A cross-sectional study of mental well-being among undergraduate students in a Medical College, in Central India

Jayashri B Bute, Abhishek Bachhotiya, V K Arora, Sangeeta Kori

Department of Community of Medicine, Index Medical College, Indore, Madhya Pradesh, India.
Correspondence to: Jayashri B Bute, E-mail: drjayashri@gmail.com

Abstract

Background: Medical education, since its very beginning has been stressful for all those who are involved in it, directly or indirectly. This brings about the development of anxiety or depression or both among the medical students as well as aggravation of the same among those who already have them for some other reason. The apparent factors behind the condition may be a few but an in-depth analysis may reveal several inapparent yet significant factors behind an individual student' anxious or depressed behavior.

Objective: (1) To assess the level of mental well-being among the medical students, (2) to assess reasons for anxiety/depression/somatic symptoms/social dysfunction among the medical students, and (3) to correlate the mental well-being with the sociodemographic factors.

Materials and Methods: It was a cross-sectional study. The study was conducted among all the students and interns of Index Medical College, Hospital & Research Centre, Indore, Madhya Pradesh, India. General Health Questionnaire-28 (GHQ-28) was administered to all the students and the responses were recorded.

Result: The data so recorded were analyzed using MS-Excel 2010 and SPSS 20.0. All the volunteering students and interns were included in the study. Mean age of students was 21.35 ± 1.35 years. The results show a significant level of anxiety, depression, somatic symptoms, and social dysfunction among the medical students with an overall prevalence of 66.13%. Except sex and academic failure, all the other studied variables were found to be significantly associated with mental well-being. There was a difference in the pattern of mental health among students of various professional years with interns having poorest status, the prevalence being 89.3%.

Conclusion: The overall results indicate toward a necessity of urgent and firm action regarding the mental dimension of health of the future medical professionals of the nation.

KEY WORDS: GHQ-28, mental well-being, medical undergraduates, anxiety

Introduction

Mental health is a state of well-being in which an individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively, and can able to make a contribution to his or her community. Mental health and well-being are fundamental to our collective and individual ability as humans to think, emote, interact with each other, earn a living, and enjoy life. On this basis, the promotion, protection, and restoration of mental health can be regarded as a vital concern of individuals, communities, and societies throughout the world.[1] There is considerable evidence that rates of depression and suicide are higher in medical students and that these rates continue to remain elevated when these students become physicians.[2] Medical students are a valuable human resource for our future and depression in them leads to less productivity, reduced quality of life, learning

difficulties, and may negatively affect patient care.[3,4] Studies from other parts of world have shown a high prevalence of depression in medical students[5-7] but studies on Indian medical students are lacking.

Depression may be a significant hidden problem in Indian medical students and mechanisms to identify and help students with mental health problems should be seriously considered. Another significant fact in this regard is that we keep assessing and treating only depression and up to some extent, anxiety. Thus, somatic symptoms of mental illness and social dysfunction are overlooked, which are equally important in overall assessment of mental well-being as well as prediction of suicides. The ever accelerating list of suicides among medical students is a serious indicator of our ignorance about the conditions that a medical student faces and the intense pressure of assignments, grades, marks, and post-graduate selection. Such stressful tasks deprive medical students of their hobbies, relaxation, and both physical and mental rest. Therefore, an effective system for the prediction of the development of mental illness in medical students needs to be developed and interventions aimed at reducing the incidence of such problems need further research.

Since there are not many Indian studies available on the issue, this study is an attempt to assess the level of mental well-being among the medical undergraduates of central India. So this study was carried out with the following objectives:

1. To assess the level of mental well-being among the undergraduates.
2. To assess reasons for anxiety/depression/somatic symptoms/social dysfunction among the medical students.
3. To correlate the mental well-being with the sociodemographic factors.

Materials and Methods

The study was conducted among all the MBBS students including Interns of Index Medical College, Hospital & Research Centre, Indore, Madhya Pradesh, India, in the period between October 2014 and June 2015. Apart from sociodemographic details, General Health Questionnaire-28 (GHQ-28)[8] was given to all the students and the responses were recorded under supervision. This questionnaire assesses the mental well-being in 28 questions, 7 questions each on anxiety, depression, somatic symptoms, and social dysfunction. Each question is scored as 0 or 1. The participants with the scores 0-4 (out of 28) are considered to be "non-cases" and the ones with 5-28 are labeled as "cases." The recorded data were analyzed using MS-Excel 2010 and SPSS 20.0.

All the volunteering students were included in the study. Incorrect/incompletely filled forms, students not volunteering for the study, and those already absent on the day of data collection were excluded. A total of 737 completely and correctly filled forms were collected. The data so obtained were analyzed using MS-Excel 2007 and SPSS 20.0

Results

The association of various demographic factors with mental well-being was being sought out of which a few significant ones are being presented here. The total number of participants was 737. The age of participants ranged between 19 and 26 years with mean age of 21.35±1.35 years [Table 1].

