ORIGINAL ARTICLE
pISSN 0976 3325 | eISSN 2229 6816
Open Access Article
www.njcmindia.org

A Study on Prevalence and Factors Associated with the Depression among Medical Adolescent Students

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Financial Support: None declared
Conflict of Interest: None declared
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How to cite this article:
Vanitha SS, Javalkar SR. A Study on Prevalence and Factors Associated with the Depression among Medical Adolescent Students. Natl J Community Med 2018; 9(3):172-175

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Date of Submission: 29-11-17
Date of Acceptance: 09-03-18
Date of Publication: 31-03-18

ABSTRACT

Background: Depression in adolescents is an under recognized mental health problem because they are indecisive to disclose their feelings and seldom seek psychiatric help.

Objectives: The objectives were to determine the prevalence of depression in medical adolescents and to assess the factors contributing to depression in medical adolescents

Materials and methods: It was a cross-sectional one-time observational study using simple screening instruments for detecting early symptoms of depression in adolescents done in J. J. M. Medical College for a period of 3 months, the study subjects were all first MBBS adolescents given the consent were evaluated so as to eliminate any selection bias.A pre-designed and pre-tested questionnaire used to assess the factors that contributes to depression and Beck Depression Inventory scale was used assess the level of depression. Statistical analysis was done with chi-square/Fisher's Exact Test using SPSS version 16.

Results: Statistical association was found between depression and some of the contributing factors like parental support to children activities, family health status, academic performance by students, student felt discrimination by the teacher and those not actively involved in the sports and cultural activities.

Conclusion: This study suggests that there are certain contributing factors both in family and college academic stressors which predispose the medical adolescent students to psychological morbidity such as depression.

Key words: Beck Depression Inventory, depression, medical, adolescents.

INTRODUCTION

WHO defines adolescents as individuals aged 10-19 years, in India they account for 20% of the population.[1]An estimated 20% of the world's adolescents have a mental health or behavioural problem.[2]Depression is defined as a cluster of specific symptoms with associated impairment. The clinical and diagnostic features of the disorder are broadly similar in adolescents and adults.[3,4] Depression is the single largest contributor to the global burden of diseases in the age group 15-45 years.[2] Depression also leads to serious social and educational impairments, and an increased rate of smoking, substance misuse, and obesity. By the year 2020, depression is projected to reach second place ranking of Disability-Adjusted Life Year (DALY) calculated for all ages and sex.[5] Depression in adolescents is a major risk factor for suicide, the third leading cause of death in this age group, with nearly half of adolescent suicide victims reported to have a depressive disorder at time of death.

Depression in adolescents is an under recognized mental health problem because they may be indecisive to disclose their feelings and seldom seek

psychiatric help. Some researchers suggest higher rates of depression in adolescents in low-income and middle-income countries. Despite this increasing burden, research has focused almost exclusively on high-income countries. Adolescent depression may affect the teen's socialization, family relations, and performance at school, often with potentially serious long-term consequences. Adolescents with depression are at risk for increased hospitalizations, recurrent depressions, psychosocial impairment, alcohol abuse, and antisocial behaviours as they grow up.The clinical spectrum of the disease can range from simple sadness to a major depressive or bipolar disorder[6]. Studies have found that 3-9% of teenagers meet criteria for depression at any one time, and at the end of adolescence, as many as 20% of teenagers report a lifetime prevalence of depression[7].

Thus the present study is undertaken with the objectives to determine the prevalence of depression in medical adolescents and assess the factors contributing to depression in medical adolescents

MATERIAL AND METHODS

The present study was approved by institutional ethical committee. It was a cross sectional study conducted for a period of three months in J. J. M. Medical College, selected by lottery method. All the first MBBS adolescent students were given consent and were overtly healthy were included in the study. Adolescents suffering from any kind of chronic disease requiring prescribed medication and adolescents who had any past history of diagnosed mental illness were excluded from the study.

The pre-designed and pre-tested questionnaire was used to collect the students' socio-demographic data like age, sex, occupation of parents and contributing factors in family and school environment and habits of students.

Twenty-one-item Beck depression inventory (BDI) was our tool to measure depressive symptoms of the students.[8] Beck depression inventory (BDI) is a twenty-one-multiple-choice question self-report inventory. Each question has four possible answers. Each answer is given a score from zero to three, indicating how much the symptoms are severe. It is considered as one of the best used tools to assess depression and predict its severity. The questionnaire is best used for persons aged thirteen or more. BDI measures mood, pessimism, sense of failure, self-dissatisfaction, guilt, punishment, self-dislike, self-accusation, suicidal ideas, crying, irritability, social withdrawal, body image, work difficulties, insomnia, fatigue, appetite, weight loss, bodily preoccupation, and loss of libido. Items one to thirteen measure symptoms that are psychological in nature, while items fourteen to twenty-one measure more physical symptoms.

