

Open Access Short Communication

Suicidal ideation among Bangladeshi medical students: A cause for concern?

Md. Mantaka Rahman^{1,3*}, Mark D. Griffiths, PhD^{2,4}

Citation: Rahman, Md. M., Griffiths, M.D. (2024). Suicidal ideation among Bangladeshi medical students: A cause for concern? Journal of Concurrent Disorders, 6 (3), 18-24.

Founding Editor-in-Chief: Masood Zangeneh, Ph.D.

Editor: Fayez Mahamid, Ph.D.

Received: 12/28/2023
Accepted: 01/14/2024
Published (Online First): 01/26/2024



Copyright: ©2024 Rahman, Md. M., Griffiths, M.D. Licensee CDS Press, Toronto, Canada. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<http://creativecommons.org/licenses/by/4.0/>)

¹International Centre for Diarrhoeal Disease Research (ICDDR), Dhaka, Bangladesh

²International Gaming Research Unit, Psychology Department, Nottingham Trent University, UK

³**ORCID:**0000-0002-2832-7254

⁴**ORCID:**0000-0001-8880-6524

*Corresponding Author: Md. Mantaka Rahman, drmantaka.icddr@gmail.com

Abstract. Suicidal ideation among medical students has become a growing concern, yet it remains a neglected public mental health issue in Bangladesh. This brief paper examines the extant literature on suicide behaviors among Bangladeshi medical students. Data from Bangladesh regarding suicide behaviors among medical students is scarce but of concern. In comparison to university students, the prevalence of medical students' suicidal ideation is significantly higher in Bangladesh. Moreover, medical students' suicide rates globally are reportedly higher than those of the general population (up to 3–5 times higher). During the COVID-19 pandemic, the prevalence rates of suicide behaviors appeared to increase even further. Suggestions are provided for ways to reduce the prevalence of suicide behaviors among Bangladeshi medical students.

Keywords: Suicidal Ideation, Suicidal Tendency, Medical Students, Bangladesh.

Introduction

Mental stress is a problem for medical students everywhere because of the nature of the education (Hasan et al., 2020). Moreover, undergraduate medical students experience more stress than students in other fields do because of their rigorous academic schedules (Hill et al., 2018). Recently suicidal behaviors among medical students have become an increasing cause for concern but are still a neglected public mental health issue in Bangladesh. According to a recent study, suicide ranks as the second leading cause of mortality for individuals between the ages of 15 and 29 years worldwide (Arafat et al., 2022b). Moreover, 77% of suicides occur in low and middle-income countries (LMICs) such as countries like Bangladesh (Urme et al., 2022).

In Bangladesh, suicide claims over 10,000 lives each year impacting a large number of Bangladeshi adolescents, especially females (Mashreky et al., 2013). While Bangladesh's total estimated average suicide rate is 7.3 per 100,000 people annually, the rate among teenagers (aged 15–19 years) is significantly higher, at 17.1 per 100,000 for males and 22.7 per 100,000 for females (Shahnaz et al., 2017). Moreover, medical students' global suicide rates are reportedly higher than those of the general population (up to 3–5 times higher) (Blacker et al., 2019). Since Bangladesh lacks a national suicide database and surveillance system, reliable information on the prevalence of suicides, suicidal thoughts, intentions, and attempts is not available, and there is no national suicide prevention strategy (Arafat, 2019). For some countries, the outlook is better. For instance, in Canada, 44% of medical schools maintain their own database to record student deaths, including suicides, and 63% acknowledge the issue and have policies in place to respond to it (Zivanovic et al., 2018).

Suicide behaviors are associated with mood disorders. According to a systematic review and meta-analysis of 195 studies involving a total of 129,123 individuals from 47 countries, the global prevalence of depression among medical students is 27.2% (Rotenstein et al., 2016). In the same study, the prevalence of suicidal ideation was 11.1%. In another systematic review of 41 studies comprising 36,608 medical students from 15 different countries, Bangladeshi medical students had the highest prevalence of anxiety (65.9%) (Jia et al., 2022). In addition, two independent cross-sectional studies among 359 and 399 medical students of different medical colleges of Bangladesh reported the prevalence of depression to be 49.9% and 39.1% respectively, with female medical students reporting higher levels of depression (Hossain et al., 2021; Tareq et al., 2020).

