# ADDRESSING MENTAL HEALTH CHALLENGES AMONG MEDICAL STUDENTS: A NARRATIVE REVIEW

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**Abstract***: Medical students are disproportionately affected by psychological distress, including higher rates of anxiety, depression, and burnout, compared to their non-medical peers. This review critically examines the mental health challenges among medical students, highlighting the compounded effects of academic and clinical stressors. Evidence-based interventions, such as Cognitive Behavioral Therapy (CBT) and mindfulness programs, are analyzed for their effectiveness in mitigating mental health issues. This review also includes a case study demonstrating the application of CBT in managing depressive symptoms and enhancing self-esteem in a medical student. The findings advocate for a comprehensive, multifaceted approach to mental health in medical education, emphasizing early identification, preventive strategies, and targeted therapeutic interventions. Such an approach is crucial for ensuring the well-being of medical students, ultimately contributing to better patient care and more resilient healthcare professionals.*

**Keywords***: Anxiety, Cognitive Behavioral Therapy, Depression, Medical Students*

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## Introduction

The medical population experiences a high level of distress(Frajerman, Morvan, Krebs, Gorwood, & Chaumette, 2019). Medical student distress is an increasing concern in medical education(Neufeld, Mossière, & Malin, 2020). Compared with the general population, medical students exhibit significantly higher rates of psychological distress, suicidal ideation, and mood and anxiety disorders (Maser, Danilewitz, Guérin, Findlay, & Frank, 2019). Thus, undergraduate student mental health is an important public health issue(Sheldon et al., 2021). Medical students are also particularly susceptible to depression, distress, burnout, and mental health difficulties, which may adversely affect patient safety (King, Steenson, Shannon, & Mulholland, 2017; Polle & Gair, 2021). Evidence indicates that medical students are three times more likely to experience deteriorating physical and mental health compared to the average college student(Fino, Martoni, & Russo, 2021). The meta-analysis suggests that one student out of two is suffering from burnout, even before internship(Frajerman et al., 2019). Depression and anxiety symptoms are reported to be common among university students in many regions of the world and impact on quality of life and academic attainment(January et al., 2018). Pooled prevalence of depression and suicide-related outcomes in students was 21%(Sheldon et al., 2021). In Malaysia, the prevalence rates of anxiety and depression were 33% and 11% respectively. Malay students had significantly more anxiety compared to the other ethnic groups. Female students had significantly lower psychological score compared to male (Gan & Yuen Ling, 2019). In comparison to other countries, students from Middle East countries have a higher prevalence of depression(Mirza, Baig, Beyari, Halawani, & Mirza, 2021).

Moreover, medical students are exposed to multiple factors during their academic and clinical study that have been shown to contribute to high levels of depression, anxiety, and stress(January et al., 2018). They face a unique range of personal and professional stressors(Witt et al., 2019). The factors include individual factors, social and economic factors, and environmental factors(Mao et al., 2019). Students from vulnerable backgrounds are influenced by environmental factors such as unemployment of themselves and family members, lack of or inequity in provision and access to educational technologies and remote delivery-platforms, and increased levels of mental health stressors due to prolonged isolation and self-quarantine measures during this pandemic Covid-19 era(Sharma & Bhaskar, 2020).

## Methodology

To address the distinct challenges and complexities of mental health issues among medical students, a comprehensive literature review was conducted using several key databases, including Google Scholar, Scopus, and PubMed. The search strategy involved the use of specific keywords such as "medical student distress," "depression," "anxiety," and "burnout" to ensure a broad yet targeted retrieval of relevant studies. The selected articles were then systematically analyzed, with data categorized into themes such as the psychological distress among medical students, contributing factors, and various intervention strategies. Additionally, a case vignette was included to demonstrate the practical application of Cognitive Behavioral Therapy (CBT) in managing depressive symptoms and enhancing self-esteem in a medical student. This methodological approach highlights the importance of a multifaceted strategy for mental health in medical education, incorporating early detection, preventive measures, and tailored therapeutic interventions, all supported by pertinent literature sourced from the databases.