BDI scores were categorized into normal (1–10), mild mood disturbance (11–16), borderline clinical depression (17–20), moderate depression (21–30), severe depression (31–40) and extreme depression (more than 40).

The BDI has been used to detect the prevalence of depression among medical students. Although it is not designed for diagnostic purposes, its epidemiologic utility has been evaluated in several studies, which concluded that it is a reliable and valid instrument for detecting depressive disorders in general population. Many studies support the BDI's usefulness in measuring and predicting depression in adolescent.[9,10]

After obtaining written informed consent the questionnaire was given in the class and students were instructed how to fill the questionnaire in English language. Students were instructed not to write their names to maintain confidentiality.

The data was compiled in Microsoft (MS) Excel work sheet and statistical analysis was done using SPSS 16.Descriptive results were presented in percentages, for the most of the variables chi-square ($\chi 2$) test was applied, if 20% or more than 20% have expected count less than 5 then fisher's exact test was applied to test the statistical association between the contributing factors and depression. The p value <0.05 was considered statistically significant.

RESULTS

In the present study a total 149 medical adolescents were participated in which 71 (47.7%) were male and 78 (52.3%) were female, all the parents of the study subjects were literate, all the fathers were employed in various occupation, 48 (32.2) of mothers were employed. 109 (73.2%) study subjects belongs to nuclear family, 24 (16.1%) belongs to three generation family and 16 (10.7)were belongs joint family. 108 (72.5%) of study subjects were residing in hostel, 39 (26.2) were resides along with parents and 2 (1.3%) were resides in relative house.

In the present study using the Becks Inventory Scale the prevalence of depression among medical adolescents is 18.12%.Table 1 shows the distribution of study subjects according to the level of depression using Becks Inventory Scale.

The association between the various contributing factors and depression in medical adolescents were presented in Table 2.

Table 1: Distribution according to levels of depression (n=149)

Levels of depression	Frequency (%)
Ups and downs are considered normal	122 (81.9)
Mild mood disturbance	16 (10.7)
Borderline clinical depression	5 (3.4)
Moderate depression	5 (3.4)
Severe depression over	1 (0.7)
Extreme depression	0 (0)

Table 2: Association between contributing factors and depression

Variables	Depression (%)		P value
	No (n=122)	Yes (n=27)	
Sex			
Male	58 (81.7)	13 (18.3)	0.954
Female	64 (82.1)	14 (17.9)	
Mother occupation			
Unemployed	85 (84.2)	16 (15.8)	0.295
Employed	37 (77.1)	11 (22.9)	
Family type			
Nuclear	90 (82.6)	19 (17.4)	0.924
3 generation	19 (79.2)	5 (20.8)	
Joint	13 (81.2)	3 (19.8)	
Are you happy with your parents			
Yes	122 (82.4)	26 (17.6)	0.033
No	0	1(100)	
Residence			
With parents	34 (87.2)	5 (12.8)	0.461
Hostel	86 (79.6)	22 (20.4)	
Relative house	2 (100)	0	
Anybody sick in the family			
Yes	2 (22.2)	7 (77.8)	0.0001
No	120 (85.7)	20 (14.3)	
Any family debts			
Yes	28 (73.7)	10 (26.3)	0.129
No	94 (84.7)	17 (15.3)	
Any pressure to score marks in exam			
Yes	25 (73.5)	9 (26.5)	0.150
No	97 (84.3)	18 (15.7)	
Are you satisfied with your performance			
Yes	96 (85.7)	16 (14.3)	0.028
No	25 (69.4)	11 (30.6)	
Discrimination by teacher			
Yes	24 (70.6)	10 (29.4)	0.052
No	98 (85.2)	17 (14.8)	
Are you happy with the college			
Yes	107 (84.3)	20 (15.7)	0.071
No	15 (68.2)	7 (31.8)	
Are you actively participating in sports			
Yes	59 (92.2)	5 (7.8)	0.005
No	63 (74.1)	22 (25.9)	
Are you actively participating in cultural activities			
Yes	66 (88)	9 (12)	0.051
No	56 (75.7)	18 (24.3)	

In the present study the significant statistical association was between depression parental support to children activities and family health status and also the significant statistical association was found between depression and satisfaction with the academic performance by students, if the student felt discrimination by the teacher and those not actively involved in the sports and cultural activities.

DISCUSSION

A lot of researches reported depression among medical students specially in their first academic year as they are going to suffer from academic stressors such as information input overload, lack of leisure time and academic evaluation (exams and continuous assessments) and simultaneously need to adjust for new environment, for many students depression stimulates feeling of fright, lack of ability, anger and can be associated with psychological and physical morbidities.[11,12]Medical colleges has long been recognized as involving numerous stressors that can affect the well-being of students, depression is worldwide problems which reflect the mental health of the population. The mental status of medical students has been an important issue to be taken under consideration, reported in 1956[13], as it is more liable to be affected by several stressors such as examining stress which will in turn lead to a series of consequences at both personal and professional levels.

