






## Literature Review

### Suicide in Medical Student: How To Prevent?

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#### ABSTRACT

**Introduction:** Suicide is a deliberate act to end one's life. Suicidal incidents are often found among medical students. The suicide rate among medical students is very high when compared with students of other majors. **Method:** This review wishes to provide a brief explanation of factors contributing to the incidence of mental health disorders among medical students along with potential management including prevention and promotion related to the situation. **Results:** A study in the United States stated that the prevalence of suicidal ideation in medical students was 11%, twice of the general population, while the prevalence of attempted suicide was 6.9%. Several factors related to the academic situation that contribute to mental disorders among medical students include pressure in medical education, demand for good skills, and long education time. These factors make them prone to depression, burnout, and various emotional and mental disorders that can trigger suicide. Therefore, efforts are needed to prevent and detect the possibility of suicidal behavior. This effort must be carried out in a multidisciplinary manner. Optimizing the academic atmosphere, family involvement, the social environment, and the ability of adequate health facilities are needed.

## INTRODUCTION

Suicide is generally defined as an act intended to end one's life. Other terminology related to suicide includes suicidal acts and suicidal thoughts. Suicide has become a global issue and awareness of it continues to be raised. According to estimates by the World Health Organization (WHO), the global age-standardized suicide rate was 10.5 per 100.000 population in 2016 [1, 2]. One of the groups at risk for suicide is medical students and doctors [1]. It is well known that people who choose a career in medicine have a high suicide rate. A study in the United States revealed the prevalence of suicidal ideation in medical students was 11%, twice that of the general population, while attempted suicide was 6.9% [3, 4]. A systematic review that compiled publications from 47 countries found that 7.4%-24.2% of medical students had suicidal ideas. This is higher than the general population [3]. Another publication that collected 24 cross-sectional studies suggested that the prevalence of suicidal thoughts was about 11.1% among all medical students [5].

This high number can indicate several things, such as medical schools accepting students with a high suicide risk or the medical education process that directly or indirectly causes an increase in suicidal ideation. This situation is inseparable from the high pressure in medical education, where students receive a high academic burden, demand good skills, and have a long education time [4, 6]. Medical students have higher rates of depression, burnout, and mental emotional disorders. More than a quarter of medical students in 47 countries express symptoms of depression and a high need for mental health services [7, 8]. Medical education has a stressful, competitive environment; high workload with a lack of rest time, coupled with pressure from peers and seniors, not to mention individual factors that accompany medical students. Apart from all this, medical students also face stigma related to mental health, with

many believing that doctors who have this issue will not be optimal in treating patients [3, 9]. This issue is an important issue to discuss because suicidal thoughts and attempts among medical students cannot be separated from their mental health, which will affect the outcome of doctors afterward. Suicide among medical students is a complex issue that is influenced by many factors, from the students themselves, the environment, and so on.

## Suicide and Risk Factors in Medical Students

The incidence of suicide and suicidal thoughts is an old issue in the medical world, and this issue is still one of the things that are highlighted and hidden because of the bad stigma attached to doctors or medical students with mental emotional problems. Research on this subject has always consistently shown that medical students have a high prevalence of depression, burnout, and emotional disorders, as well as a higher risk of having suicidal thoughts [9-11]. The risk of suicidal thoughts is associated with several factors, including individual factors, family and academic situations.

Motivation, previous history of mental disorders, and substance abuse are individual-related factors that contribute to the onset of suicidal thoughts. Motivation is defined as the urge to do something. In medical students, an internal motivation to continue medical school is positively correlated with academic achievement and a level of self-confidence in students [12, 13]. Students who do not have the internal motivation to carry out their educational process will tend to experience mental and emotional disorders and have suicidal thoughts. Other factors associated with suicidal ideation included dissatisfaction with academic performance as a primary concern, a history of impulsive or reckless behavior in difficult situations [14].

Some of the family-related factors that contribute to suicidal thoughts in medical

students are parenting style, parental education level, and family financial condition. Parents have an important role in the development of a child's personality. The ability to manage emotions and build social relationships depends on parenting style. Parents who provide emotions and a sense of security to children will shape the child into a person who is confident and believes in the environment. On the other hand, affectionless and overprotective parents tend to make children feel insecure so that it is difficult to adapt and face the various challenges that exist, making them vulnerable to various psychological and emotional complaints [15]. The lack of financial ability of the family also contributes to suicidal thoughts in medical students. Medical college fees, which are very expensive on average, will increase the burden on students. A sense of responsibility to parents will contribute to the risk of guilt if they fail to complete education as well and as quickly as possible [15].

### **Suicide and Challenges in the Medical Education Process**

Medical education aims to produce future doctors who have adequate knowledge and competence, to treat patients and contribute to developmental of medical sciences and public health. It is known that the medical education environment is a stressful environment with a lot of material and a lack of free time, not to mention the added pressure from peers and seniors [16, 17]. This raises the question of whether this problem shows that medical schools tend to accept students with a high risk of mental disorders or are the result of the educational process in medical schools [16–19]. There is a study that states before entering education, medical students had the same level of mental health as their peers in other majors, but during their education, their mental health level decreased and they are prone to burnout, depression, and anxiety [16,17]. The medical education environment has a

negative impact on student's mental health and contributes to suicidal tendencies. Medical education aims to force a person to become a professional health worker, provide good health services, and diagnose and carry out appropriate treatment as much as possible without errors. Departing from this goal, medical education has a high standard and is even demanded to be almost perfect [17, 18].

