

Depression and suicide among medical students: A comparison study between medical and medical sciences students in Taif University, Taif-KSA

Ali H S Alzahrani

Department of Family Medicine, Faculty of Medicine, Taif University, Taif, Saudi Arabia

Correspondence to: Ali H S Alzahrani, E-mail: emadtawfik72@yahoo.com

Received: September 07, 2016; Accepted: January 27, 2017

ABSTRACT

Background: Medical school is recognized as a stressful environment that often exerts a negative effect on the academic performance, physical health, and psychological well-being of the student. **Objective:** To assess the exposure to different stressors and the prevalence of depression and suicide among medical students comparing with medical sciences students at Taif University, Taif City-KSA. The study was conducted at the Taif University, medical students and medical sciences. Participants all registered students in Year 4, were enrolled in the study ($n = 181$). **Materials and Methods:** Stress, depression, and suicide act were examined among 81 4th year medical students and 100 4th year medical sciences students in 2015-at the University of Taif. Students were asked to complete a new stress inventory, developed by the researcher himself. **Results:** The prevalence of depression among medical and medical sciences students was 34%, where 41% among medical students and 28% among medical sciences students. 19% of the whole sample was thought of suicide act, where 23% medical students and 17% medical sciences students. **Conclusion:** Medical students were have higher depression rates and therefore higher suicide act comparing with medical sciences students.


KEY WORDS: Depression; Stressor; Suicide; Medical School; Taif University; Saudi Arabia

INTRODUCTION

Depression is a common but serious mood disorder. Depression is one of the most common mental disorders in the world.^[1] Studies have observed that medical students experience a high incidence of personal distress during their undergraduate internship, postgraduate study period, and later in physicians' practical life,^[2-4] and it may even reach burnout level.^[5] High levels of stress have been documented in medical students in various studies.^[6-10]

Nowadays, researchers suggest that depression is caused by a combination of genetic, biological, environmental, and psychological factors. Depression can happen at any age but often begins in adulthood. Depression is now recognized as occurring in children and adolescents, although, it sometimes presents with more prominent irritability than low mood.^[11] Many chronic mood and anxiety disorders in adults begin as high levels of anxiety in children.

Medical education is perceived as being stressful, although it is doubtful whether it differs in that respect from another higher education.^[8] Stress during education can lead to mental distress and have a negative impact on cognitive functioning and learning.^[12] High rates of psychological morbidity among students, such as depressive symptoms and anxiety have been reported in several studies from different western countries, as well as from other parts of the world.^[13] Previous studies in Pakistan have shown a higher prevalence of anxiety and

Access this article online	
Website: http://www.ijmsph.com	Quick Response code
DOI: 10.5455/ijmsph.2017.0954227012017	

International Journal of Medical Science and Public Health Online 2017. © 2017 Ali H S Alzahrani. This is an Open Access article distributed under the terms of the Creative Commons Attribution 4.0 International License (<http://creativecommons.org/licenses/by/4.0/>), allowing third parties to copy and redistribute the material in any medium or format and to remix, transform, and build upon the material for any purpose, even commercially, provided the original work is properly cited and states its license.

depression in medical students.^[14] Stress during medical school can lead to problems later in professional life compromising patient care.^[15]

The high prevalence of suicides, depression, abusive use of psychotropic drugs, and professional dysfunction among physicians has been extensively described.^[16-18] The previous studies have also indicated that a substantial proportion of medical students^[7,19-21] and students from other health-care areas such as nursing,^[22] dentistry,^[23] and pharmacy^[24] experience a significant burden in the shape of psychological morbidity and distress throughout the course of their studies.^[25-28] However, the connection between professional psychological morbidity and suicide has not been substantiated or quantified. The main objective of this research is to assess the exposure to different stressors and the prevalence of depression and suicide among medical students comparing with medical sciences students at Taif University, Taif City-KSA.

MATERIALS AND METHODS

This study, it will yield information about the prevalence of depression and suicide. It was carried out on students of Taif medical and medical sciences colleges. Data collection spanned over the month of July 2015. The approval was obtained from the head of the institution before administering questionnaires. Verbal consent was taken from students before distributing questionnaires and confidentiality was ensured. Students who had spent more than 3 years in both colleges were included in this study. Data were collected via a self-administered questionnaire which was distributed among students after explaining the purpose of the study and taking verbal consent. The questionnaire was handed out to students who were present at the time of distribution. The students were instructed to return the completed questionnaire. Out of 181 students were present during the survey.