## Results and discussion

Medical education is recognized as highly stressful and challenging(Gan & Yuen Ling, 2019). It presents a unique set of challenges and stressors that reach beyond the academic curriculum(Seo, Corrado, Fournier, Bailey, & Haykal, 2021). The journey to becoming a physician is arduous, with long study hours, minimal autonomy, and numerous assessments(Morgan & Heitkamp, 2020). The demands of training and practice can lead to chronic distress and serious psychological, interpersonal, and personal health burdens(Pospos et al., 2018).

Medical professionals are often subjected to heavy schedules, stressful encounters involving life-or-death decisions, and high expectations on behalf of the population they are treating(Yung et al., 2018). In addition to a substantial workload, medical students and residents are confronted with a wide range of stressors including inflexible work schedules, sleep deprivation, fatigue, time-consuming clerical and administrative responsibilities, insufficient access to allied health personnel and staff (e.g., nurses, social workers), and unwelcoming learning environments(Seo et al., 2021). The end goal is to be a compassionate, well-informed, and hardworking provider; the medical school environment often impedes students from doing so, by chipping away at mental health(Morgan & Heitkamp, 2020). There has also been a significant lack of attention to organisational-level stressors associated with medical education and training(Witt et al., 2019). With the high and rising total cost of medical school, medical student debt is an increasing concern for medical students and graduates, with significant potential to impact the well-being of physicians and their patients(Pisaniello et al., 2019).

While medical students' wellness has been a subject of recent study and discussion, current efforts may fail to address possible underlying, harmful cognitive distortions regarding academic performance(Hu, Chibnall, & Slavin, 2019). Many students enter medical undergraduate degree with a range of potentially destructive mindsets. These include the following:

- Viewing performance as identity rather than just performance
- Overuse of comparison, defining one's self-worth in comparison to the academic performance of peers
- Maladaptive perfectionism, repeatedly setting the bar so high for oneself that one is repeatedly disappointed in oneself.
- Impostor phenomenon, despite objective evidence to the contrary, viewing oneself as incompetent, incapable of growth or improvement, a fraud, and/or an imposter who does not belong to the fraternity.
- Cognitive distortions such as magnification or catastrophizing, all-or-nothing thinking, overgeneralization, and predicting a negative future with certainty.
- Feelings of inadequacy, embarrassment, and shame related to academic performance.
- Stanford duck syndrome, projecting an outward appearance of calm when in reality, beneath the surface, one is paddling frantically.
- Chasing success in a singular, unhealthy way at the expense of other more meaningful, healthy, and sustaining pursuits and goals(Slavin, 2018).

The negative thoughts may lead to negative emotions, and depression and anxiety in medical students(Hu et al., 2019). The maladaptive perfectionism as example, is associated with psychological distress and psychopathology(Chand, Chibnall, & Slavin, 2018).

Medical students which are the future of sustainable health systems are also severely under pressure during COVID-19(Sharma & Bhaskar, 2020). Their mental health has been and continues to be a serious issue even before the onset of the COVID-19 pandemic and the multiple stressors left in its wake(Stacey, D'Eon, & Madojemu, 2020). The sudden shift to online education might have overwhelmed medical students(Nishimura et al., 2021). The disruption in medical education and training has adversely impacted traditional medical education and medical students and is likely to have long-term implications beyond COVID-19(Sharma & Bhaskar, 2020). However, little data are available about medical students' distress during the pandemic(Nishimura et al., 2021).

Mental health problems may have a serious impact on a student's life, affecting capacity to organize highly demanding study hours, socialize, and perform academically(Pacheco et al., 2017). Hence, quality of life (QOL) of medical students is also affected(Gan & Yuen Ling, 2019). With high level of demands in academics and psychosocial pressure, medical students during their course of training tend to become depressed, leading to problems later in professional life and compromising patient care(Ngasa et al., 2017). The high rates of depression, anxiety, and stress can lead to poor quality of life and high rates of psychological morbidity(Sarkar, Gupta, & Menon, 2017). This will result in lower quality of patient's care, behave less professionally, communicate less effectively and are at an increased risk for suicide(Fletcher, Castle, Scarpa, Myers, & Lawrence, 2020). Higher rates of suicidal ideation and attempted suicide have been reported in medical students as compared with age-matched members of the general population(Witt et al., 2019). However, medical students' suicide rates were infrequently reported in the historical and international literature, and data collection techniques were inconsistent(Blacker, Lewis, Swintak, Bostwick, & Rackley, 2019).

