

## SHORT ARTICLE

**Prevalence of depression & assessment of risk factors among school going adolescents**Arun Vashisht<sup>1</sup>, Nabeel Ahmed Gadi<sup>2</sup>, Jagjeet Singh<sup>3</sup>, Moushumi Puryakastha<sup>4</sup>, Rambha Pathak<sup>5</sup>, Prabhaker Mishra<sup>6</sup><sup>1</sup>Post Graduate Student, <sup>2</sup>Post Graduate Student, <sup>3</sup>Professor & Head, <sup>4</sup>Associate Professor, Department of Psychiatry,<sup>5</sup>Associate Professor, <sup>6</sup>Assistant Professor, Department Community Medicine, M M Institute of Medical Sciences & Research, Mullana, Ambala, India

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**Abstract**

**Background:** Adolescents comprise nearly one-fifth of the total population of India. Undiagnosed adolescent depression can have potentially long term serious consequences along with increased risk of suicide. **Objectives:** To find out the prevalence of depression among school going adolescents and the socio environmental risk factors associated with it. **Materials and Methods:** A cross sectional study was carried out among 1632 school going adolescents (13-19yrs) in the rural and urban areas of district Ambala. Two pretested questionnaires were used. Depression subscale of Symptom Check List 80 (SCL 80) was used for ascertaining the prevalence of depression and a self-report questionnaire to assess effect of socio-environmental factors. **Results:** 29.9% adolescents had evidence of depression having cut off score > 13 in depression subscale of SCL 80. Most of the students in depression syndrome group were found to be suffering from mild category 22.9% followed by moderate category 7%. Depression was found to be associated with increasing age, low socio economic status and urban students. **Conclusion:** Regular screening of adolescents for depression and strengthening of school health services could provide the impetus for detection, prevention & management of adolescent depression.

**Key Words**

Adolescent; Depression; SCL 80; School Health

**Introduction**

Mental disorders are among the most burdensome of all classes of disease because of their high prevalence, chronicity, early age of onset and resulting serious impairment and disability. [1] Worldwide mental disorders accounted for 12% of all Disability Adjusted Life Years (DALYs) lost in 1998. [2] They account for 10% of global burden of disease and expected to rise to 15% by 2020. [3] Adolescents comprise nearly one-fifth of the total population (21.8%) of India. [4] Of late, there has been a rise in the prevalence of mental illness and maladaptive behaviors among adolescents. Among all the mental health problems depression causes significant morbidity in adolescents. [5] The objective of this research was to study the extent & nature of depression in school going adolescents and to study psychosocial correlates.

**Aims & Objectives**

1. To find out the prevalence of depression among school going adolescents.

2. To find out the socio environmental risk factors associated with depression in the study group.

**Methods**

**Study design:** Cross sectional observational study for detecting the symptoms of depression among 1632 school going adolescents studying in 8<sup>th</sup> to 12<sup>th</sup> standard were evaluated from 19 schools located in the rural & urban field practice area of MMIMSR, Mullana.

Stratified random sampling technique was used for sample collection and sample size was decided taking into account the

- Prevalence of psychiatric morbidity.
- Confidence limit of 95%
- Margin of sampling error 10%

To work out the required sample size the following equation was applied  $n = 4pq/L^2$  Where, n= Minimum sample size required, p= Expected prevalence rate, q=100-p, L= Allowable error in %.

Literature review reveals that the prevalence of psychiatric morbidity among school going adolescents in India is in the range of 17.9% [6] by Ahmad et al to 20.2% [7]. Since no such figure is available for Haryana (Ambala), the sample size was calculated by presuming the prevalence of psychiatric morbidity to be 19.05% (mean of reported prevalence in India). The sample size came out to be 1632.

**Study period:** - The study was carried out over a period of one and a half years i.e. from Jan 2012 to Jun 2013.

**Study Tool:** - Two pretested questionnaires were used.

- 1) Symptom Check List 80 (SCL 80) [8], a self-reporting questionnaire was used to screen students. Scoring of depression subscale of SCL 80 was used for ascertaining the prevalence of depression.
- 2) A self-designed self-report questionnaire to assess effect of socio-environmental factors on psychiatric morbidity.

**Inclusion criteria:**

1. Adolescents (13-19 years) studying in 8<sup>th</sup> to 12<sup>th</sup> standard.
2. Willing to participate in the study.

**Exclusion criteria:**

1. Students who did not fill the Performa thoughtfully.
2. Not willing to participate in the study.

Association between depression and different attributes was assessed by using Pearson chi-square test. All the data was analyzed using SPSS 20.

## Result

1632 students were in the 13-19 year age-group and had responded legibly, without omitting any problem items and these were the subjects for the study. 68 students were excluded as they were either below 13 years or 20 years or above or had skipped more than 5 items in the problem items of SCL-80. Out of 1632, 945(57.9%) students belonged to rural and 687(42.1%) belonged to urban area.