RESULTS

The mean age of students was 22 years. The genders of sample were male, 89% living with their parents. 92% of the samples live in urban. Demographic characteristics of the study group are presented in Table 1.

The prevalence of depression among medical and medical sciences students was 34% (Figure 1), where 41% among medical students (Figure 2) and 28% among medical sciences students (Figure 3).

About 19% of those students who had depression were thought one day of committing suicide (Figure 4), where 23% among medical students (Figure 5) and 17% medical sciences students (Figure 6).

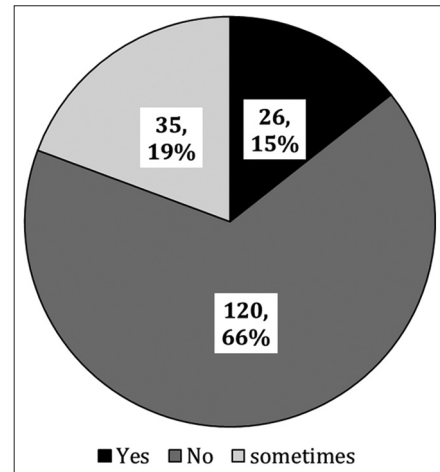


Figure 1: Prevalence overall depression

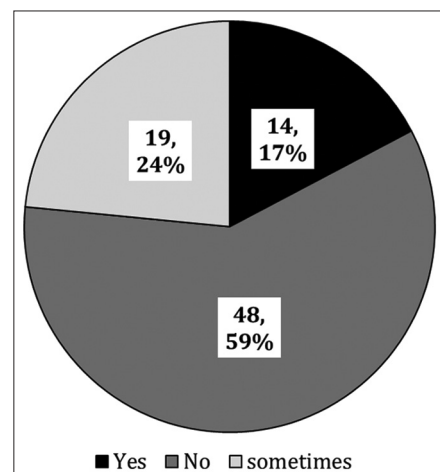


Figure 2: Prevalence of depression among medical science school

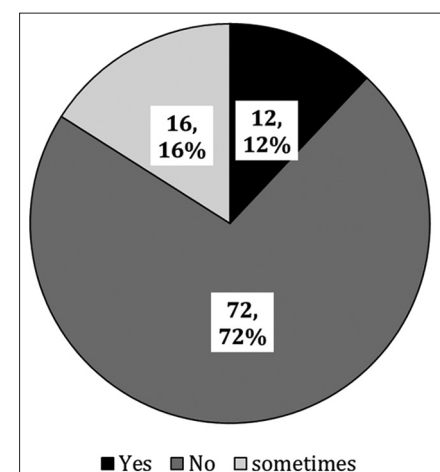


Figure 3: Prevalence of depression among medical sciences

DISCUSSION

In this study, (34%) of the students had sort of depression. This study is comparable to the prevalence of depression that reported in Turkey, which is around 27.1%,^[8] and Beirut