Of the total 737 participants, 480 (65.13%) were screened out as cases and only one-third, that is 257 (34.87%), were labeled to be non-cases. Of all the participants available for collection of data, the biggest proportion of about one-third (31.3%) were students of MBBS second professional. Interns had the poorest mental health followed by first professional students. The correlation being statistically significant as found by χ^2 test [Table 2].

The correlation of mental well-being was found to be insignificant with sex of the participants. The male and female participants were almost equally affected by mental stressors. About three-fourths (74.4%) of participants were living in nuclear families and only one-fourth (25.6%) in joint families. Participants living in joint families showed significantly less number of cases than those living in nuclear families. Of them, 411 (55.8%) participants were residents of college campus (hostel). A lesser proportion, that is 326 (44.2%), were day scholars. Hostellers showed more number of "cases" as compared to day scholars. This correlation was also found to be statistically significant [Table 3].

Of all, 341 (46.3%) participants had a history of academic failure during last 1 year of which 217 were "cases." The association between mental well-being and academic failure was found to be statistically insignificant at $p = 0.0644$ [Figure 1]. A few other variables found to be in statistically significant association with mental well-being were education and occupation of father and mother, history of own chronic illness, death of a dear one, break up of love affair, etc.

Discussion

The total number of students and interns participating in the study was 737. The age of participants ranged between

Table 1: Distribution of participants according to age

Age (years)	Frequency	Percentage
19	27	3.7
20	200	27.1
21	203	27.5
22	173	23.5
23	81	11.0
24	45	6.1
25	0	0.0
26	8	1.1
Total	**737**	**100.00**

n = 737; Mean = 21.35 years; SD = 1.35.

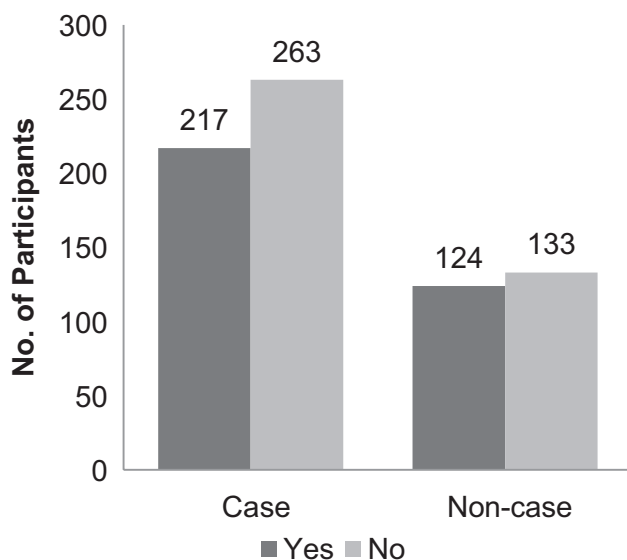**Table 2:** Correlation of mental health status with professional year

	Cases	Non-cases	Total
First professional	125 (68.3%)	58 (31.7%)	183 (24.8%)
Second Professional	117 (50.6%)	114 (49.4%)	231 (31.3%)
Third professional part-I	68 (69.3%)	30 (30.6%)	98 (13.3%)
Third professional part-II	61 (59.2%)	42 (40.8%)	103 (14%)
Internship	109 (89.3%)	13 (10.7%)	122 (16.6%)
Total	480 (65.13%)	257 (34.87)	737

χ^2-test = 179.235; df = 72 ; p = 0.0000.

Table 3: Correlation of mental health status with sociodemographic variables

Variables	Results		Total (%)	p-Value
	Cases (N = 480)	Non-cases (N = 257)	(N = 737)	X^2, df
Sex				
Male	224 (63.6%)	128 (36.4%)	352 (47.8%)	**0.1163**
Female	256 (66.4%)	129 (33.6%)	385 (52.2%)	X^2 = 25.322, df=1
Family type				
Nuclear	361 (65.8%)	187 (34.2%)	548 (74.4%)	**0.0081**
Joint	119 (62.9%)	70 (37.1%)	189 (25.6%)	X^2 = 35.492, df=1
Residence				
Hosteller	251 (61.1%)	160 (38.9%)	411 (55.8%)	**0.0094**
Day scholar	229 (70.2%)	97 (29.8%)	326 (44.2%)	X^2 = 6.7383, df=1

19 and 26 years with mean age of 21.35±1.35 years. As many as 403 (54.6%) participants were of the age 20-21 years. The mean age in another study was found to be 23.5±1.7.[9]

Figure 1: Correlation of mental health status with history of academic failure during last 1 year.

