Cross Sectional Study of Prevalnce of Depression and Its Associated Factors among Medical Students in a Teaching Hospital in Karnataka

Sharvanan E.

Associate Professor, Dept of Community Medicine, Kodagu Institute of Medical Sciences, Madikeri, Karnataka-571201.

Ramachandra Kamath

Professor & Head, Dept of Community Medicine, Kodagu Institute of Medical Sciences, Madikeri, Karnataka-571201.

Mahesh S.H.

Associate Professor, Dept of Community Medicine, Kodagu Institute of Medical Sciences, Madikeri, Karnataka-571201.

Shivaraj B.M.

Assistant Professor, Dept of Community Medicine, Kodagu Institute of Medical Sciences, Madikeri, Karnataka-571201.

Narasimha B.C.

Assistant Professor, Dept of Community Medicine, Kodagu Institute of Medical Sciences, Madikeri, Karnataka-571201.

Jagadeesh

Statistician, Dept of Community Medicine, Kodagu Institute of Medical Sciences, Madikeri, Karnataka-571201.

Abstract

Background: Adolescents group is usually perceived as a healthy age group, and yet the reports shows that 20% of them at any given point of time suffer from mental health problems like depression or anxiety which are most common among them. Depression among medical students is one of the most neglected aspect of public health problem in our country which has a substantial impact on their educational achievement and career. hence this study was undertaken to find out the prevalence and associated risk factors of depression among medical students. *Materials and Methods:* A cross-sectional study was conducted during April 2017 on first year medical students at a medical institution in Madikeri in Karnataka. The aim of the study was to screen the medical students for depression using Beck Depression Inventory scale and to determine its associated factors of depression. *Results:* The overall prevalence of depression according to Becks Depression Inventory Scale was 41.1%. Among them three quarter (74.5%) of the study population had mild to moderate depression. In the present study it was found that the prevalence was more in females (42.7%) when compared with male counterparts. there was significant association was found between the prevalence of depression and factors like alcohol use , those participants having family problems and those medical students who had a family history of depression. *Conclusion and Recommendations*: Measures like screening of the medical students, early diagnosis and interventions like counseling, consultation with the psychiatrist will play a huge role in healthy professional career of medical students.

Keywords: Depression; Medical Students; Prevalence; Teaching Hospital.

Introduction

Adolescents group is usually perceived as a healthy age group, and yet the reports shows that 20% of them at any given point of time suffer from mental health problems like depression or anxiety which are most common among them [1].

World Health Organization estimates that depression is the third leading cause of illness and disability among adolescents, and suicide is the third leading cause of death in older adolescents (15–19 years) [2].

Mental well-being is directly related to good quality of life. Healthy adolescents in terms of mental well

Corresponding Author: Narasimha B.C., Assistant Professor, Dept Community Medicine, Kodagu Institute of Medical Sciences, Madikeri Karntaka-571201.

E-mail: narasimhabc@yahoo.co.in

Sharvanan E. et. al. / Cross Sectional Study of Prevalnce of Depression and Its Associated Factors among Medical Students in a Teaching Hospital in Karnataka

109

being are most likely to grow into happy and confident adults which reflects on health and well-being of nations. Educational achievement, social cohesion, Self-esteem, behaviour, attendance at school and future health and life chances can be attributed to mental health and well being among young people [1].

Depression among medical students is one of the most neglected aspect of public health problem in our country which has a substantial impact on their educational achievement and career [3]. Studies done at the global level have reported that family problems, alcohol use, drug addiction and staying away from home as important factors which likely increase the risk of depression among medical students. However only few studies are done in India, hence this study was undertaken to find out the prevalence and associated risk factors of depression among medical students.

Materials and Methods

A cross-sectional study was conducted during April 2017 on first year medical students at a medical institution in Madikeri in Karnataka. The aim of the study was to screen the medical students for depression using Beck Depression Inventory scale and to determine its associated factors of depression.

Students were encouraged to participate in the study after briefing them about the purpose of the study. Students were informed that the participation was voluntary and informed verbal consent was taken and they were ensured that confidentiality and anonymity would be maintained throught the study.

Students who refused to participate in the study or who were absent on the day of study and/or could not be contacted even after two visits were considered as non-respondents.

The Beck Depression Inventory Scale (BDI) which is a self administered questionnaire has been used for screening of depression among study subjects which has been tested and validated [4,5].

The BDI is a subjective scale and used for screening purpose, which has to be further evaluated to confirm the diagnosis.

It is a 21-item measurement scale where the variety of depressive symptoms experienced in the preceding week can be documented among adolescents, normal adults and individuals with psychiatric disorders. A 4-point scale ranging from 0 to 3(total scores can range from 0 to 63) was made to record the responses to the 21 items.

The study questionnaire also included socio-demographic variables such like gender, parents education, occupation, alcohol use, family history of depression, family problems and staying away from home. Subjects were considered as alcohol users if there was history of alcohol intake at least once in the past 12 months.

