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Research article

STUDY OF DEPRESSION AMONG ADOLESCENT STUDENTS OF RURAL MAHARASHTRA AND ITS ASSOCIATION WITH SOCIO-DEMOGRAPHIC FACTORS: A CROSS-SECTIONAL STUDY

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ABSTRACT

Introduction: Depression is the most common psychiatric disorder that appears in adolescents. It has an adverse effect on physical as well as mental health. Many adolescents remain undiagnosed due to no accessibility to clinics. **Objectives:** To study demographic factors and their association with depression among adolescents of rural Maharashtra. **Methods**: A cross sectional study was conducted on 300 students (30 of either sex from 8th to 12th class). 6 item KADS (Kutcher Adolescent Depression Scale), BG Prasad's modified socioeconomic scale and demographic data were collected from volunteers. **Results**: 6.66% of students were screened positive for depression by the scale. No statistical difference was found in number of students with depression with respect to sex, class and socioeconomic status. However the residence and type of family showed significant difference in number students of depression. **Conclusion**: the KADS is a good screening tool for depression and should be implemented for adolescents studying in rural areas for prevention and early treatment of depression.

Keywords: Depression, Socioeconomic scale, Rural, Kutcher Adolescent Depression Scale, BG Prasad's modified socioeconomic scale.

INTRODUCTION

Depression is a state of low mood and aversion to activity that can affect a person's thoughts, behaviour, feelings and sense of well-being.[1] Depressive disorders tend to first appear in adolescence or early adulthood.[2,3] One in every five adolescents is likely to experience a diagnosable depressive episode by the age of 18.[4,5]

Depressed people feel sad, anxious, empty, hopeless, worried, helpless, worthless, guilty, irritable, hurt or restless. They may lose interest in activities that once were pleasurable, have problems concentrating, remembering details, or making decisions, and may contemplate, attempt, or commit suicide. Depression can also present as somatic disturbances like Insomnia, excessive sleeping, fatigue, loss of energy, or aches, pains, or digestive problems that are resistant to treatment may also be present.[6,7]

The socio-demographic factors of age, gender, education and income have been identified as important factors in explaining the variability in the prevalence of depression. [7]

About 11% of adolescent have a depressive disorder by age 18 according to National Co-morbity Survey-Adolescent Supplement (NCS-A). Depression is more in girls depression than boys. [8]

Cash et al. found that up to 60% of adolescent suicide victims suffered from depression at the time of death[9].

Low socioeconomic status is generally associated with high Psychiatric morbidity, more disability and poorer access to health care. Among Psychiatric disorders, depression exhibits a more controversial association with socioeconomic status. [10] A survey was planned to study the socio-demographic factors and their association with depression among adolescents of rural Maharashtra.

MATERIAL AND METHODS

A cross sectional study was conducted to evaluate socio-demographic factors and their association with depression among adolescents of rural Maharashtra. The subjects of the study were students from School and junior college from Pravaranagar, Ahmednagar. IEC approval was taken before the commencement of study. 300 students willing to participate were enrolled into the study from 8th to 12th class (30 males and 30 females from each class). Students of either sex in the age group of 12-18 years and willing to give written informed consent were taken in the study. Data were collected at pre-tested structured pro forma from each study subject. Questionnaire included the 6- Item Kutcher Adolescent Depression Scale (KADS) [11,12], age, gender, standard, religion, hosteller or day scholar, type of family, education and occupation of father and mother and socioeconomic status (by BG Prasad's modified socioeconomic scale) of family. Informed and written consent were taken from Principal as well as informed verbal consent was taken from students before filling questionnaire. Duration of the study was 2 months.

The KADS tool is a self-report scale and is meant to be completed by the young person following direction from the health provider, educator or other responsible person.

The KADS is scored using a zero to three systems with "hardly ever" scored as a zero and "all of the time" scored as a three.