Data from Bangladesh regarding suicide behaviors among medical students is scarce but of concern. A survey among 896 university individuals in Bangladesh (including medical college students) reported 14.5% suicidal ideation (12.4% for males and 17.3% for females; Bala et al., 2020). A small survey of 237 Bangladeshi private medical students reported the prevalence of suicidal ideation was 27.4% (Chomon, 2022) while a more extensive survey of 583 Bangladeshi public and private

undergraduate medical students reported lifetime suicidal ideation to be 23.8% (Mozaffor et al., 2022). Another small survey of 221 Bangladeshi medical students in Dhaka reported 17.6% suicidal tendency or attempted suicide at least once after attending medical school (Hasan et al., 2020).

It should also be noted that some studies have reported female medical students have higher suicidal ideation than males, sometimes even twice as high (Bala et al., 2020; Mozaffor et al., 2022). Moreover, a cross-sectional survey of 399 medical students from six public medical colleges in Bangladesh reported 18.8% had suicidal ideation (Tareq et al., 2020). However, three-quarters of those who had suicidal thoughts said they would not act on upon these thoughts. Finally, using Bangladeshi press reports, 13 cases of medical students dying by suicide between 2018 and 2019 in Bangladesh were reported (Mamun et al., 2020a).

In comparison to medical graduates, suicidal ideation among 1844 university students of Dhaka was reported to be 13.4% (Rasheduzzaman et al., 2022). Other surveys during the COVID-19 pandemic among 1979 and 731 Bangladeshi university graduates reported the prevalence of suicidal ideation to be 12.8% and 16.3% respectively (Ali et al., 2022; Tasnim et al., 2020). It is also a matter of concern that the COVID-19 pandemic greatly influenced the mental health status of the general population including university students across the globe (Das et al., 2021). Moreover, the number of suicide cases among students of all ages more than doubled and medical students typically had higher prevalence rates than other Bangladeshi cohorts (Sakib et al., 2021a). Although, a pre-pandemic survey among Bangladeshi university students reported that the prevalence of suicidal ideation was 14.7% (Mamun et al., 2020b), when the total number of suicides was compared before and during the pandemic, it was found that pandemic might be to responsible for rising cases of suicidality including university students (Daria and Islam, 2022).

Recent studies have reported some key risk factors that are associated with suicidal ideation among medical students, including gender (being female) (Mozaffor et al., 2022), marital status (being single) (Chomon, 2022), family issues (familial disputes and conflicts, financial problems, history of family suicide) (Arafat et al., 2022a), familial depression, failure in the medical professional exams, alcohol use and/or psychoactive substance addiction (Chomon, 2022), physical co-morbidities (e.g., being disabled, having diabetes, having hypertension) (Mozaffor et al., 2022), having extra-marital affairs (Urme et al., 2022), being blackmailed by boyfriends, relationship break-ups, being sexually abused (Chomon, 2022; Mamun et al., 2020a), having to earn money for the family, inadequate sleep, continuing the course due to parental pressure, and being in lower academic years (first to third year) (Hasan et al., 2020).

Moreover, a cross-sectional survey in Bangladesh reported that the likelihood of suicidal ideation, suicide planning, and suicide attempts were raised six-fold, over six-fold, and three-fold, respectively, among families where there was a history of suicide deaths or suicide attempts (Mozaffor et

al., 2022). This is because prior suicidal behavior by the students is assumed to be one of the strongest factors for prediction of suicidality because without prior planning it is uncommon (Nock et al., 2008). Additionally, the impact of affectionless parenting and a neglectful parenting style may have a large effect on student's mental health, consequently influencing suicidal ideation (Tugnoli et al., 2022). Hanging and poisoning are the most commonly used methods of suicide both inside and outside of Bangladesh including medical students (Mamun et al., 2020a; Shah et al., 2017).

Medical students can face institutional pushback or social stigma when discussing suicide openly (Rubin, 2014). Therefore, the negative impact of stress on the mental health of students and chronic exposure to stressful conditions may lead to psychological discomfort, depression, and anxiety symptoms – all of which might increase the risk for suicidal ideation (Rosiek et al., 2016). According to a recent meta-analysis, suicidal ideation is one of the most important predictors of suicide completion (Hubers et al., 2018), and suicides are commonly preceded by up to 20 earlier attempts, according to the World Health Organization (WHO, 2023). Suicidal ideation, which is seen as an identifiable and controllable risk factor for suicidal conduct, is critical to recognize in order to prevent suicide (Zalsman et al., 2016). The contemporary medical curriculum in Bangladesh is still quite traditional, and academic requirements are very rigorous, requiring students to study around the clock and study for more academic years than other university students (Salam et al., 2013) which can cause intense stress (Amin et al., 2008; Mamun et al., 2020a; Zavlin et al., 2017).

