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Depression and suicidal ideation among medical students

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Summary points

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Abstract

Neuropsychiatric diseases account for the largest proportion of the global burden of non-communicable diseases with depression being the leading cause of disability worldwide [1]. Depression and suicides occur at an alarming rate among healthcare professionals despite having adequate knowledge of mental health and relative access to psychiatrists [2].

In this article, the aim was to identify the association between depression and suicidal ideation among medical students and its implication on their overall health and patient care. Also examined were the preventive strategies essential in curbing depression and suicidal ideation among medical students.

***Method*:** An electronic search was conducted on PubMed, Google Scholar, and Embase, to identify articles on depression and suicide among medical students. The prevalence of depression, the association between depression and suicidal ideation among health professionals, and the outcomes of depression on productivity and patient care were explored.

***Results*:** Many studies show an association between depression and suicidal ideation in medical students. Depression is commoner in female medical students, and it impairs learning which in turn affects patient care. Long hours of lectures, financial burdens, and insufficient sleep have been identified as risk factors for depression in medical students.

***Conclusion*:** There is a significant risk of depression and suicidal ideation among medical students worldwide. Integration of mental health services, provision of free and timely counseling services, and implementation of mental health policies are strategies that can be used for mitigating depression and promoting mental wellness.

Keywords: *depression*; *suicidal ideation*; *medical students*

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The burden of mental illness in society is increasing. Neuropsychiatric diseases account for 28% of the global burden of non-communicable diseases with mood disorders being the most prevalent disease in the group [1]. Depression across the globe affects an estimated 350 million individuals, and it is responsible for about 800,000 suicides per year [1]. It is a grim diagnosis that can cause the affected person to suffer greatly and function sub-optimally at work and school. It can also affect social interactions and at worst lead to suicide [1].

In recent years, depression has been recognized as a major health focus in medical schools. Various studies conducted globally have made it possible to appreciate the significance of mental health on academic performance and the quality of life of students [2]. Suicidal ideation includes all overt suicidal behaviors and communications, such as suicidal threats and expression of the wish to die [3]. Suicidal ideation is the least commonly endorsed symptom of major depressive disorder among adolescents (54.5%), yet the presence of suicidal ideation

is an important prognostic indicator for depression [4]. Suicidal behavior has been conceptualized as a continuum from suicidal ideation to suicidal attempt and then completed suicide [4].

According to the Center for Disease Control (CDC) in the United States of America, suicide is the second leading cause of death among persons aged 15–34 years [5]. Many medical students fall within this age group, thus making them a risk population. This information is of high value because it helps to build our perspective as to why depression and suicidal ideation among medical students is being considered.

Magnitude of the problem

Depression is the leading cause of disability and a major contributor to the overall global burden of disease in the world [1]. Suicide was the 10th leading cause of death for all in 2013. The prevalence of suicidal thoughts, suicidal planning, and suicidal attempts is significantly higher among young adults aged 18–29 than among adults aged 30 and above [4]. The prevalence of clinical depression due to psychological stressors among medical students is substantial [6]. Medical students are the future of health care, but depression in this group may lead to decreased productivity, reduced quality of life, and learning difficulties, and these can cumulatively affect patient care [7].

In a study conducted among university students in Oman, a self-administered Patient Health Questionnaire was used to screen for propensity to depression, and it was found that 27.7% of the participants had depression of varying severity [8]. A systematic review study on the prevalence of clinical depression among medical students also revealed that there is a higher trend in the prevalence of depression among medical students compared to the general population [6]. This systematic study explored 15 peer-reviewed articles published between 1980 and 2016. Detailed analysis of the articles revealed a high prevalence of depressive symptoms among medical students, residents, and healthcare professionals. In another study conducted in India among medical undergraduate students, using the validated and standardized survey instrument Depression Anxiety Stress Scale to assess depression, anxiety, and stress, it was found that over half of the respondents met the score criteria for depression [9].

One-third of the medical students enrolled in the first three academic years in a medical school in Saudi Arabia had symptoms suggestive of depression [7]. This author also found that students with moderate to high academic performances were less likely to develop depression compared to those who had low academic performances. This suggests that poor academic metrics can be a precipitating or perpetuating risk factor for depression in medical students. In a study aimed at exploring depression among medical students in Nepal, researchers found a moderate prevalence of depression in 29.8% of students, and higher at 36.7% among the first-year medical students [10].