Medical students are required to adapt to a very dynamic medical school environment, have a high curriculum load, are required to continuously learn and master the materials, and bear the burden of periodic examinations and evaluations, lack of free time, and financial burden. Medical students are also adjusting to the new environment within the registrar, as medical students rotate through different hospitals and specialties with frequently changing mentors, a unique base of medical knowledge and expertise, and additional clinical responsibilities, all on top of a continuous effort to excel academically and clinically in each rotation [2, 19–21].

In addition to high academic demands, medical students also experience various negative experiences from their surroundings during their education, both from peers, seniors, residents, and lecturers. Persecution is common in the medical world. Many students experience discrimination, humiliation, verbal abuse, threats, bullying, and sexual violence [20, 21].

These stressors have negative consequences, including difficulty sleeping, feelings of humiliation, and bullying. Clinical clerkship students feel overwhelmed by rotational and academic activities and think about dropping out of medical school. Although suicidal behavior is complex and multifactorial, it is undeniable that these factors also contribute to the suicidal behavior of medical students [2, 21, 22]. Behind the high mental burden of medical students, they also bear the burden of stigma. Many suicides and depression in college students are not reported. This is

because medical students are afraid of the negative effects if other people find out that they have mental and emotional problems [22–24].

Stigma related to mental health in medical students comes from within themselves and from the surrounding environment. Some publications suggest that students are afraid and ashamed of being found to have a psychiatric disorder and consider counseling a “risky” action. Asking for help is admitting that the coping mechanisms they have are “insufficient”. They also think that if their condition is known, others will think they are not competent enough to go to college, fearing that their opinion will not be respected and considered “dangerous” to the patient [18–24].

Apart from oneself, stigma cannot be separated from medical faculty lecturers, as evidenced by the number of teachers who have a negative attitude toward psychiatric disorders. A study suggests that teaching staff (non-psychiatric doctors) stigmatize psychiatric disorders more. This can also indirectly influence students’ views of mental disorders and form a circle of stigma in the medical community [22–24]. Stigma from the social environment also plays a role. Doctors who handle psychiatric cases are often considered strange and are associated with patients. In addition, the work of psychiatrists is also often considered less important and not as prestigious as that of other doctors [21].

Doctors’ reluctance to seek treatment for mental health care can start as early as training in colleges and medical schools. One study found that stigma prevented 30% of first and second-year medical students from seeking help. 37% expressed fear of secrecy and 24% feared that this psychiatric trial would affect academic records. Given these conditions, more efforts are needed to de-stigmatize and promote mental health in the medical community [22].

### **Suicide and Prevention Efforts**

Preventing suicide attempts in medical students is not only focusing on to increasing resilience personally, but also on modifying the surroundings and the academic atmosphere because those are the known contributing factors. Prevention efforts for students need to be carried out in a multidisciplinary manner and involve various parties, namely academic situation, health facilities, the patient’s immediate environment, patients, and survivor support groups.

#### **a) Academic situation**

As a future role model of health, medical students play an important role for community mental health. Thereby, providing a safe environment within which they live and study is important, and this also concerns minimizing the risk of suicide ideation and attempts. This factors in the degree of burnout, which may be mitigated by an established and attentive mentoring system. For more formal approach, promoting self-care skills and adaptive and communication skills, cognitive behavioural training, delivering psychotherapy had also shown to reduce them [25, 26]. Changes in curricular activities and planning may also need to take place. Studies suggest that emotional health declines more sharply compared to physical health, and these reach the lowest points after the first year of study, without recovering to baseline within the course of their study. It is a wise decision, then, to adapt their academic journey to facilitate more healthy systems. Balancing the workload with good mentoring and wellness programs may also be beneficial [25–27].

Changes in curriculum may take place in several ways. Rather than a reactive approach, some authors suggested a more directive and preventive model by changing curriculum. These include changes in course content, contact hours, scheduling, grading, electives, and learning communities. Implemented integratively, these changes relate significantly with the lowering of depression, anxiety, and stress levels

of medical students [24]. Hence, it is plausible too that this may also reduce the risk of suicide amongst medical students.

#### b) Health facilities

Health facilities must be able to provide consistent services, multidisciplinary collaboration, and inpatient services. Consistent care means being able to manage all barriers to patient access to health services and considering active outreach to patients through a home or school visits. Multidisciplinary cooperation means that services to patients who have comorbid physical diseases, both chronic and acute, need to be facilitated with collaboration with other services in health facilities, especially if the physical complaint is one of the risk factors for suicidal behavior experienced by the patient [23].

#### c) Support System

Suicide attempts can be prevented by optimizing support systems such as family, friends, or individuals who care about this condition. Consider involving a family member or someone who is trusted and is around the patient daily to engage in therapy sessions so that person can see how to establish a calming conversation with the patient regarding suicidal ideation or behavior. In addition, peers can also be involved in efforts to prevent suicidal behavior. Training in the ability to provide first aid to patients with suicidal ideation can help prevent successful suicide attempts [5, 9].

#### d) Peer Support Group

If possible, support groups can be a source of hope for patients with risk factors for suicide [28].

### CONCLUSION

Suicide is a conscious behaviour that aims to end life. Various risk factors were found to encourage students to commit suicide, including depression, hopelessness, and lack of social support. The three risk

factors are interrelated with each other. The most common cause of students experiencing depression is academic problems. Final-year students tend to be prone to depression, so it is not uncommon to find cases of suicide among final year students. This is because of the many burdens of thought and tasks that must be completed, such as a thesis. Handling of individuals who are at risk of suicide must be carried out in a multidisciplinary manner. Family support and a good social environment play a role in reducing the risk of suicide in students.

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