Consequently, in order to reduce the prevalence of suicide and suicidal thoughts among medical students and young physicians, the Bangladeshi medical school system as well as physicians must (i) prioritize appropriate interventions, (ii) carry out further empirical research to explore the burden of this psychological disorder, (iii) improve mental health education, (iv) provide a supportive academic environment, and (v) promote mental health awareness (Hasan et al., 2020; Sakib et al., 2021a). The goal of such suicide prevention programs and interventions should aim to increase mental health literacy, decrease stigmatizing attitudes, and restrict the normalization of suicide.

Funding

None

Conflict of Interest

None.

Acknowledgement

The first author would like to thank Md. Imtiaz Mahmud Rifat, Senior Lecturer, Department of English, University of Brahmanbaria for the early language input during drafting.

Authors' contributions

Md. Mantaka Rahman: Conceptualization, Writing-original draft, Writing-review & editing. Mark D. Griffiths: Critical review, writing & editing.

References

- Ali, M., Uddin, Z., Amran Hossain, K.M., Uddin, T.R., 2022. Depression, anxiety, stress, and suicidal behavior among Bangladeshi undergraduate rehabilitation students: an observational study amidst the COVID-19 pandemic. *Health Science Reports* 5, e549. <https://doi.org/10.1002/hsr2.549>.
- Amin, Z., Merrylees, N., Hanif, A., Talukder, M.H., 2008. Medical education in Bangladesh. *Med Teach* 30, 243-247. <https://doi.org/10.1080/01421590801947010>.
- Arafat, S.M.Y., Hussain, F., Hossain, M.F., Islam, M.A., Menon, V., 2022a. Literacy and stigma of suicide in Bangladesh: scales validation and status assessment among university students. *Brain Behav.* 12, e2432. <https://doi.org/10.1002/brb3.2432>.
- Arafat, S.Y., 2019. Current challenges of suicide and future directions of management in Bangladesh: a systematic review. *Global Psychiatry* 2, 09-20. <https://doi.org/10.2478/gp-2019-0001>.
- Arafat, S.Y., Maruf, M.M., Hossain, M.F., 2022b. Literacy and stigma of suicide among medical students of Bangladesh: status and associated factors: literacy and stigma of suicide among medical students. *Bangladesh Med. Res. C. Bullet* 48, 225-230. <https://doi.org/10.3329/bmrcb.v48i3.62430>.
- Bala, S., Hasan, A.T., Jewel, Z.A., Sarker, P., 2020. Suicidal ideation percentage among university students in Bangladesh. *Int. J. Eme. Ment. Health and Human Resi* 22, 50-54.
- Blacker, C.J., Lewis, C.P., Swintak, C.C., Bostwick, J.M., Rackley, S.J., 2019. Medical student suicide rates: a systematic review of the historical and international literature. *Acad Med* 94, 274-280. <https://doi.org/10.1097/ACM.0000000000002430>.
- Chomon, R.J., 2022. Depression and suicidal ideation among medical students in a private medical college of Bangladesh. A cross sectional web based survey. *PloS One* 17, e0265367. <https://doi.org/10.1371/journal.pone.0265367>.
- Daria, S., Islam, M.R., 2022. Increased suicidal behaviors among students during COVID-19 lockdowns: a concern of student's mental health in Bangladesh. *J. Affective Disorders Reports* 8, 100320. <https://doi.org/10.1016/j.jadr.2022.100320>.
- Das, R., Hasan, M.R., Daria, S., Islam, M.R., 2021. Impact of COVID-19 pandemic on mental health among general Bangladeshi population: a cross-sectional study. *BMJ Open* 11, e045727. <https://doi.org/10.1136/bmjopen-2020-045727>.
- Hasan, M.T., Hossain, S., Gupta, R.D., Podder, V., Mowri, N.A., Ghosh, A., Mahmood, H.R., Ahmmed, F., Khatun, M.S.T.H., Nodi, R.N., Koly, K.N., Yasmeen, S., Islam, N., 2020. Depression, sleeping pattern, and suicidal ideation among medical students in Bangladesh: a cross-sectional pilot study. *J. Public Health* 30, 465-473. <http://doi.org/10.1007/s10389-020-01304-0>.
- Hill, M.R., Goicochea, S., Merlo, L.J., 2018. In their own words: stressors facing medical students in the millennial generation. *Med. Edu. Online* 23, 1530558. <https://doi.org/10.1080/10872981.2018.1530558>.