Males comprised 54.2% (885) and females were 45.8% (747) of study subjects. The age ranged from 13-19 years with a mean (SD) of 15.7 (1.57). 51.6% (842) students belonged to nuclear family and 48.4% (790) belonged to joint family. Distribution of study subjects by academic standard varied from 164(10%) in class 8<sup>th</sup> to 472 (28.9%) in class 12<sup>th</sup>. 47.4% of the students were studying in 8<sup>th</sup> to 10<sup>th</sup> and remaining 52.6% were studying in 11<sup>th</sup> and 12<sup>th</sup>. 29.9%(488) adolescents had evidence of depression having cut off score > 13 in depression subscale of SCL 80. Most of the students in depression syndrome group were found to be suffering from mild category 22.9% (373) followed by moderate category 7% (115). No students were found to be suffering from severe grade of depression. Males 30.1% (266) had higher prevalence than females 29.7% (222) [ $p=0.88$ ]. 19yrs and above age group had highest

prevalence (59.6%) of depression followed by 18-19yrs and 17-18yrs age groups (46.4% and 35.3% respectively) [Table 1]. Depression was minimum in the age group 13-14 yrs. Trend of rising prevalence was seen with increase in age [ $p<0.001$ ]. Prevalence was higher in students of government schools 322(30.5%) compared to students of private schools 166(28.9%) [ $p=0.51$ ]. Prevalence was higher in students of urban area 266(38.7%) [Table 2] compared to students of rural area 222(23.5%) [ $p<0.001$ ]. In the distribution of depression as per socio-economic status represented by Modified B.G. Prasad's Classification April 2013 [9], prevalence was highest in students belonging to class V (56.0%) compared to classes IV,III&II (40.0%), (32.0) & (30.0%) respectively [Table 3]. Least prevalence was present in class I (10.2%). There was a trend of higher prevalence in lower socio-economic classes ( $p<0.001$ ). Factors like fathers love, relationship between parents, punishment at home, chronic illness in family, type of family, school performance, parents having addiction to drug were not found to be associated with depression ( $p > 0.05$ ).

## Discussion

In the present study, the prevalence of depression among school- going adolescents was found to be 29.9% (488). Result is within the range of prevalence stated by Robert's et al [10] (6% to 41%) in a meta-analysis of 52 studies done in 20 countries of the world. Mishra et al [11] in a study among adolescent girls in Delhi reported prevalence of 13.76% with the highest proportion of internalizing syndrome (18%) followed by neither externalizing nor internalizing (10.1%) and externalizing syndrome comprising 4.95% of mental health problems. This difference could be due to different gender composition of two study populations. Bansal et al [12] in a study among public school adolescents of 9<sup>th</sup> std using Becks Depression Inventory as instrument reported 18.4% prevalence of depression. This difference from the present study could be due to the varying age composition & difference in sensitivity of screening instruments. Similar result was observed by Pathak et al [13] in a study conducted among adolescents using Achenbachs Youth Self Report as screening instrument where internalizing syndrome (28.6%) was the most common problem. The reason for rising prevalence with age in the present study could be due to the fact that from early to late adolescence many dramatic physical, emotional and lifestyle changes occur in their life. The pattern is similar to that reported by Cohen et al [14] who observed that the prevalence of psychiatric morbidity increased in the 14 to 16 years old groups compared to those in 10- 13 years of age. According to them, this rise could be attributed to post pubertal changes in the adolescents. However, the pattern

seems contrary to that observed by Steinhausen et al [15] who reported a significantly higher prevalence of psychiatric morbidity in 10 to 13-year-olds as compared to 14 to 17-year-olds. The reason for such variation can be different age group they have studied and the earlier completion of adolescence and onset of adulthood in the western societies. Higher prevalence depression syndromes in lower socio-economic classes could be due to the reason that life circumstances and struggle for basic amenities expose them to more stressors with fewer resources to manage their problems. Rhee et al [16] in United States reported higher prevalence of symptom clusters among adolescents of families on welfare.

## Conclusion

There's an urgent need to strengthen school health services with a system of screening for psychiatric morbidity & subsequent management of mental health problems. Cost effective interventions should be developed to prevent these problems in adolescents. It also seems imperative to have a post of counselor in every school which can play a vital role in identification of adolescents suffering from depression acting as liaison between school, home and mental health services.

## Recommendation

For primary prevention, cordial atmosphere in family, healthy school environment, presence of literature regarding mental health problems in school libraries and routine screening can play a vital role. For secondary prevention specialist services of psychiatrist and availability of treatment centre's at least one per district.

## Authors Contribution

AV: Principal investigator of study, NAG: Helped in data collection and data compilation, JS: Supervised the study, MPM & RP: Study design and methodology, PM: Data analysis.

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## Tables

**TABLE NO. 1 AGE-WISE DISTRIBUTION OF DEPRESSION AMONG STUDY SUBJECTS**

AGE GROUP (YEARS)	PRESENT	ABSENT	TOTAL
13-14 yrs	6(3.7%)	158(96.3%)	164
14-15 yrs	74(27.1%)	199(72.9%)	273
15-16yrs	88(29.8%)	207(70.2%)	295
16-17yrs	105(29.7%)	248(70.3%)	353
17-18yrs	129(35.3%)	236(64.7%)	365
18-19yrs	58(46.4%)	67(53.6%)	125
>19yrs	34(59.6%)	23(60.4%)	57
<b>Total</b>	<b>488(29.9%)</b>	<b>1144(70.1%)</b>	<b>1632</b>
(χ <sup>2</sup> = 116.4, df=6, p<0.001)			

**TABLE NO. 2 DISTRIBUTION OF DEPRESSION AS PER RESIDENCE**

LOCALITY	DEPRESSION				Total
	PRESENT	Percent	ABSENT	Percent	
RURAL	222	23.5	723	76.5	945
URBAN	266	38.7	421	61.3	687
TOTAL	488	29.9	1144	70.1	1632
(χ <sup>2</sup> = 44.0, df=1, p<0.001)					

**TABLE NO. 3 DISTRIBUTION OF DEPRESSION AS PER SOCIO- ECONOMIC STATUS**

SES	DEPRESSION				Total
	PRESENT	Percent	ABSENT	Percent	
I	31	10.2	274	89.8	305
II	146	30.0	341	70.0	487
III	181	32.0	384	68.0	565
IV	60	40.0	90	60.0	150
V	70	56.0	55	44.0	125
TOTAL	488	29.9	1144	70.1	1632
(χ <sup>2</sup> = 105.8, df=4, p<0.001)					