WHO definition was used to define the drug addiction which states that repeated use of any psychoactive substance including alcohol, to the extent that the user is periodically or chronically intoxicated, shows a compulsion to take the preferred substance, and has a great difficulty in voluntarily ceasing or modifying substance use [6].

Family history of depression was assessed based on earlier diagnosis among first or second degree relatives. The family problem was elicited by asking question whether the family members were currently having any problem that worries the subject or not.

Data was entered and analyzed by using SPSS 16 for windows. Chi- square test was used to test for the association between depression and variables. Data was expressed in terms of proportion or percentages.

Results

A total of 124 medical students participated in the study. Among them 49(39.5%) were males followed by 75(60.5%) females. The overall prevalence of

Table 1: Grades of Depression according to Sex

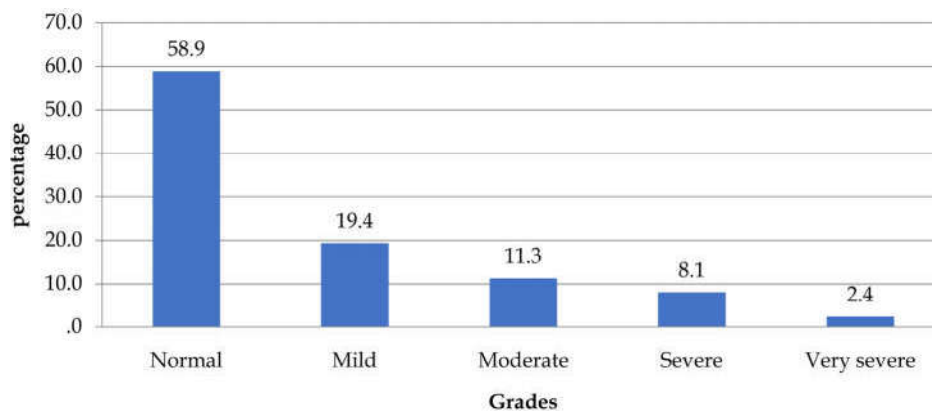| Grades (Score)	Male (%)	Female (%)	Total (%)
Normal	30(61.2)	43(57.3)	73(58.9)
Mild	10(20.4)	14(18.7)	24(19.4)
Moderate	4(8.2)	10(13.3)	14(11.3)
Severe	3(6.1)	7(9.3)	10(8.1)
Very severe	2(4.1)	1(1.3)	3(2.4)
Total	49	75	124(100)

$X^2=2.12$, $P=0.71$

depression according to Becks Depression Inventory Scale was 41.1%. Among them three quarter (74.5%) of the study population had mild to moderate depression. With regard to other categories of depression 8.1% and 2.4% of subjects had severe to very severe depression (Table 1). In the present study it was found that the prevalence was more in females (42.7%) when compared with male counterparts (57.3%) and this association not found to be statistically significant (χ^2=2.12, P=0.71). In our study it was observed that the prevalence of depression was high among those participants having family problems and it was statistically significant (χ^2= 4.5, p=0.03). Similarly there was significant association was found between the prevalence of depression and factors like alcohol use (χ^2 =6.28, p=0.01), those medical students who had a family history of depression (χ^2=9.08 ,p=< 0.01). However there was

Table 2: Association between depression and sociodemographic variables

Variables	Number of students without depression	Number of students with depression	X^2,p
Sex			1.84 0.67
Male	30(61.2)	19(38.8)	
Female	43(57.3)	32(42.7)	
Alcohol use			6.28 , 0.01
Present	32(48.5)	34(51.5)	
Absent	41(70.7)	17(29.3)	
Drug addiction			1.6, 0.41
Present	22(64.7)	12(35.3)	
Absent	51(56.7)	39(43.3)	
Family problems			4.5, 0.03
Present	17(44.7)	21(55.3)	
Absent	56(65.1)	30(34.9)	
Family h/o depression			9.08 ,< 0.01
Present	18(40.9)	26(59.1)	
Absent	55(68.8)	25(31.3)	
Staying away from home			1.5 ,0.69
Yes	15(55.6)	12(44.4)	
No	58(59.8)	39(40.2)	

Fig. 1: Grades of depression among study subjects

no significant difference of association between prevalence and factors like drug addiction and staying away from home (Table 2).

Discussion

With the growing demand of manpower in healthcare sector to meet the second largest populous country the number of medical institutes have increased gradually over the last two decades which directly reflects upward trend of medical students in our country.

Factors like increased competition, career goals, parental stress on students have a bearing effect on the mental health of the students. Many studies [7-11] have reported prevalence of depression among adolescents but only a few studies have used the Becks

Sharvanan E. et. al. / Cross Sectional Study of Prevalnce of Depression and Its Associated Factors among Medical Students in a Teaching Hospital in Karnataka

111

Depression Inventory which is subjective scale with different gradings to determine the prevalence of depression among medical students.

Despite the fact that BDI is not designed for diagnostic purposes its reliability in providing valuable information of detecting those who are in potential danger of depressive disorders has been well established by various studies [12,13].