- Hossain, M.A., Islam, M., Mouly, S.S., Nikhat, N., 2021. Depression, anxiety and stress among the students and their academic performance in selected medical colleges of Bangladesh. *Mymensingh Med J* 30(4), 1043-1050.
- Hubers, A.A.M., Moaddine, S., Peersmann, S.H.M., Stijnen, T., van Duijn, E., van der Mast, R.C., Dekkers, O.M., Giltay, E.J., 2018. Suicidal ideation and subsequent completed suicide in both psychiatric and non-psychiatric populations: a meta-analysis. *Epidemiol and Psychiatr Sci* 27, 186-198. <https://doi.org/10.1017/S2045796016001049>.
- Jia, Q., Qu, Y., Sun, H., Huo, H., Yin, H., You, D., 2022. Mental health among medical students during COVID-19: A systematic review and meta-analysis. *Front Psychol* 13, 846789. <https://doi.org/10.3389/fpsyg.2022.846789>.
- Kaggwa, M.M., Arinaitwe, I., Muwanguzi, M., Nduhuura, E., Kajjimu, J., Kule, M., Najjuka, S.M., Nkola, R., Ajuna, N., Wamala, N.K., Machacha, I., Mamun, M.A., Ho, C.S., Griffiths, M.D., Rukundo, G.Z., 2022. Suicidal behaviours among Ugandan university students: A cross-sectional study. *BMC Psychiatry* 22, 234. <https://doi.org/10.1186/s12888-022-03858-7>.
- Kosik, R., Nguyen, T., Ko, I., Fan, A., 2017. Suicidal ideation in medical students. *Neuropsychiatry* 7 (1), 9-11. <https://doi.org/10.4172/Neuropsychiatry.1000172>.
- Kumar, G.S., Jain, A., Hegde, S., 2012. Prevalence of depression and its associated factors using Beck Depression Inventory among students of a medical college in Karnataka. *Indian J. Psychiatr* 54, 223-226. <https://doi.org/10.4103/0019-5545.1024125727>.
- Mamun, M.A., Misti, J.M., Griffiths, M.D., 2020a. Suicide of Bangladeshi medical students: Risk factor trends based on Bangladeshi press reports. *Asian J. Psychiatr* 48, 101905. <https://doi.org/10.1016/j.ajp.2019.101905>.
- Mamun, M.A., Rayhan, I., Akter, K., Griffiths, M.D., 2022. Prevalence and predisposing factors of suicidal ideation among the university students in Bangladesh: A single-site survey. *Int. J. Ment Health and Addi.*, 20, 1958-1971. <https://doi.org/10.1007/s11469-020-00403-z>.
- Mashreky, S.R., Rahman, F., Rahman, A., 2013. Suicide kills more than 10,000 people every year in Bangladesh. *Arch Suicide Res* 17, 387-396. <https://doi.org/10.1080/13811118.2013.801809>.
- Mozaffor, M., Raheem, E., Islam, M.S., Nurunnabi, A.S.M., Hossain, M.S., Biswas, C., Islam, S., Arafat, S.M.Y., 2022. Suicidal behaviors among undergraduate medical students in Bangladesh. *Res. and Dev. in Med. Edu.* 11,14. <https://doi.org/10.34172/rdme.2022.014>.
- Nock, M.K., Borges, G., Bromet, E.J., Cha, C.B., Kessler, R.C., Lee, S., 2008. Suicide and suicidal behavior. *Epidemiologic Reviews* 30, 133-154. <https://doi.org/10.1093/epirev/mxn002>.
- Rasheduzzaman, M., Al-Mamun, F., Hosen, I., Akter, T., Hossain, M., Griffiths, M.D., Mamun, M.A., 2022. Suicidal behaviors among Bangladeshi university students: Prevalence and risk factors. *PloS One* 17, e0262006. <https://doi.org/10.1371/journal.pone.0262006>.
- Rosiek, A., Rosiek-Kryszewska, A., Leksowski, Ł., Leksowski, K., 2016. Chronic stress and suicidal thinking among medical students. *Int. J of Environ. Res. Public Health* 13, 212. <https://doi.org/10.3390/ijerph13020212>.
- Rotenstein, L.S., Ramos, M.A., Torre, M., Segal, J.B., Peluso, M.J., Guille, C., Sen, S., Mata, D.A., 2016. Prevalence of depression, depressive symptoms, and suicidal ideation among medical students: A systematic review and meta-analysis. *JAMA* 316, 2214-2236. <https://doi.org/10.1001/jama.2016.17324>.
- Rubin, R., 2014. Recent suicides highlight need to address depression in medical students and residents. *JAMA* 312, 1725-1727. <https://doi.org/10.1001/jama.2014.13505>.