In India, the minimum legal age at the time of admission to medical college is 17 years.[10] Although the minimum age is least commonly seen in MBBS as the pre-medical entrance is a comparatively tough exam to crack and students usually take single to multiple drops for preparation.

Of the total 737 participants, more than half (52.2%) were females. A usual phenomenon in medical colleges is that female students have been in a little higher number than male students. The proportion of females has been observed to be higher in various studies done among the medical undergraduates in almost all parts of India whereas total enrolment in higher education has been estimated to be 28.56 million with 15.87 million boys (55.6%) and 12.69 million (44.4%) girls in India as per ASHE 2011-2012 (Provisional).[11] Since all the undergraduate students and interns were included in the study, the fresher and repeater students were provided with the questionnaire. Second professional students were the highest in number (231) owing to its longer duration of three semesters.

Of all, 548 (74.4%) participants were residing in nuclear families whereas 189 (25.6%) resided in joint families. Another study showed 85% students from nuclear families. Among all, 411 (55.8%) participants were hostellers and 326 (44.2%) were day scholars. The percentage of students residing at hostel and attending as day scholars has been variable in different studies. Index Medical College, being situated far from the Indore city, has more than half the students residing

at hostel and others utilizing the college buses and means of personal conveyance to travel to college from their home in the city. Against this, another study had majority (81%) of students as localites (i.e. living with parents).[12]

On the one hand, the academic performance is an outcome of mental health status. On the other hand, failure in academics is an important risk factor for mental illness. However, this study did not find any significant correlation between the two. While it can be documented many times over, it is a matter of common experience that repeated failure especially in the face of great effort to learn and to do well is one of the most destructive and devastating experiences a child can have … so devastating in its effects that every member of the family sooner or later is marked by the consequences, often seriously.[13]

Conclusion

It has been concluded from the above study that the correlations being tried to be established between various factors and mental well-being came out to be statistically significant except sex and academic failures. Truly considering, mental health is indeed something that cannot be determined by a few factors rather innumerable factors affecting it.

Poor mental health status and depression were found to be high among medical students. Both poor mental health status and depression were significantly associated with the lower age and year of the study. It has been stated that young doctors should be given the same care and support that we expect them to provide to their patients. The same should be extended to medical students to promote resilience and personal fulfillment, and for enhancement of professionalism and patient care. This call is for in-house counseling services and mentorship program at medical colleges for early detection and treatment of these problems so that budding doctors can concentrate on their studies resulting in better academic and curricular outcomes.

Acknowledgment

References

1. WHO Fact Sheet. *Mental Health: Strengthening Our Response.* Available at: http://www.who.int/mediacentre/factsheets/fs220/en/ (last accessed on December 21, 2014).
2. Levine RE, Bryant SG. The depressed physician: a different kind of impairment. Hosp Physician 2000;36:67-73.
3. Lasaa L, Ayuso-Mateos JL, Vazquez-Barqueroa JL, Diez-Manriquea EJ, Dowrickb CE. The use of the Beck Depression Inventory to screen for depression in the general population: a preliminary analysis. J Affect Disord 2006;57(1-3):261-5.
4. Chan DW. Depressive symptoms and depressed mood among Chinese medical students in Hong Kong. Compr Psychiatry 1991;32:170-80.
5. Khan MS, Mahmood S, Badshah A, Ali SU, Jamal Y. Prevalence of depression, anxiety and their associated factors among medical students in Karachi, Pakistan. J Pak Med Assoc 2006;56:583-6.
6. Goebert D, Thompson D, Takeshita J, Beach C, Bryson P, Ephgrave K, et al. Depressive symptoms in medical students and residents: a multischool study. Acad Med 2009;84:236-41.
7. Roh MS, Jeon HJ, Kim H, Han SK, Hahm BJ. The prevalence and impact of depression among medical students: a nationwide cross-sectional study in South Korea. Acad Med 2010;85(8):1384-90.
8. Goldberg DP, Hillier VF. A scaled version of the General Health Questionnaire. Psychol Med 1979;9:139–45.
9. Kumari R, Nath B. Study on the use of tobacco among male medical students in Lucknow, India. Indian J Community Med 2008;33(2):100-3.
10. Medical Council of India Notification. *Section 4 of the Gazette of India Extra-ordinary issue dated the 18th February, 2002.* Available at: http://www.mciindia.org/RulesandRegulations/EligibilityCertificateRegulations2002.aspx
11. Ministry of Human Resource Development, Department of Higher Education, Government of India, New Delhi 2013. All India Survey on Higher Education 2011-12 (Provisional).
12. Manjunath R, Kulkarni P. Mental health status and depression among medical students in Mysore, Karnataka - an untouched public health Issue. Natl J Community Med 2013;4(1):50-3.
13. Bryant TE. The effect of student failure on the quality of family life and community mental health. Bull Orton Soc 1978;28(1):8-14.