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Medical Students Will Take Care of the People, We Need to Take Care of Them

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Jamil et al published their work in this current issue of the *Avicenna Journal of Medicine* reporting on a study of anxiety and depression among 130 graduating medical students taking the National Medical Unified Exam (NMUE) in Syria. The title of their paper was "The Impact of Anxiety and Depression on Academic Performance: A Cross Sectional Study Among Medical Students in Syria."[1] This was an important work for several interconnected and overlapping reasons. Alarmingly, the prevalence of anxiety and depression in this study sample was 59 and 58%, respectively, which was almost twice as much as the average reported in medical students worldwide (33.8 and 27.2%, respectively).[2,3]

In the United States, the prevalence of depression among medical students was reported to be around 8%,[4,5] 32.7% in China,[6] 3.7% in Portugal,[7] 31% in Nepal,[8] 51.30% in Ethiopia,[9] and 30.6% in Brazil.[10,11] A large systematic review and meta-analysis of more than 129,000 medical students in 47 countries worldwide had found that 27.2% (183 studies, 95% confidence interval [CI] 24.7 – 29.9%) of medical students had depression or depressive symptoms.[2] The pooled prevalence of the estimate reported by individual studies in that review ranged from 9.3 to 55.9%, depending on assessment tools used, which was consistent with the wide ranges reported in other reviews.[12] This placed the prevalence of depression reported by Jamil et al from Syrian medical students (58%) alarmingly higher than the average which had been reported from those 47 countries (27%).

As for anxiety, Jamil et al reported a prevalence of 59.2% among Syrian medical students recruited in their study. In the United States, the prevalence of anxiety among medical students was reported to be 30%,[4,5,13] 27.2% in China,[6] 21.5% in Portugal,[7] 45.3% in Nepal,[8] 30.1% in Ethiopia,[9] and 32.9% in Brazil.[10,11] A large systematic review and meta-analysis of more than 40,000 medical students worldwide had found that 33.8% (69 studies, 95% CI 29.2–38.7%) of medical students had anxiety.[3] The largest prevalence of anxiety was found among medical students in the Middle East (42.4%; 95% CI: 33.3–52.1%) and Asia (35.2%; 95% CI: 26.3–45.3%) as compared with the rest of the world (27.5%; 95% CI: 21.5–34.5%).

Several factors may have been at play behind these staggering numbers of anxious and depressed Syrian medical students. In the Syrian context, the Syrian crisis, which has now spanned 11 years, has left the country devastated in many ways. Conservative estimates report that deaths from war and violence surpassed 610,000.[14] Independent humanitarian agencies report massive internal and external forced displacement of civilians, with estimates of 50 to 60% of the entire population being directly affected.[15] Millions have lost their relatives, homes, livelihoods, access to education, access to health care, as well as income. The economy has been in shambles, with the country's agricultural, industrial, and trade activities almost entirely halted. The World Food Program estimates that 90% of Syrians currently live below the poverty line and more than 80% are food insecure.[16] The health care infrastructure has been targeted and destroyed in many cities.[17] For all of that, medical students completing their education under these circumstances are understandably under high pressure and distress.

Additionally, the coronavirus disease 2019 (COVID-19) pandemic has had its effects worldwide as well, particularly on the health care workforce including medical students. When compared with prevalence prior to the COVID-19 pandemic, the prevalence of anxiety and depression among U.S. medical students during the pandemic was found to be 61% higher for anxiety and 70% higher for depression.[13] In a survey of 1,428 students across 40 U.S. medical schools, 30.6 and 24.3% of respondents were found to have anxiety and depression, respectively, which was consistent with other U.S. studies.[18,19] During the COVID-19 pandemic, high rates of medical students' anxiety and depression, albeit lower than Syria's, were

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reported elsewhere in the world as well, including Kuwait,[20] Libya,[21] India,[22] the Czech Republic and Slovakia,[23] and Pakistan.[24] Neighboring Lebanon did not suffer from a war in this past decade but did suffer from some of the repercussions of Syria's conflict, along with Lebanon's own political and security challenges. Lebanon also had alarmingly high rates of anxiety and depression among medical students during the COVID-19 pandemic (48.7 and 46.8% of anxiety and depression, respectively).[25]

Also, interestingly, the authors reported that anxiety and depression were inversely associated with NMUE scores, but the association disappeared once the analysis was adjusted for a few potential confounders. As the assessments were conducted 1 month prior to the date of the NMUE, the anxiety (and to a lesser extent, the depression) may have been affected by exam apprehension too. Medical students preparing for high-stakes exams, such as the United States Medical Licensing Exam Step 1 and the COMLEX-1, have also shown higher than usual levels of anxiety and depression.[26,27] This added another potential factor that may have affected the overall well-being of the medical students in the Jamil et al study, particularly in terms of anxiety and depression.

There is a general lack of evidence in the literature on the well-being of physicians and physicians-in-training, especially in low- and middle-income countries. Physician distress and burnout have formed silent (and sometimes not so silent, when they manifest with suicides) epidemics of their own worldwide.[28] These massive waves of burnout have particularly heightened during the COVID-19 pandemic.[29] For physicians and medical students in Syria, who had to survive the war and its consequences, let alone live and continue their education in dire economic circumstances, perhaps it was not surprising to witness such high rates of anxiety and depression. Furthermore, one may have expected even higher rates of anxiety and depression, in which case the current estimates may reflect the high resilience and hard work required to not only survive, but to thrive, in such conditions in Syria. This work is of paramount importance and provides awareness that should guide medical educational intervention and curricular redesign. Although individual factors, such as resilience and physical activity, may help combat anxiety and depression among medical students, systemic interventions specifically designed to address these issues would arguably offer the most potential benefit.

Conflict of Interest

None declared.