- Sakib, N., Islam, M., Al Habib, M.S., Bhuiyan, A., Alam, M.M., Tasneem, N., Hossain, M., Islam, S.M.S., Griffiths, M.D., Mamun, M.A., 2021. Depression and suicidality among Bangladeshi students: Subject selection reasons and learning environment as potential risk factors. *Persp. Psychi. Care* 57, 1150-1162. <https://doi.org/10.1111/ppc.12670>.
- Salam, A., Abu Baker, S.M., Yousuf, R., Haque, M., 2013. Assessment in undergraduate medical education: Bangladesh perspectives. *Bangladesh J. Med. Sci.* 12, 357-363. <https://doi.org/10.3329/bjms.v12i4.16658>.
- Schwenk, T.L., Davis, L., Wimsatt, L.A., 2010. Depression, stigma, and suicidal ideation in medical students. *JAMA* 304, 1181-1190. <https://doi.org/10.1001/jama.2010.1300>.
- Shah, M.M.A., Ahmed, S., Arafat, S.M.Y., 2017. Demography and risk factors of suicide in Bangladesh: a six-month paper content analysis. *Psychiatry J* 2017, 3047025. <https://doi.org/10.1155/2017/3047025>.
- Shahnaz, A., Bagley, C., Simkhada, P., Kadri, S., 2017. Suicidal behaviour in Bangladesh: A scoping literature review and a proposed public health prevention model. *Open J. Soc. Sci.* 5, 254-282. <https://doi.org/10.1007/s10389-020-01304-0>.
- Tareq, S.R., Likhon, R.A., Rahman, S.N., Akter, S., Basher, M.S., Hasan, M.S., Hussain, M.Z., Khan, M.K., 2020. Depression among medical students of Bangladesh. *Mymensingh Med. J.* 29 (1), 16-20.
- Tasnim, R., Islam, M.S., Sujana, M.S.H., Sikder, M.T., Potenza, M.N., 2020. Suicidal ideation among Bangladeshi university students early during the COVID-19 pandemic: Prevalence estimates and correlates. *Child and Youth Ser. Rev.* 119, 105703. <https://doi.org/10.1016/j.childyouth.2020.105703>.
- Tugnoli, S., Casetta, I., Caracciolo, S., Salviato, J., 2022. Parental bonding, depression, and suicidal ideation in medical students. *Front. Psychology* 13, 877306. <https://doi.org/10.3389/fpsyg.2022.877306>.
- Urme, S.A., Islam, M.S., Begum, H., Chowdhury, N.R.A., 2022. Risk factors of suicide among public university students of Bangladesh: A qualitative exploration. *Heliyon* 8, e09659. <https://doi.org/10.1016/j.heliyon.2022.e09659>.
- World Health Organization. 2023, Suicide key facts. <https://www.who.int/news-room/fact-sheets/detail/suicide>. (Accessed 23 November 2023).
- Zalsman, G., Hawton, K., Wasserman, D., van Heeringen, K., Arensman, E., Sarchiapone, M., Carli, V., Hoschl, C., Barzilay, R., Balazs, J., Purebl, G., Kahn, J.P., Saiz, P.A., Lipsicas, C.B., Bobes, J., Cozman, D., Hegerl, U., Zohar, J., 2016. Suicide prevention strategies revisited: 10-year systematic review. *Lancet Psychiatry* 3, 646-659. [https://doi.org/10.1016/S2215-0366\(16\)30030-X](https://doi.org/10.1016/S2215-0366(16)30030-X).
- Zavlin, D., Jubbal, K.T., Noe, J.G., Gansbacher, B., 2017. A comparison of medical education in Germany and the United States: from applying to medical school to the beginnings of residency. *Ger Med Sci* 15, 1-12. <http://doi.org/10.3205/000256>
- Zivanovic, R., McMillan, J., Lovato, C., Roston, C., 2018. Death by suicide among Canadian medical students: A national survey-based study. *Can J. Psychiatry* 63, 178-181. <https://doi.org/10.1177/0706743717746663>.