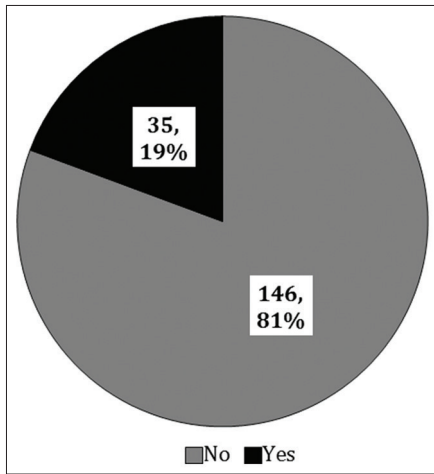


Figure 4: The prevalence overall suicide act

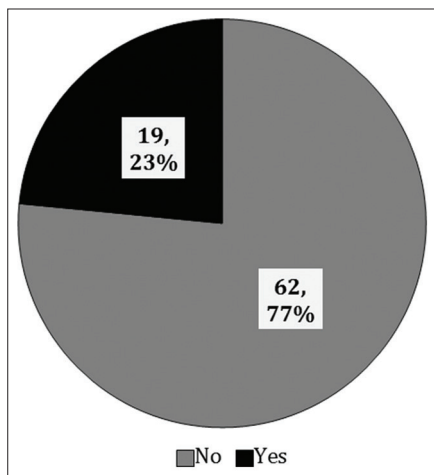


Figure 5: Prevalence of suicide act among medical students

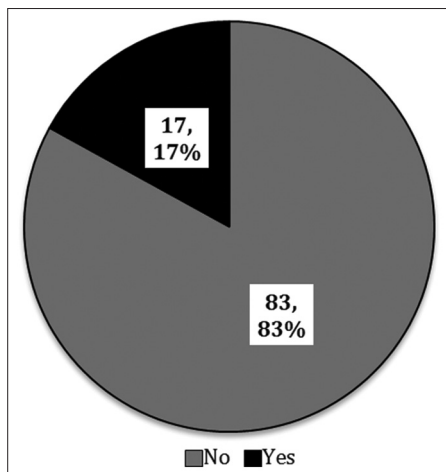


Figure 6: Prevalence of suicide act among medical science students

27.63%.^[29] May be the explanation for that refers to the religion background for these countries. Surprisingly, some studies that had conducted in Pakistan appears differently, which is reached 46.07%,^[14] despite it came from the same religion background.

Table 1: Demographic characteristics of study group

Variable	n (%)
Total participants	181 (100)
Age	
22	181 (100)
Gender	
Male	181 (100)
Marital status	
Unmarried	181 (100)
Locality	
Urban	166 (92)
Rural	11 (6)
Tent	4 (2)
Social status of parents	
Divorced	20 (11)
Live together	161 (89)

Some studies reported much higher depression such as those conducted in Zimbabwe 64.5%,^[30] US 49%,^[31] Iran 44%,^[32] and Brazil 40.2%.^[1,33] Others reported less higher depression such as Sweden 12.9%.^[12]

The prevalence of depression among medical students was quite high (41%) comparing with (28%) among medical sciences students. The medical students have to deal with stressors specific to the medical school. In addition to normal stressors of everyday life, which explains this high prevalence of depression.^[34] This may be due to the difference in teaching and assessment methodologies including introduction of problem-based learning and objective structured performance evaluation in the recent years. Another reason may be refers to the sample size difference ($n = 181$). Different sociodemographic background of participants (Taif, Makkah, and Jeddah cities) can also be a contributor in this regard.

The overall prevalence of suicide among students was (19%). The majority of them (23%) came from medical students, in spite; they have a small size of sample ($n = 81$) comparing with (17%) among medical sciences students. Recent research^[35] showed that medical residents have a high risk for developing burnout. This study investigates the prevalence of burnout and its relationship with suicidal thoughts among medical residents. van der Heijden et al. (2008) stated that 432 residents (20.6%) were classified as burnout. 12% reported having suicidal thoughts at least 1 time during their residency, and 1% many times. Suicidal thoughts were substantially more prevalent in the group with burnout in comparison to non-burnout (20.5% vs. 7.6%; $\chi^2 = 182.9$, $P < 0.001$).

Another study conducted by Ratnakaran et al. (2016) at Government Medical College, Thiruvananthapuram, Kerala,

India. Stated that more than one-third of the participants were found to have burnout in one or another dimension (personal, work, and patients) of the CBI. Burnout was found to be the highest among the interns in the domains of personal burnout (64.05%) and patient related burnout (68.62%) and in junior residents for work-related burnout (40%). Super specialty senior residents had the least prevalence of burnout in all three dimensions. Among the residents, nonmedical/nonsurgical residents had the least prevalence of burnout in all three dimensions, whereas surgical specialty residents had the highest of personal burnout (57.92%) and medical specialty residents had the highest patient related burnout (27.13%). Both medical and surgical specialty residents had equal prevalence of work burnout. The study also showed that as the number of years of residency increased, the burnout also increased in all three dimensions. A between gender difference in burnout was not noticed in our study.^[36]

There is a need for greater attention to the psychological well-being of medical students. It has been reported that medical students are reluctant to seek appropriate help for mental health problems and view it as a weakness. This issue needs to be addressed, and students should be encouraged to seek help along with provision of adequate facilities. Information about effective coping strategies, i.e., active coping efforts and ineffective means, i.e., avoidant coping efforts of dealing with stress might be helpful in preventing distress. Medical schools should encourage students to spend adequate time on their social and person alive and emphasize the importance of health promoting coping strategies.^[21]

Recreational facilities should be provided at the campus. Preventive programming efforts should begin early in medical education and address a wide variety of concerns from academic to interpersonal relationships and financial worries. Early signs of depressive symptoms among medical students should be addressed.^[37] We need interventions that help students to cope with stress to make a smooth transition from school to medical college and also to adjust to different learning environments during different phases of medical education. Limitations of the study include a lack of baseline information concerning the mental status of medical students at the time of entrance in the medical school and lack of population-based data to support our results and compare our findings with the general population.