An interesting observation made in most of the studies reviewed was the gender disparity in depression among medical students. Females generally had a higher prevalence of depression than males [6, 9]. This is in tandem with existing global epidemiologic data on depression, which reports that depression is more likely to affect women than men. However, Mba [4] observed in his study that there was no influence of gender on the prevalence of depression. While some studies claimed that first-year medical students have a higher prevalence of depression [11], few found a higher prevalence in medical students during their final year [12]. A reason for this observation in first-year students could be because of the sudden and unfamiliar workload new medical students are exposed to as fresh admits. Possibly, many students develop resilience techniques in the subsequent years of training, thus resulting in a lower prevalence of depression.

Jarwan's [7] study supported this thought process. The study showed that third-year medical students were 70% less likely to have depression compared to those in their first year of school. He inferred that this is because third-year students have gradually adapted to the new medical course and environment, while first-year students were exposed to the stress of a new study environment, and the change in teaching methodology as compared to that of high school could be a factor predisposing them to depression [7].

Association between depression and suicidal ideation

Although data are still lacking on the predictors of suicidal ideation in depressed patients [13], it is important to understand the link between suicidal ideation and depression. Understanding the relationship between depressive symptoms and suicidal ideation is essential for developing programs and strategies that can effectively prevent the development of suicidal behavior [14].

The relationship between depression and suicidal ideation is controversial. However, it is not unusual when depression leads to passive suicidal ideation and active attempts at suicide [15]. Some studies have shown a strong correlation between depression and suicidal ideation [16, 17], while others found weak to no correlation [18].

A recent study found that depressive symptoms accurately predict suicidal ideation in 94.2% of the cases, thus suggesting a link between depression and suicidal ideation [19]. Previous episode of depression is a primary risk factor for suicidal ideation among college students, and university students' self-rating depression scores directly correlate with suicidal ideation [14].

Studies have also shown that the assessment of suicidal ideation forms an integral part of the management of

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depressed patients [13]. Depressive disorders were found to be the commonest diagnosis in a sample of patients who had attempted suicide or completed suicide while receiving treatment in a psychiatric unit at a Taiwanese University teaching hospital [20].

Peculiarities of medical students with mental health issues and its implications

The accruing burden of depression and suicidal behavior among health professionals has triggered many researchers to investigate the factors responsible for this illness among these individuals. Some have postulated that the grueling hours of lectures, the financial burden in the form of student loans, the cost of living, insufficient sleep, multiple call hours, large patient-to-physician ratio, and toxic work culture may be responsible for the prevalence of depression among those in the medical field [6], while others have affiliated the problem to the neglected area of student psychiatric and counseling services in medical colleges [9].

Globally, it is well-known that medical schools require a greater among of dedication, diligence, and hard work from students [6]. These factors, although crucial ingredients to academic success, could exert some psychological stress and predispose these students to depression. Largely, medical school curricula are demanding, extensive, and require a high level of competency. The rigors of performance evaluations through continuous assessment and examinations can be a source of mental stress [7]. Also, medical colleges are intended to prepare graduates for a personally rewarding and socially meaningful career, yet reports have shown this is a time of great personal distress for these physicians in training [21].

In general, a considerable degree of psychological morbidity has been reported among medical students ranging from emotional stress to interpersonal relationship problems, suicidal ideation, and other psychiatric disorders. It has also been suggested medical students have greater psychological stress than their counterparts in other fields [9].

Medical students are the future of the medical profession, thus their mental health constitutes a very important public health issue. Preparing medical students for life as a physician requires more than the acquisition of knowledge in medical school. It is imperative to constantly monitor performance, professional conduct, and behaviors associated with mental health [22].

By and large, the implications of depression are a serious concern resulting in an inability to cope with curricular demands and impaired functioning in both classroom performance and clinical practice [23]. It is also well known that healthy medical students are likely to become healthy physicians who can then model and promote healthy lifestyles in their patients [7]. Literature has shown that physicians with no depression are less likely to make medical errors and poor judgmental calls when compared to doctors with clinical symptoms of depression [24]. Also, depression can affect the long-term health of medical students as severe depression has been linked to a higher risk of a repeat episode and greater long-term morbidity [6].