In addition, medical and health science graduate students experience more anxiety problems than the general population but are less likely to seek treatment(Howell, Rheingold, Uhde, & Guille, 2019). Only a minority receive treatment although higher burnout, depression, and suicide rates have been reported in healthcare professionals(Pospos et al., 2018). Medical students are reluctant to access mental health services, despite having high rates of anxiety and depression(Fletcher et al., 2020). They are less likely to access services despite better knowledge of appropriate treatment options for mental illness and suicidal ideation and/or behaviour(Witt et al., 2019).

This incongruity may be due to concerns about stigma, anonymity, workload, and finances(Howell et al., 2019). Concerns regarding confidentiality, stigma, potential career implications such as fear of compromising career progression, pressures of medical training and cost and time constraints are cited as key barriers(Jacob et al., 2020; Pospos et al., 2018). Due to the nature of this environment, students might not be giving enough attention to their own health problems(Bartlett & Fowler, 2019).

Given the high prevalence of anxiety, depression, and stress among university students, it is important to assess the effectiveness of prevention programs for these problems(Rith-Najarian, Boustani, & Chorpita, 2019). In recent years there has been an increasing focus on the need to improve support and treatment services for those facing difficulties(King et al., 2017). Early recognition of at-risk students provides opportunity for prevention strategies(Sheldon et al., 2021). Detecting sources of stress of medical students is important for planning wellness program to improve their psychological wellbeing(Yusoff, 2017). Thus, it is recommended that

medical schools implement measures which can identify students at risk and to offer comprehensive interventions and preventive programmes to improve the students' wellbeing(Gan & Yuen Ling, 2019). The addition of a well-being curriculum, as skills to prevent and manage distress and depression are relevant in supporting the competencies required by medical practitioners(January et al., 2018). Addressing potentially uncomfortable aspects of the learning environment is recommended, to help reduce student stress and promote their well-being(Neufeld et al., 2020).

There were several recommendations to improve students' psychological health such as positioning well-being within an overarching comprehensive workplace wellness model and integrating peer and faculty-led support into the day-to-day running of the institution(January et al., 2018). Reassuringly, the provision of a psychiatric-led assessment service, which provides evidence-based psychological treatment, appears to provide an efficient means of supporting medical students who are struggling with their mental health(Jacob et al., 2020). The reflection groups for medical students led by psychiatry residents may benefit students in improving impostor syndrome and connection with others (decreased loneliness), allowing exposure and tolerance to diverse perspectives, increasing insight into the importance of self-care and emotional self-awareness, allowing practice for collaborative skills, and increasing thoughtful approaches to patient care(Gold, Bentzley, Franciscus, Forte, & De Golia, 2019). The assignment of twice-weekly wellness intervention sessions protects medical students from the state of anxiety and perceived stress with no negative impact on academic performance(Waechter et al., 2021). Future research of depression, anxiety, and stress prevention programs for university students can investigate practice elements' unique and combined impact on outcomes, further explore under-tested practice elements, and use findings to inform intervention design(Rith-Najarian et al., 2019). The intervention also need to address the cultural, systemic and structural factors that may also impact on students' well-being(Witt et al., 2019).

Relatively brief mindfulness-based stress management is another intervention that may be effective in reducing anxiety, depression and stress in medical students in the short term(Witt et al., 2019). Higher mindfulness, resilience, and need satisfaction were associated with lower perceived stress (Neufeld et al., 2020). There is a beneficial role of mindfulness in mitigating negative consequences of trait anxiety on medical students' wellbeing when revealed in high-pressure periods and when self-regulation is needed the most. Cultivating awareness and non-judgmental acceptance of one's inner experiences is a crucial self-regulation resource that can help medical students sustain their wellbeing as they learn throughout their high-pressure education and professional careers(Fino et al., 2021). It's effect on suicidal ideation and behaviour, however, remain to be determined(Witt et al., 2019). While mindfulness and resilience are important qualities for medical students' well-being, their stress-protective benefits may diminish when students' basic psychological needs are unfulfilled in medical school(Neufeld et al., 2020). Nonetheless, MBIs have shown to be promising interventions to promote mental health in academic settings(Chiodelli et al., 2020).