Recommendations

- It is recommended that baseline data should be established at the time of entrance and a psychiatrist or a clinical psychologist to improve the mental health of students should do further evaluation of positive cases
- Follow-up studies for monitoring prevalence of depression will help in instituting interventional strategies. It is concluded that a substantial proportion of medical students had an ongoing psychiatric condition

- Actions should be taken to encourage medical students to seek help for psychological problems and to provide adequate facilities
- Interventions addressing the mental health of medical students might be directed toward those revealing depressive symptoms already present during 1st year of medical school
- Individual, as well as organizational interventions, should be targeted to prevent excessive stress and burnout among medical students.

CONCLUSION

Medical students were have higher depression rates and therefore higher suicide act comparing with medical sciences students.

REFERENCES

1. Fleck MP, Chaves ML, Poirier-Littré MF, Bourdel MC, Loo H, Guelfi JD. Depression in France and Brazil: Factorial structure of the 17-item hamilton depression scale in inpatients. *J Nerv Ment Dis.* 2004;192(2):103-10.
2. Roberts J. Junior doctors' years: Training, not education. *BMJ.* 1991;302s(6770):225-8.
3. Firth-Cozens J. Emotional distress in junior house officers. *Br Med J (Clin Res Ed).* 1987;295(6597):533-6.
4. Tyssen R, Vaglum P, Grønvdal NT, Ekeberg Ø. The relative importance of individual and organizational factors for the prevention of job stress during internship: A nationwide and prospective study. *Med Teach.* 2005;27(8):726-31.
5. Willcock SM, Daly MG, Tennant CC, Allard BJ. Burnout and psychiatric morbidity in new medical graduates. *Med J Aust.* 2004;181(7):357-60.
6. Bayram N, Bilgel N. The prevalence and socio-demographic correlations of depression, anxiety and stress among a group of university students. *Soc Psychiatry Psychiatr Epidemiol.* 2008;43(8):667-72.
7. Dahlin M, Joneborg N, Runeson B. Stress and depression among medical students: A cross-sectional study. *Med Educ.* 2005;39(6):594-604.
8. Aktekin M, Karaman T, Senol YY, Erdem S, Erengin H, Akaydin M. Anxiety, depression and stressful life events among medical students: A prospective study in Antalya, Turkey. *Med Educ.* 2001;35(1):12-7.
9. Azhar MZ. Psychological stress and treatment - research issues. *Med J Malaysia.* 2004;59(2):143-5.
10. Firth-Cozens J. Medical student stress. *Med Educ.* 2001;35(1):6-7.
11. Hojat M, Gonnella JS, Mangione S, Nasca TJ, Veloski JJ, Erdmann JB, et al. Empathy in medical students as related to academic performance, clinical competence and gender. *Med Educ.* 2002;36(6):522-7.
12. Ahmed I, Banu H, Al-Fageer R, Al-Suwaidi R. Cognitive emotions: Depression and anxiety in medical students and staff. *J Crit Care.* 2009;24(3):e1-7.
13. Ahaneku JE, Nwosu CM, Ahaneku GI. Academic stress and cardiovascular health. *Acad Med.* 2000;75(6):567-8.