References

1 Jamil H, Alakkari M, Al-Mahini MS, Alsayid M, Al-Jandali O. The impact of anxiety and depression on academic performance: a cross-sectional study among medical students in Syria. Avicenna J Med 2022;12(03):111–119

2 Rotenstein LS, Ramos MA, Torre M, et al. Prevalence of depression, depressive symptoms, and suicidal ideation among medical students: a systematic review and meta-analysis. JAMA 2016;316 (21):2214–2236

3 Quek TT, Tam WW, Tran BX, et al. The global prevalence of anxiety among medical students: a meta-analysis. Int J Environ Res Public Health 2019;16(15):E2735

4 Dyrbye LN, Thomas MR, Shanafelt TD. Systematic review of depression, anxiety, and other indicators of psychological distress among U.S. and Canadian medical students. Acad Med 2006;81(04): 354–373

5 Wolf MR, Rosenstock JB. Inadequate sleep and exercise associated with burnout and depression among medical students. Acad Psychiatry 2017;41(02):174–179

6 Mao Y, Zhang N, Liu J, Zhu B, He R, Wang X. A systematic review of depression and anxiety in medical students in China. BMC Med Educ 2019;19(01):327

7 Moreira de Sousa J, Moreira CA, Telles-Correia D. Anxiety, depression and academic performance: a study amongst Portuguese medical students versus non-medical students. Acta Med Port 2018;31(09):454–462

8 Pokhrel NB, Khadayat R, Tulachan P. Depression, anxiety, and burnout among medical students and residents of a medical school in Nepal: a cross-sectional study. BMC Psychiatry 2020; 20(01):298

9 Kebede MA, Anbessie B, Ayano G. Prevalence and predictors of depression and anxiety among medical students in Addis Ababa, Ethiopia. Int J Ment Health Syst 2019;13:30

10 Pacheco JP, Giacomin HT, Tam WW, et al. Mental health problems among medical students in Brazil: a systematic review and meta-analysis. Br J Psychiatry 2017;39(04):369–378

11 Brenneisen Mayer F, Souza Santos I, Silveira PS, et al. Factors associated to depression and anxiety in medical students: a multicenter study. BMC Med Educ 2016;16(01):282

12 Hope V, Henderson M. Medical student depression, anxiety and distress outside North America: a systematic review. Med Educ 2014;48(10):963–979

13 Halperin SJ, Henderson MN, Prenner S, Grauer JN. Prevalence of anxiety and depression among medical students during the Covid-19 pandemic: a cross-sectional study. J Med Educ Curric Dev 2021;8:2382120521991150

14 Rights SOoH. 2022. Accessed July 14, 2022 at: https://www.syriahr.com/en/

15 UNHCR TUNRAa. 2022. Accessed July 14, 2022 at: https://www.unhcr.org/en-us/syria-emergency.html

16 Program WF 2022. Accessed July 14, 2022 at: https://www.wfp.org/hunger-catastrophe

17 Abbara A, Ekzayez A. Healthcare leadership in Syria during armed conflict and the pandemic. BMJ Glob Health 2021;6 (05):e005697

18 Ecker A, Berenson AB, Gonzalez SJ, Zoorob R, Hirth JM. Depression among medical students in the United States during the COVID-19 pandemic: the role of communication between universities and their students. Disaster Med Public Health Prep 2022:1–21

19 Gupta P, B K A, Ramakrishna K. Prevalence of depression and anxiety among medical students and house staff during the COVID-19 health-care crisis. Acad Psychiatry 2021;45(05): 575–580

20 Alsairafi Z, Naser AY, Alsaleh FM, Awad A, Jalal Z. Mental health status of healthcare professionals and students of health sciences faculties in Kuwait during the COVID-19 pandemic. Int J Environ Res Public Health 2021;18(04):2203

21 Elhadi M, Buzreg A, Bouhuwaish A, et al. Psychological impact of the civil war and COVID-19 on Libyan medical students: a cross-sectional study. Front Psychol 2020;11:570435

22 Pandey U, Corbett G, Mohan S, et al. Anxiety, depression and behavioural changes in junior doctors and medical students associated with the coronavirus pandemic: a cross-sectional survey. J Obstet Gynaecol India 2021;71(01):33–37

23 Gavurova B, Ivankova V, Rigelsky M, Mudarri T, Miovsky M. Somatic symptoms, anxiety, and depression among college

students in the Czech Republic and Slovakia: a cross-sectional study. Front Public Health 2022;10:859107

24 Muhammad Alfareed Zafar S, Junaid Tahir M, Malik M, Irfan Malik M, Kamal Akhtar F, Ghazala R. Awareness, anxiety, and depression in healthcare professionals, medical students, and general population of Pakistan during COVID-19 pandemic: a cross sectional online survey. Med J Islam Repub Iran 2020; 34:131

25 Abed AE, Razzak RA, Hashim HT. Mental health effects of COVID-19 within the socioeconomic crisis and after the Beirut blast among health care workers and medical students in Lebanon. Prim Care Companion CNS Disord 2021;23(04):21m02977

26 Tackett S, Jeyaraju M, Moore J, et al. Student well-being during dedicated preparation for USMLE Step 1 and COMLEX Level 1 exams. BMC Med Educ 2022;22(01):16

27 Green M, Angoff N, Encandela J. Test anxiety and United States Medical Licensing Examination scores. Clin Teach 2016;13(02): 142–146

28 Rotenstein LS, Torre M, Ramos MA, et al. Prevalence of burnout among physicians: a systematic review. JAMA 2018;320(11): 1131–1150

29 Amanullah S, Ramesh Shankar R. The impact of COVID-19 on physician burnout globally: a review. Healthcare (Basel) 2020;8 (04):E421

