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Original Research Article

A cross-sectional study on depression among school going adolescent girls in Barabanki district, Uttar Pradesh, India

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ABSTRACT

Background: Depression is one of the common and ignorant psychiatric problems in adolescents now days. It has profound adverse effect on their physical as well as mental health. The objective of this study was to study the prevalence of depression among school going adolescent girls.
Methods: A cross sectional study was conducted among 336 school going adolescent girls in Barabanki district from June 2016 to September 2016. Multistage sampling was used to enroll the study subjects. Bio-social parameters such as age, socioeconomic status etc. were assessed by direct interview of adolescent girl as well as its confirmation with school records. Six items KADS (Kutcher Adolescent Depression Scale) was used for assessment of depression among adolescent girl.
Results: Out of 336 adolescent girls screened 18.7% were found positive for depression. Lower socio-economic status was found as one of the independent predictor of depression. Girls belonging to lower socioeconomic groups (odds ratio ([OR] 2.08; 95% confidence interval [CI] 1.18-3.21; p = 0.03) were more susceptible for depression. However on multiple logistic regression no statistical association was observed between depression with respect to age group, class, religion, caste and mothers education, and type of family (p>0.05).
Conclusions: The study highlights need for timely diagnosis and treatment of problem through school based periodic screening programmes. There is also need of increasing awareness among teachers and parents about depression.

Keywords: Adolescent, Depression

INTRODUCTION

Depression is one of the common and ignorant psychiatric problems amongst adolescents. It has profound adverse effect on their physical, social as well as mental health. Adolescence is a transitional developmental period characterized by pronounced biological as well as social changes.[1,2] Puberty along with brain and cognitive maturation leads to enhanced social understanding and self-awareness.[3] Developmental transition in brain circuits involved in responses to reward and danger, and increased stress levels are reported comparatively higher in girls.[4,5] According to World Health Organization, the depressive disorders are priority mental health disorders of adolescents due to its high prevalence and associated complications and other health related implications.[6] Globally the prevalence of depression among the adolescents ranges between 15-20% with recurrence rate about 60-70 percent.[7,8] This often results in suicide, school dropout, substance abuse, pregnancy, overeating and obesity and on long term gets progressed to adult depression.[9,10] In India in primary

care paediatric settings, the prevalence of depression is reported about 11.2%.[11] However about 50% of depressed adolescents are not diagnosed in primary care settings.[12] The effect of adolescent depression has profound effect on teen's socialization, interpersonal relationships, and academic performance at school. They are often at higher risk for increased hospitalizations, recurrent depressions, psychosocial impairment, substance abuse, and antisocial activities and as they grow up the most devastating outcome being suicide, which is the third leading cause of death among older adolescents.[13] This study therefore aimed to estimate the prevalence and factors associated with depression among adolescent girls. This type of study will enlighten about the mental status of adolescents girls and could play an important part in planning and implementation of services and interventions, if required.

METHODS

The present study was conducted in government and private schools and inter-colleges of the Barabanki district, Uttar Pradesh, India.

Cross-sectional study were design. Participants of this study was school going girls aged 10-19 years. Duration of this study was June 2016 to September 2016.

Based on assumption and taking the pooled prevalence of depression among adolescent girls as 30%; and an absolute precision of 5%, the total sample size required was calculated to be 336 (formula used: n = 4pq/d2; where n = sample size, p = prevalence of depression, q = 1-p, and d = absolute precision).[14]

Sampling technique

Multistage sampling method was used in the study. A list of schools and junior colleges was obtained from DEO (District Education Office). Equal representation from government and private institutions was ensured. 3 blocks were taken from Barabanki district. One school and one intercollege were taken from each of the respective block by simple random sampling. Randomization of study subjects was ensured for each class and division by using simple random sampling without any replacement, taking class attendance register as reference during the day of visit.

Data was collected using pre-tested structured proforma from each study subject. Bio-social parameters such as age, socioeconomic status etc. were assessed by direct interview of adolescent as well as its confirmation with school records.

Assessment of depression

Depression among adolescent was assessed using 6 - Item Kutcher Adolescent Depression Scale (KADS). The Kutcher Adolescent Depression Scale (KADS) is specifically designed to diagnose and assess the severity of adolescent depression. 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'. The total score below 6 -Indicate 'probably not depressed.[15]

RESULTS

Biosocial characteristic of study population

The mean age of the 336 adolescent girls was 14.3±3.1 years. Almost half of the adolescent girls (55.6%) under study were in age group 10 - 13 years. Majority (67.2%) belonged to nuclear families. Almost equal representative sample was taken from urban and rural areas. Most of the adolescent girls belong to Hindu religion. About half of the girls belonged to other backward castes (48.8%); followed by general and schedule caste/tribes category (39.2% and 11.9% respectively. About two-third of adolescent girls belonged to upper lower and below socio -economic status.