In our study the prevalence of depression is around 41.1% which is similar to study done by Ibrahim [14] (43.2%) among Egyptian medical students. Fábio et al [15] reported the prevalence of 32.8% among Brazilian medical students. Similar findings were reported by various studies across the globe by Simin [16] (39.8 %), baldassin S [17] (38.2%) and Vaidya PM [18] (39.2%). However Kumar GS [3] reported around the prevalence around 71.2% which might be due to inclusion of lower cut off for BDI scores.

Although our study reported higher prevalence of depression among females which is similar to other studies we found no association between gender difference and depression which may be because of equality in job opportunities and rights among genders.

This is in contrast to other studies where there was a significant association was reported between genders and depression. The possible reported reasons among females were (1) high load of the curriculum, (2) more likely to report stress [19], (3) more liable to over complaint about physical and psychological symptoms [20].

The present study reported that mood disorders are more common among those with family history of disorders which is consistent with the findings of the study by Zoccolillo M [11]. Other factors like drug addiction, staying away from home did not had any impact on the mental health of the students.

One of the main limitation of our study was we couldn't analyze depression with variables such as personal efficacy, physical activity and social phobia etc.

Conclusion and Recommendations

However in this cross sectional study an attempt has been made to estimate the burden of depression and associated factors. in depth studies by qualitative and quantitative methods will through light on other factors which might be correlated with mental health of the medical students. Measures like screening of the medical students, early diagnosis and interventions like counseling, consultation with the psychiatrist will play a huge role in healthy professional career of medical students.

References

1. World Health Organization. Adolescent mental health: mapping actions of nongovernmental organizations and other international development organizations.Geneva: WHO Press; 2012.

2. World Health Organization. Adolescents: health risks and solutions. [Online]. 2017 May [cited 2017 Aug 10]; Available from: URL: http://www.who.int/mediacentre/factsheets/fs345/en/

3. Kumar GS, Jain A, Hegde S. Prevalence of depression and its associated factors using Beck Depression Inventory among students of a medical college in Karnataka. Indian J Psychiatry 2012;54:223-6.

4. Beck A, Ward CH, Mendelson M, Mock J, Erbaugh J. An inventory for measuring depression. Arch Gen Psychiatry 1961;4:561-71.

5. Basker M, Moses PD, Russell S, Russell PS. The psychometric properties of Beck Depression Inventory for adolescent depression in a primary-care paediatric setting in India. Child Adolesc Psychiatry Ment Health 2007;1:8.

6. World Health Organization. Lexicon of alcohol and drug terms published by the World Health Organization .[Online]. [cited 2017 Aug 20]; Available from: URL: http://www.who.int/substance_abuse/terminology/who_lexicon/en/.

7. Levine RE, Litwins SD, Frye AW. An Evaluation of Depressed Mood in Two Classes of Medical Students. Acad Psychiatry 2006;30:235-7.

8. Chan DW. Depressive symptoms and depressed mood among Chinese medical students in Hong Kong. Compr Psychiatry 1991;32:170-80.

9. Clark DC, Zedlow PB. Vicissitude of depressed mood during four years of medical school. J Am Med Assoc 1988;260:2521-8.

10. Birmaher B, Ryan ND, Williamson DE, Brent DA. Childhood and adolescent depression: A review of the past 10 years, Part I. J Am Acad Child Adolesc Psychiatry 1996;35:1427-39.

11. Zoccolillo M, Murphy GE, Wetzel RD. Depression among medical students. J Affect Disord 1986;11:91-6.

12. Teri L. The use of the Beck Depression Inventory with adolescents. J Abnorm Child Psychol 1982;10:277-84.

13. Barrera M Jr, Garrison-Jones CV. Properties of the Beck Depression Inventory as a screening instrument for adolescent depression. J Abnorm Child Psychol 1988;16:263-73.

14. Ibrahim MB, Moataz H. Abdelreheem. Prevalence of anxiety and depression among medical and pharmaceutical students in Alexandria University. Alexandria J Med 2015;51:167–173.

15. Fábio, Traebert J, Mariana F, Pfützenreuter G, Lima VC, Traebert E et al. Prevalence of Anxiety and Depression among Medical Students. Rev. bras. educ. Med 2015;39(3):388-394.

16. Simin H, Zahra G. A survey Beck test in university stu-dents & its relationship between some related risk factors. Procedia Soc Behav Sci. 2011;28:558-62.

17. Baldassin S, Alves TCDTF, Andrade AG, Nogueira Mar-tins LA. The characteristics of depressive symptoms in medical students during medical education and training: a cross-sectional study. BMC Med Educ. 2008;8:60.

18. Vaidya PM, Mulgaonker KP. Prevalence of depression, anxiety and stress in undergraduate medical students and its correlation with their academic performance. Indian J Occup Ther 2007; 39:1-10.

19. Verbuegge LM. Gender and health: an update on hypothesis and evidence. J Health Soc Behav 1985;26:156–82.

20. Bostanci M, Ozdel O, Oguzhanoglu NK, Ozdel L, Ergin A, et al. Depressive symptomatology among university students in Denizli, Turkey: prevalence and sociodemographic correlates. Croat Med J 2005;46(1):96–100.