Total scores at or above 6 suggest 'possible depression' and a need for a more thorough assessment. The total score below 6 -Indicate 'probably not depressed' **Statistical Analysis**: Data collected were pooled, tabulated, and subjected to Chi square test.

RESULTS

In this study responses of survey questionnaire were received from 300 adolescents from 1st February 2014 to 31th March 2014.

Out of 300 adolescents 20 (6.66%) were suggested the possibility of depression. There is no statistical difference in depression with respect to sex of the students (Table 1). The number of students with depression was not significantly different in the classes of 10th and before (8th and 9th) as compared to students of class 11th and 12th (Table 2). Table 3 and Figure 1 show that there is significant number of students of depression living in hostel as compared to the day scholars. A statistical difference is also seen in the students that belong to nuclear family with that to joint family (Table 4). Table 5 shows association between depression and Socioeconomic Status (B G Prasad's socioeconomic scale) of family. No statistical significance was found among the students belonging to different socioeconomic classes. Table 6 shows Frequencies of answers to individual KADS items in percentages. The last item on the KADS is very sensitive to suicide risk and was answered as "much of the time" by 5% adolescents.

Table: 1Association between Depression (by KAD-6 scale) and Gender

Gender	Depressed	Not Depressed	Total
Boys	6(4%)	144(96%)	150(50%)
Girls	14(9.33%)	136(90.67%)	150(50%)
Total	20(6.66%)	280(93.43%)	300(100%)

χ^2=1.131, P=0.1052

Table:2 Association between Depression(by KAD-6 scale) and class

Class	Depressed	Not Depressed	Total
8th to 10th	11	169	180
11th & 12th	9	111	120
Total	20	280	300

χ^2=0.055, P=0.81

Table:3 Association between Depression(by KAD-6 scale) and Residence

	Depressed	Not Depressed	Total
Day Scholar	10(4.48%)	213(95.5%)	223(100%)
Hostelite	10(13%)	67(87%)	77(25.66%)

P value = 0.0157 by Fisher's Exact Test

Table:4 Association between Depression(by KAD-6 scale) and Type of Family

Type of Family	Depressed	Not Depressed	Total
Nuclear	10(3.33%)	104(34.66%)	114(37.99%)
Joint	10(3.33%)	176(58.66%)	186(61.99%)
Total	20(6.66%)	280(93.34%)	300(100%)

χ^2=0.43, P=0.0389

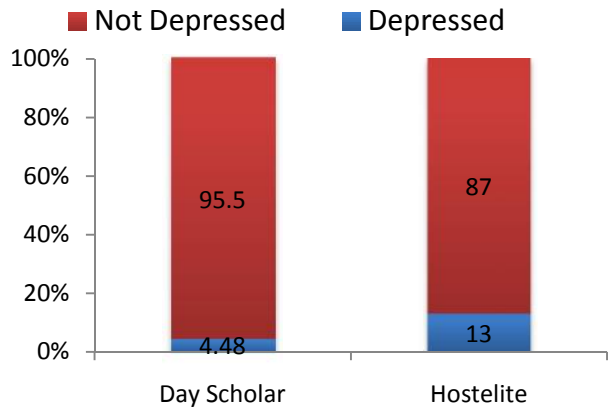

Figure 1: Association between Depression (by KAD-6 scale) and Day Schooler/Hostelites

Table:5 Association between Depression(by KAD-6 scale) and Socioeconomic Status

Class	Depressed	Not Depressed	Total
Upper Class	8(2.66%)	166(55.33%)	174(58)
Upper Middle	5(1.66%)	64(21.33%)	69(23%)
Lower Middle	4(1.33%)	20(6.66%)	24(8%)
Upper Lower	3(1%)	27(9%)	30(10%)
Lower Class	0(0%)	3(1%)	3(1%)
Total	20(6.66%)	280(93.34%)	300(100 %)

χ^2=Chi-squared for trend = 0.2878 (1 degree of freedom), P= 0.5916.