Prevalence and factors associated with depression among school going adolescent girls

Out of 336 adolescent, 56 (16.6%) were suggested the possibility of depression. On univariate analyses educational status of the mother (p = 0.00), upper lower and below socio-economic status were found to be significantly associated with depression. Although the proportion of adolescent girls with the possibility of depression were comparatively higher among mid and late adolescent age-group, those who belonged to nuclear family, residing in rural areas, belonging to OBC and SC/ST category; but the association was found statically insignificant. Multivariate logistic regression revealed that depression was significantly associated with lower socio-economic status. (OR 2.08; 95% CI 2.08 (1.18-3.21); p = 0.03).

Table 1: Distribution of school going adolescent girls on the basis of depression by KAD-6 scale.

Depression	Number	Percentage
Absent	280	83.3
Present	56	18.7

Kutcher adolescent depression scale (KAD-6 scale).

DISCUSSION

The findings form this study gives us an estimate of the proportion of adolescents with possibility of depression. The prevalence of depression was found to be 18.7%. This was quite higher as reported by Umesh et al; where 6.6% of the adolescent were screened positive for depression by KADS.[16] However, the prevalence was much lower as reported in other Indian studies.[17,18] Although, the results are comparable to the reported by Black G et al.[19] These variations might be due to

difference in the baseline characteristics of the study population conducted in different geographical regions or may be attributed to the difference in method for the assessment of depression. In line with the other studies, in current study proportion of adolescent who were older were having more probability of depression.[18,20,21]

Table 2: Univariate and Multivariate analysis of the factors associated with depression among school going adolescent girls (by KAD-6 scale).

Variables		Total	Depression				Unadjusted OR (95% CI)	Adjusted OR (95% CI)
			Absent		Present			
			(n = 280)	%	(n = 56)	%		
Adolescent (years)	14-19 (Mid and late adolescents)	149	121	81.21	28	18.79	1.31 (0.74-2.27)	NA
	10-13 (Early adolescents)	187	159	85.03	28	14.97	Reference	
Type of family	Nuclear	226	185	81.86	41	18.14	1.40 (0.74-2.60)	NA
	Joint	110	95	86.36	15	13.64	Reference	
Residence	Rural	167	134	80.24	33	19.76	1.54 (0.85-2.66)	NA
	Urban	169	146	86.39	23	13.61	Reference	
Educational status of mother	Illiterate	116	87	75.00	29	25.00	2.38 (1.35-4.22)	1.00 (0.40-2.08)
	Literate	220	193	87.73	27	12.27	Reference	
Religion	Non-Hindu	84	66	78.57	18	21.43	1.26 (0.70-2.50)	NA
	Hindu	260	214	82.31	46	17.69	Reference	
Caste	OBC	164	132	80.49	32	19.51	1.75 (0.93-3.23)	NA
	SC/ST	40	32	80.00	8	20.00	1.99 (0.80-4.92)	NA
	General	132	116	87.88	16	12.12	Reference	
Standard (class)	11^{th} -12^{th}	268	217	80.97	51	19.03	2.55 (1.00-6.24)	NA
	6^{th}-10^{th}	70	64	91.43	6	8.57	Reference	
Socioeconomic** status	Upper lower and below	215	170	79.07	45	20.93	2.64 (1.29-5.03)	2.08 (1.18-3.21)#
	Lower middle and above	121	110	90.91	11	9.09	Reference	

** Modified BG Prasad socioeconomic scale 2015; #Factors significantly associated with depression.

However, the association was statistically non-significant. Similar to the findings reported by Mojs E et al, the lower socio-economic status was found to be the independent predictor of depression among adolescent girls.[22] In contradiction to that other studies reported no significant association between depression and socio-economic states.[16,23,24] Similar to the findings reported in other studies no difference in depression was found with respect to class standards.[16,23] Although the proportion of adolescent girls with depression was higher in those who belonged to nuclear family but the association was statistically insignificant. This was in contradiction to the finding reported by Umesh et al.[16]

CONCLUSION

Adolescent population especially girls are quite susceptible to depression. Due to lack of basic clinical assessment facilities for depression, periodic mental health status check-up through school health programmes should be boosted at the grass root level. As depression can further lead to detrition in academic performance there is need to strengthen the basic manpower resources including teachers for the proper screening of the depressive symptoms as soon as possible. This would help in prevention and thereby managing depression in a more efficient way.

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