Only the few studies in India on depression in adolescent medical students using Beck depression inventory (BDI) scale to assess the prevalence of depression due adolescent factors many studies suggested depression common among adolescents and as they entered into medical profession as it is little stressful, further aggravates the depression in adolescents.

The prevalence of depression in the present study is similar to the study Sharma RC et al[14] and contradicts to the study Kumar, et al.[15]

In this study the prevalence of depression was comparatively more in male than females, this gender difference of depression was not statistically significant similar to Sharma RC et al[14] and Kumar et al[15] studies and contrast in comparison to studies[16,17]. This may be due to at present most of the medical adolescent students are happy with the medical profession they join recently.

This study showed no significant difference between depression and residence reason of which might be due to the above reason and hostel students are enjoying freedom from parental control and friendship with new culturally and regionally different friends.

In the present study it is seen that the use of alcohol, cigarette smoking and tobacco chewing did not affect the prevalence of depression similar to the study Sharma RCet al[14], even though we told to

maintain the confidentiality, the students may not be full expressed of their habits.

In the present study the significant statistical association was found between depression and some of the contributing factors included in the study like parental support to children activities, family health status, academic performance by students, if the student felt discrimination by the teacher.We also found significant statistical association between depression and those not actively involved in the sports and cultural activities, though we are unable to conclude that decrease sports and cultural activities leading to depression or because of depression they are not actively involved in sports and cultural activities, it seems like that depression and decrease sports and cultural activities are interlinked and forming a vicious cycle.

Limitations

The findings of this study are based on self reported information provided by students and some potential for reporting bias may have occurred because of respondents' interpretation of the questions or desire to report their emotions in a certain way or simply because of inaccuracies of responses.

CONCLUSIONS

This study suggests that there are certain contributing factors both in family and college academic stressors which predispose a medical student to psychological morbidity such as depression. This also helps in identifying the areas in which adolescents poses a difficulties to overcome the mental imbalance that later leads to depression, it not only suggest need of screening for depression but also helps in developing primary preventive measures for this vulnerable population before developing depression.

Acknowledgements

The author would like to thank the first MBBS medical students at J.J.M. Medical College for their participation in the study.

REFERENCES

1. Allen, J., Hauser, S., Eickholt, C., Bell, K. & O'Connor, T. Autonomy and relatedness in family interactions as predictors of expressions of negative adolescent affect. Journal of Research on Aolescence1994; 4, 535-552.
2. Bansal V, Goyal S, Srivastava K. Prevalence of depression in adolescent students. Ind Psychiatry J. 2009; 18(1): 43–46.
3. Thapar A, Collishaw S, Potter R, Thapar AK. Managing and preventing depression in adolescents. BMJ. 2010; 340:c209.
4. Lewinsohn PM, Pettit JW, Joiner TE Jr, Seeley JR. The symptomatic expression of major depressive disorder in adolescents and young adults. J Abnorm Psychol. 2003; 112:244–52.
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;9:8-12.
6. Son S.E, Kirchner J.T. Depression in children and adolescents. Am Fam Physician. 2000;62:22972308, 2311–2.
7. Zuckerbrot R.A, Jensen P.S. Improving recognition of adolescent depression in primary. Care Arch PediatrAdolesc Med. 2006;160:694–704.
8. A.T. Beck, C.H. Ward, M. Mendelson, J. Mock, J. Erbaugh An inventory for measuring depression Arch Gen Psychiatry, 4 (1961), pp. 561-571.
9. Teri L. The use of the Beck Depression Inventory with adolescents. J Abnorm Child Psychol. 1982;10:277-84.
10. Inam SNB, Saqib A, Alam E. Prevalence of anxiety and depression among medical students of private university. J Pak Med Assoc. 2003;53:44-47.
11. M. Bostanci, O. Ozdel, N.K. Oguzhanoglu, L. Ozdel, A. Ergin, et al. Depressive symptomatology among university students in Denizli, Turkey: prevalence andsociodemographic correlatesCroat Med, 46 (1) (2005), pp. 96-100
12. T. Eller, A. Aluoja, V. Vasar, M. VeldiSymptoms of anxiety and depression in Estonian medical students with sleep problemsDepress Anxiety, 23 (4) (2006), pp. 250-256
13. G. Saslow Psychiatric problems of medical students J Med Educ, 31 (1956), pp. 27-33
14. Sharma RC, Sharma DD, Kanwar N, Kanwar P, Singh B, Singh M. Prevalence of depression and its associated factors among medical students: a study using beck depression inventory. Int J Res Med Sci 2017;5:5036-40.
15. 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.
16. Marie D, Joneborg N, Runeson B. Stress and depression among medical students: A cross sectional study. Med Educ. 2005;39:594–604.
17. Modabber-Nia MJ, Shodjai-Tehrani H, Moosavi SR, Jahanbakhsh-Asli N, Fallahi M. The prevalence of depression among high school and pre university adolescents: Rasht, Northern Iran. Arch Iran Med. 2007;10:141–6.