**Medical student and cognitive behavioral therapy (CBT)**
Cognitive Behavioral Therapy (CBT) may demonstrate beneficial effects on emotional and personality functioning by targeting irrational beliefs in general, and low frustration tolerance in particular(Popa & Predatu, 2019). Recent research has indicated that CBT that targets the at

risk medical students with maladaptive perfectionism leads to reduction in perfectionism and related distress(Chand et al., 2018).

Technologies for remote education and training delivery as well as sustenance and increased delivery of general well-being and mental health services to medical students, especially to those at high-risk, are pivotal to our response to COVID-19 and beyond(Sharma & Bhaskar, 2020). The internet-based and mobile applications have been shown to mitigate stress, burnout, depression, and suicidal ideation among several populations and may circumvent these barriers(Pospos et al., 2018).

One solution includes a preventative approach that overcomes these barriers to mental healthcare, such as internet-based cognitive behavioral therapy(Howell et al., 2019). The internet-based cognitive CBT programs offer a more accessible method of receiving care(Lattie, Kashima, & Duffecy, 2019). It may aid in preventing anxiety escalation for some medical and health science graduate students, particularly for at-risk students who report mild anxiety symptoms(Howell et al., 2019). In conclusion, further research is needed to develop targeted interventions to promote students' mental health through reduction of cognitive distortions and negative feelings of shame, embarrassment, and inadequacy(Hu et al., 2019).

### Case vignette
Miss B is a 22-year-old medical student who presented to the psychiatric clinic with depressive symptoms, anhedonia, insomnia, lethargy, lack of focus, and hopelessness over the past two weeks. She also experienced anxiety symptoms, such as palpitations and hand tremors, but no psychotic or manic symptoms. The depressive symptoms were precipitated by interpersonal issues with her father. Her parents were divorced, and she has had poor attachment to them, having been primarily cared for by her permissive grandfather since childhood.

Miss B's depression was likely triggered by recent interpersonal conflicts with her father and significant stressors from academic and social issues in medical school. She struggled with unhelpful thoughts, low self-esteem, and poor self-confidence, which impacted her social interactions. Miss B attended twelve sessions of individual CBT, focusing on psychoeducation, managing depressive symptoms, and addressing unhelpful thoughts related to low self-esteem and confidence. She was taught various behavioral strategies, such as relaxation techniques. By the end of therapy, Miss B demonstrated progress, such as applying CBT techniques to challenge negative thoughts and engage in assertive social behaviors, leading to more positive social interactions and a significant reduction in depressive symptoms.

## Conclusion
Medical students face a disproportionate burden of psychological distress, including heightened rates of anxiety, depression, and burnout, compared to their peers. This review has examined the multifaceted nature of these mental health challenges, identifying both individual and systemic factors that contribute to the deteriorating well-being of medical students.

Interventions such as CBT and mindfulness-based stress reduction programs have demonstrated efficacy in mitigating symptoms of depression and anxiety. These approaches not only provide immediate relief but also equip students with long-term coping strategies essential for their professional lives. The case vignette presented illustrates the practical benefits of CBT in addressing specific cognitive distortions and enhancing emotional

regulation, leading to significant improvements in both academic performance and interpersonal relationships.

Despite these advances, there remains a critical need for comprehensive, systemic changes in medical education. Early identification of at-risk students, integration of well-being curricula, and the establishment of robust support systems are paramount. Addressing organizational-level stressors and cultural barriers to accessing mental health care will also be crucial in fostering a healthier learning environment.

In conclusion, a multifaceted approach is essential to address the complex mental health needs of medical students. By implementing evidence-based interventions, promoting early recognition, and enacting systemic reforms, medical schools can better support their students' mental health and well-being, ultimately enhancing the quality of care they will provide as future healthcare professionals.

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