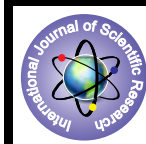


Prevalence of Depression among Medical and Engineering students, Bellary, Karnataka, India



Medical Science

KEYWORDS : BDI, depression, medical students, adolescents

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ABSTRACT

Background: Adolescence is transformation of a child to a fully fledged individual. It is a period in which individual develops physically, socially and psychologically. It is in this period in which, due to lack of mental strength and stability, a person develops a serious mental health disorder called depression.

Methods: A sample of 1275 students was assessed using Beck Depression Inventory by investigators. This assessment was done among medical and engineering students of Bellary, Karnataka Results: The overall prevalence of depression was found to be 64.9%. Among those with depression, a majority had mild and moderate degree of depression. Conclusion: Depression is highly prevalent among medical and engineering students in this area. Our findings point to the importance of broad screening and psychiatric counseling of this vulnerable population.

Introduction:

Non-communicable diseases such as mental disorders may replace infectious and communicable diseases as the leading factor in disability and premature death. One of the mental disorders which have a particularly high prevalence is depression¹. Depression has been considered to be the major psychiatric disease of the 20th century². The World Health Organization identified major depression as the fourth leading cause of worldwide disease in 1990³. This suggests that depressive disorders may become the second most disabling disease of mankind by the year 2020⁴.

Depression is a universal mental disorder, whose main problem is the change in mood. Depression is a syndrome characterized by a group of symptoms with changes in one's mood (sadness, guilt), behavior (isolation), thought and perception patterns (less concentration, less self-esteem), with physical complaints (sleep, hunger, sex) and high risk of suicide⁵. Studies have shown that one in five children and adolescents are affected by mental health problems and disorders and that the highest prevalence is between 18 and 24 years of age. The period of youth is a time of contradictions when a person goes through many changes and experiences such as emotional, behavioral, sexual, economic, academic, and social, and as well as efforts of discovering one's identity with psychosocial and sexual maturation⁶.

Depressive symptoms have been identified as a health problem among college or university students in many countries¹. Though there is high prevalence of depressive symptoms in student populations, little is known about their association with specific aspects of student life¹. 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 student⁷. The fact that the adaptive capacities of medical students are hampered by psychiatric disorders, especially depression, is well documented in the literature⁸. Medical students are expected to learn and master a huge amount of knowledge and skills. The personal and social sacrifice they have to make in order to maintain good academic results in a highly competitive environment puts them under a lot of stress⁷. Evidence that medical students are subjected to considerable stress has been reported over the last decade. There is evidence that emotional disorders, especially depression in the medical school, result in some problems for physicians in future, which in addition to the personal suffering for them, it might negatively affect patient care⁹.

Methodology:

The intent of the study was to assess the prevalence of depression among medical and engineering students. The participants were selected randomly from the Vijayanagar Institute of Medical Sciences and from the Bellary Engineering College, medical

and engineering colleges in the district of Bellary, Karnataka, respectively. A cross sectional study was conducted with a sample size of 1275 students (731 males and 544 females) studying in first, second, third and fourth years in both the colleges, during 2013.

Depression was screened based on the data collected using a questionnaire prepared on the basis of a standardized depression scale with 21 items, Beck's Depression Inventory 1 (BDI 1), which includes factors like sadness, guilt feeling, suicidal ideation, changes in appetite and sleep pattern etc. It was designed to document a variety of depressive symptoms the individual experienced over the preceding two weeks. The reasons behind choosing a multiple-choice questionnaire (BDI) are to limit the responding time, and to elicit more specific and objective answers.

The permission for the study was obtained by making a petition prior to collecting data by contacting and receiving approval from the Principals of respective institutions. Questionnaires were distributed in a class at one-time, followed by a full explanation of the reasons for the implementation of the study. Participants were assured of the confidentiality of their responses and provided informed verbal consent. Signed consents were also taken from the respondents. Special attention was paid to ensure that the students clearly understand the instructions about answering the questionnaire. In addition, they were asked not to write their name or student number on the questionnaire in order to encourage them to provide more open and honest answers. The students were given enough time to complete and return BDI. The filled forms were collected in the same session. Repeated anonymous sampling was avoided to prevent duplicate sampling of individual participants.

Results:

Table.no1: Frequency of depression in study population based on BDI

Depression	Frequency	Percent
Yes	827	64.9
No	448	35.1
Total	1275	100.0

Table 1 gives the frequency of depression in study population of 1275 students, in which 827 (64.9%) were depressed and remaining 448 (35.1%) of them were without any depressive symptoms.

Table.no2: Frequency of depression according to Beck's grading

Beck's Grading	Frequency	Percent
Normal	448	35.1
Mild Mood disturbance	323	25.3
Borderline Clinical Depression	171	13.4
Moderate Depression	236	18.5
Severe Depression	84	6.6
Extreme Depression	13	1.0
Total	1275	100.0

The above table summarizes about the frequency of depression according to Beck's grading, in which 448 (35.1%) were found to normal, 323 (25.3%) of them were under mild mood disturbance, 171 (13.4%) of them fell under category of borderline clinical depression, 236 (18.5%) of them moderately depressed, 84 (6.6%) of them were under severe depression and 13 (1%) of them were extremely depressed in the total study population of 1275.

Discussion:

In the present study, the BDI has been utilized to detect the prevalence of depression among medical and engineering stu-

dents. Its epidemiologic utility has been evaluated in several studies, which concluded that it is a reliable and valid instrument for detecting depressive disorders in non-clinical populations. Several studies support the BDI's usefulness in measuring and predicting depression in adolescent samples^{9,10}.

Our study found that 64.9% of students are depressed and the spectrum of depression revealed that 6.6% are in severe Depression

Prevalence rates of depression are estimated to range from 15% to 66% in various studies^{11,12,13}. Among Chinese medical students in Hong Kong found that around half of the medical students are depressed¹³. In contrast, a study done in Pakistan found that the prevalence rate varied from 49% to 66% among medical students¹⁴. Another study has shown that 39.4% of the medical students are depressed by using the instrument Depression Anxiety Stress Scale¹⁵. A study among adolescents in India showed the prevalence among college going girls as 29%¹⁶. Another study done in Iran among high school and Pre-University students found out that 34% of them were depressed according to cut- off score of BDI 16¹⁷. The present study has shown that the prevalence of depression is higher among medical students compared to the above studies.

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