The way forward

The theme surrounding depression, especially among medical professionals, cannot be exhausted, and this is just a simplified form of a highly intricate issue. Having considered the global burden of depression and suicide, the magnitude of the problem concerning medical students, the association between depression and suicidal ideation, and the impact of depression and suicidal ideation among medical students, it is without a doubt that these issues need to be addressed.

In places where mental health services were deficient in mainland China, statistics revealed a higher level of distress and depression among medical students [25]. A similar finding was observed in a study by Wang et al. [14]. The initial step in curbing the menace of depression is to incorporate mental health services and wellness clinics into existing health services provided by the university health centers. The University of Ibadan, Nigeria, has been able to successfully implement these. Students who have complaints on issues about mental health can walk freely into any of these health centers. Consultation is performed by resident psychiatrists from the University College Hospital, Ibadan. Issues on mental health, especially depression, are addressed, and effective medications are given. Reports have shown that 80–90% of those who seek treatment are successfully treated with medications and or therapy [1]. If this model can be adopted by various medical institutions worldwide, it would go a long way in reducing the prevalence of depression and suicidal ideation among college students as timely intervention can be the key to saving an individual from attempting or completing suicide.

Members of society must invest in strategies that focus on enhancing resilience, hope, and optimism, which would prevent depression and cater to the already affected population [6]. Based on Adam's [26] postulation that people who receive support from caring friends and family and who have access to mental health services are less likely to act on their suicidal impulses than those isolated from sources of care, support, and mental health services, it is pertinent to reinforce social support when possible. There should also be a major focus on teaching suicide education and prevention in schools and colleges, so that students can recognize the early symptoms and seek professional help promptly [4].

There is a paucity of research on depression and suicidal ideation among medical students in sub-Saharan Africa,

so the exact prevalence cannot be assessed. To bridge the knowledge gap, there should be more research conducted to address this issue with relevant recommendations from the researchers based on their findings. Future research should seek to identify and possibly minimize the unnecessary stressors leading to depressive episodes in these students [6].

There is a cultural and social stigma attached to depression and suicide in sub-Saharan Africa, which could prevent individuals who have suicidal ideations from seeking the appropriate and timely intervention required. Community health awareness programs with themes on depression and suicidal behaviors should be encouraged at all levels. Finally, the government plays a major role in formulating, reviewing, and passing laws and health policies, which would foster mental health services in the country.

Conclusion

The state of the mind is crucial to well-being as deviation from the normal has adverse effects on the functioning and adjustment of students. This in turn creates a dent in learning and social interactions [8]. Various studies have shown the high prevalence of depression and suicidal ideation among medical students and factors that may be responsible for these observations. Suicidal ideation in most cases precedes attempted or completed suicide; therefore, it is pertinent to have strategies in place for early detection and prevention of this threat among at-risk populations such as medical students. Although depression is the leading cause of disability worldwide, the good news is that it can be effectively treated with medications and therapy in the majority of those affected. Thus, the continuum from suicidal ideation to suicidal attempt and finally completed suicide can be aborted if timely interventions are made available.