14. Ali BS, Amanullah S. A comparative review of two screening instruments: The aga khan university anxiety and depression scale and the self reporting questionnaire. *J Pak Med Assoc.* 1998;48(3):79-82.
15. Alexandrino-Silva C, Pereira ML, Bustamante C, Ferraz AC, Baldassin S, Andrade AG, et al. Suicidal ideation among students enrolled in healthcare training programs: A cross-sectional study. *Rev Bras Psiquiatr.* 2009;31(13):338-44.
16. Aasland OG, Ekeberg O, Schweder T. Suicide rates from 1960 to 1989 in Norwegian physicians compared with other educational groups. *Soc Sci Med.* 2001;52(2):259-65.
17. Hawton K, Clements A, Sakarovitch C, Simkin S, Deeks JJ. Suicide in doctors: A study of risk according to gender, seniority and specialty in medical practitioners in England and Wales, 1979-1995. *J Epidemiol Community Health.* 2001;55(12):296-300.
18. Torre DM, Wang NY, Meoni LA, Young JH, Klag MJ, Ford DE. Suicide compared to other causes of mortality in physicians. *Suicide Life Threat Behav.* 2005;35(2):146-53.
19. Clark DC, Zeldow PB. Vicissitudes of depressed mood during four years of medical school. *JAMA.* 1988;260(17):2521-8.
20. Mosley TH Jr, Perrin SG, Neral SM, Dubbert PM, Grothues CA, Pinto BM. Stress, coping, and well-being among third-year medical students. *Acad Med.* 1994;69(9):765-7.
21. Dyrbye LN, Thomas MR, Eacker A, Harper W, Massie FS Jr, Power DV, et al. Race, ethnicity, and medical student well-being in the United States. *Arch Intern Med.* 2007;167(19):2103-9.
22. Dzurec LC, Allchin L, Engler AJ. First-year nursing students accounts of reasons for student depression. *J Nurs Educ.* 2007;46(12):545-51.
23. Gorter R, Freeman R, Hammen S, Murtomaa H, Blinkhorn A, Humphris G. Psychological stress and health in undergraduate dental students: Fifth year outcomes compared with first year baseline results from five European dental schools. *Eur J Dent Educ.* 2008;12(2):61-8.
24. Ried LD, Motycka C, Mobley C, Meldrum M. Comparing self-reported burnout of pharmacy students on the founding campus with those at distance campuses. *Am J Pharm Educ.* 2006;70(5):114.
25. Henning K, Ey S, Shaw D. Perfectionism, the imposter phenomenon and psychological adjustment in medical, dental, nursing and pharmacy students. *Med Educ.* 1998;32 (5):456-64.
26. Baldwin JN, Scott DM, Agrawal S, Bartek JK, Davis-Hall RE, Reardon TP, et al. Assessment of alcohol and other drug use behaviors in health professions students. *Subst Abus.* 2006;27(3):27-37.
27. Omigbodun OO, Odukogbe AT, Omigbodun AO, Yusuf OB, Bella TT, Olayemi O. Stressors and psychological symptoms in students of medicine and allied health professions in Nigeria. *Soc Psychiatry Psychiatr Epidemiol.* 2006;41(5):415-21.
28. Baldassin S, Alves TC, de Andrade AG, Nogueira Martins LA. The characteristics of depressive symptoms in medical students during medical education and training: A cross-sectional study. *BMC Med Educ.* 2008;8:60.
29. Mehanna Z, Richa S. Prevalence of anxiety and depressive disorders in medical students. Transversal study in medical students in the Saint-Joseph University of Beirut. *Encephale.* 2006;32:976-82.
30. Vaz RF, Mbajorgu EF, Acuda SW. A preliminary study of stress levels among first year medical students at the University of Zimbabwe. *Cent Afr J Med.* 1998;44(4):214-9.
31. Dyrbye LN, Harper W, Durning SJ, Moutier C, Thomas MR, Massie FS Jr, et al. Patterns of distress in US medical students. *Med Teach.* 2011;33(10):834-9.
32. Assadi SM, Nakhaei MR, Najafi F, Fazel S. Mental health in three generations of Iranian medical students and doctors. A cross-sectional study. *Soc Psychiatry Psychiatr Epidemiol.* 2007;42(1):57-60.
33. Gorenstein C, Andrade L. Validation of a Portuguese version of the Beck Depression Inventory and the State-Trait Anxiety Inventory in Brazilian subjects. *Braz J Med Biol Res.* 1996;29(4):453-7.
34. Givens JL, Tjia J. Depressed medical students' use of mental health services and barriers to use. *Acad Med.* 2002;77(9):918-21.
35. van der Heijden F, Dillingh G, Bakker A, Prins J. Suicidal thoughts among medical residents with burnout. *Arch Suicide Res.* 2008;12(4):344-6.
36. Ratnakaran B, Prabhakaran A, Karunakaran V. Prevalence of burnout and its correlates among residents in a tertiary medical center in Kerala, India: A cross-sectional study. *J Postgrad Med.* 2016;62(3):157-61.
37. Holm M, Tyssen R, Stordal KI, Haver B. Self-development groups reduce medical school stress: A controlled intervention study. *BMC Med Educ.* 2010;10:23.

How to cite this article: Alzahrani AHS. Depression and suicide among medical students: A comparison study between medical and medical sciences students in Taif University, Taif-KSA. *Int J Med Sci Public Health* 2017;6(5):964-968.

Source of Support: Nil, **Conflict of Interest:** None declared.