Table: 6 Frequencies of answers to individual KADS items in Percentages (n=300)

Items	Hardly Ever	Much of the time	Most of the time	All of the time
Sadness	85	28	5.6	0
Hopelessness	48.3	15.3	3	3
Tiredness	62.3	31.3	2.6	3.6
Difficulties in life	79.6	14	6.3	0
Worry	72.3	19.3	4.6	3.6
Suicidal thoughts	95	5	0	0

DISCUSSION

Depression is a mood disorder which is divided into depressive disorders, bipolar disorder and depression associated with medical illness or substance abuse. Diagnosis of depression is based on criteria which consist of symptoms and their duration. The treatment of depression is psychotherapy, drug treatment or both. Psychotherapy involves cognitive and behavioral therapy. Tricyclic antidepressants, selective serotonin reuptake inhibitors, serotonin and noradrenaline reuptake inhibitors and newer atypical antidepressant form the drug treatment of depression.[11]

There are three different KADS scales: the 6-item, the 11-item and the 16 item. The 16 item is designed for clinical research purposes while the 11-item KADS is designed for use in clinical settings in which health providers treat young people who have depression.

The 6-item KADS is designed for use in institutional settings (such as schools or primary care settings) where it can be used as a screening tool to identify young people at risk for depression or by trained health care providers (such as public health nurses, primary care physicians) or educators (such as guidance counselors) to help evaluate young people who are in distress or who have been identified as possibly having a mental health problem.[12,13]

It has sensitivity for depression of over 90 percent and specificity for depression of over 70 percent – putting it into the top rank of self-report depression assessment tools currently available. A score of six or greater is consistent with a diagnosis of Major Depressive Disorder and should trigger a more comprehensive mental health assessment of the young person.

The last item on the KADS is very sensitive to suicide risk. Any young person scoring one or higher on the last item should have a more thorough suicide risk assessment.[12,13] Depression can be prevented in high risk adolescents by problem solving for life intervention and Penn-Resiliency Program conducted in school, family and adolescent's psycho education, cognitive and behavioral therapy.[14]

Studies done by Black G et al[15]AND Mojs E et al[16]using KADS, reported depression in 18% AND 6% of students respectively. In our study depression was observed in 6.66% of students which is similar to

study conducted by Mojs E et al[16] while three times less as compared to study conducted by Black G et al[15].

In a study conducted by Chen et al[17], using Beck Depression Inventory in Chinese university students, it was found that there was no statistical differences in the incidence of depression in males and females[17].

Study by Chen et al[15]and Sarkar J et al[18]reported more number of students depressed belonging to higher family income while study done by Mojs E et al[16] reported more number of students depressed who belong to lower income group. In our study, no statistical difference was found in students belonging to different socioeconomic strata.

Sarkar J et al[18] and Mojs E et al[16] found a significant difference in depression in students residing in hostels that those residing at homes. Our study supports the findings of these studies.

A study done by Chen et al [(15)] showed a difference in depression in students belonging to different classes. In our study, no such difference was found when the classes below tenth and that above tenth were compared.

Nuclear family system is a strong independent predictor of depression.[19] In present study it is found that in depression is more common in nuclear than in Joint family. The finding of our study supports this study.

Thoughts, plans or actions about suicide or self-harm, this item on the KADS is very sensitive to suicide risk. 5% adolescents were sensitive to suicide risk in the rural area of Maharashtra. In a study conducted by Mojs E et al[16], 1.1% were sensitive to suicide risk. The difference found in our study as compared to other studies could be due to a small sample size being a student project of short duration, which was a limitation of the present study. Yet the findings of the study suggest that depression is common among students.

CONCLUSION

Depression is common in the adolescent population. Because the adolescents are deprived of regular clinical assessment due to scarcity of facilities, the KADS questionnaire is a good screening tool. It is also necessary to assess the students by such questionnaires and if required, by psychiatrists for any subclinical depression that could be prevented earlier. This would help to prevent and manage depression among adolescents of rural Maharashtra.

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Conflict of Interest: Nil

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