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References

1. World Health Organization. World Health Organization Media Centre Depression fact sheet. 2017. Available from: http://www.who.int/mediacentre/factsheets/fs369/en/ [cited 5 September 2017].
2. Sreeramareddy CT. Psychological morbidity, sources of stress and coping strategies among undergraduate students of Nepal. BMC Med Educ 2007; 7: 26. doi: 10.1186/1472-6920-7-26
3. Robert MA. Suicidal behavior: mental health disorders. 2008. Available from: http://www.merck.com/mmhe/sec07/ch102/h1029.html [cited 5 September 2017].
4. Mba SA. Prevalence and prevention of suicidal behaviors among undergraduates of universities in southeastern states of Nigeria (1999–2008). Nsukka: University of Nigeria; 2010.
5. Center for Disease Control and Prevention. Web-based Injury Statistics Query and Reporting System (WISQARS). 2013. Available from: http://www.cdc.gov/injury/wisqars/index.html [cited 5 September 2017].
6. Onyishi M, Talukdar D, Sanchez R, Olaleye AO. Prevalence of clinical depression among medical students and medical professionals : a systematic review study. iMedPub J 2016; 8: 1–5. doi: 10.21767/1989-5216.1000178
7. Jarwan BK. Depression among medical students of the Faculty of Medicine, Umm Al-Qura University in Makkah, Saudi Arabia. Int J Med Sci Public Health 2015; 4(2): 184–91. doi: 10.5455/ijmsph.2015.0911201436
8. Al-kindi R, Al-shafaee M, Al-maniri A. Prevalence of depressive symptoms among University Students in Oman. Oman Med J 2011; 26(4): 235–9. doi: 10.5001/omj.2011.58
9. Iqbal S, Gupta S, Venkatarao E. Stress, anxiety & depression among medical undergraduate students & their socio-demographic correlates. Indian J Med Res 2015; 141: 354–7. doi: 10.4103/0971-5916.156571
10. Basnet B, Jaiswal M, Adhikari B, Pm S. Depression among undergraduate medical students. Kathmandu Univ Med J 2012; 10(3): 56–9. doi: 10.3126/kumj.v10i3.8021
11. Dahlin M, Joneborg N, Runeson B. Stress and depression among medical students: a cross-sectional study. Med Educ 2005; 39: 594–604. doi: 10.1111/j.1365-2929.2005.02176.x
12. Shi M. Prevalence of depressive symptoms and its correlations with positive psychological variables among Chinese medical students: an exploratory cross-sectional study. BMC Psychiatry 2016; 3: 16. doi: 10.1186/s12888-016-0710-3
13. Fong CL, Shah SA, Maniam T. Predictors of suicidal ideation among depressed inpatients in a Malaysian sample. Suicidal Online 2012; 3(2078–5488): 33–41.
14. Wang Y, Shi Z, Luo Q. Association of depressive symptoms and suicidal ideation among university students in China: a systematic review and meta-analysis. Medicine 2017; 96(13): e6476. doi: 10.1097/MD.0000000000006476
15. Hawton K, Van Heeringen K. Suicide. Lancet 2009; 373: 1372–82. doi: 10.1016/S0140-6736(09)60372-X
16. Feng SS, Zhan XQ. Suicidal ideation and its influencing factors of Guangzhou undergraduate. Chin School Health 2008; 29: 414–6.
17. Yang CW, Shi SC, Liu JX. Analysis on suicide ideation and its risk factors among medical college students. Chin J Soc Med 2013; 30: 193–5.
18. He H, Yang Y. Path analysis on the influencing factors of suicide ideation among college students. Chin School Health 2015; 36: 80–3.
19. Wu SY, Zao HJ. Relationship between life stress, depression and suicide ideation among undergraduates. Modern Prev Med 2009; 36: 2918–9.
20. Cheng IC, Hu FC, Tseng MCM. Inpatient suicide in a general hospital. Gen Hosp Psychiatry 2009; 31: 110–5. doi: 10.1016/j.genhosppsych.2008.12.008
21. Dyrbye LN, Thomas MR, Shanafelt TD. Systematic review of depression, anxiety, and other indicators of psychological distress among U.S. and Canadian medical students. AcadMed 2006; 81: 354–73. doi: 10.1097/00001888-200604000-00009

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22. Calkins EV, Arnold L, Willough TL. Medical students' perception of stress, gender, and ethnic consideration. Acad Med 1994; 69: 22–4. doi: 10.1097/00001888-199410000-00030
23. Bramness JA, Fixdal TC, Valgum P. Effect of medical school stress on the mental health of medical students in early and late clinical curriculum. ACTA Psychiatr Scand 1991; 84: 340–5. doi: 10.1111/j.1600-0447.1991.tb03157.x
24. Fahrenkopf AM, Sectish TC, Barger LK. Rates of medication errors among depressed and burnt out residents: prospective cohort study. Br Med J 2008; 336: 488–91. doi: 10.1136/bmj.39469.763218.BE
25. Sobowale K, Zhou AN, Fan J, Liu N, Sherer R. Depression and suicidal ideation in medical students in China: a call for wellness curricula. Int J Med Educ 2014; 5: 316. doi: 10.5116/ijme.52e3.a465
26 Adams E. Recognising Suicidal Behaviours. 2008. Available from:http://my.clevelandclinic.org/disorders/suicide/hic [cited 5 September 2017].

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