017.

VASCONCELOS, T. C., et al. Prevalência de Sintomas de Ansiedade e Depressão em Estudantes de Medicina. *Revista Brasileira de Educação Médica*, 39(1), 135-142, 2015.
<https://doi.org/10.1590/1981-52712015v39n1e00042014>