

SHORT ARTICLE

Assessment of level of stress and depression among adolescents in Udupi taluk, Karnataka.

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Abstract

Background: Adolescent is a period of age group from 10-19 years and are more prone to develop stress and depression because of hormonal changes, conflicts, negative behavior, and parental disapproval. **Aims and Objective:** To study the prevalence of stress and depression among adolescents in Udupi taluk, Karnataka. **Material and Methods:** A cross sectional study was conducted among adolescents within the age group of 14-17 years. Two stage stratified random sampling technique was employed. Stratification was done among schools into government, aided and private schools in first stage. In the second stage, proportional allocation was done among study participants of schools. The total sample size was 1058 respondents. A validated tool was used to collect data. Data was analyzed by SPSS 16.0. **Results:** Prevalence of stress and depression was 30.5% and 40% respectively. The prevalence of stress and depression was higher in girls and among adolescents of 15 years of age group. Age of adolescent, type of school and stream were found to be statistically significant with stress and father's education was found to be statistically significant with depression. **Conclusions:** There is a scope of making policies to tackle stress and depression among adolescents.

Keywords

Stress; Depression; Adolescent; Mental Health

Introduction

There are around 1.2 billion adolescents in the world in which 243 million adolescents are living in India. Due to rapidly increasing physical and intellectual development, adolescents are posing a challenge for health care systems than children and adults. Adolescence is a crucial period for developing and

maintaining social and emotional habits important for mental well-being. Inadequate mental health can affect many social and health outcomes like school dropouts, abuse and behavior problems.(1) Globally, the number one cause of disability and illness is depression and suicides ranked at number 3 for maximum deaths among adolescent.(2) Previous literature shows that the prevalence of depression,

stress were 22% and 25% respectively among adolescents.(3) Study conducted in Chandigarh found that half of the student reported psychological problems and decline in academic performance.(4) Depression is associated with factors like relationship with parents, physical abuse, age and gender.(5) Therefore, it is important to study these determinants to develop an understanding on the factors associated with prevalence of stress and depression. Hence, there is a need for early identification of stress and depression among adolescents that can prevent many psychiatric disorders. This study was undertaken to estimate the prevalence of stress and depression among adolescents and factors associated with it in Udupi taluk, Karnataka, India.

Aims & Objectives

To study the prevalence of stress and depression among adolescents in Udupi taluk, Karnataka.

Material & Methods

Study design: This cross-sectional study was conducted in government, aided and private schools between January 2015 to July 2015. Two stage stratified random sampling design was employed. Stratification was done in first stage in which schools were stratified into government, aided and private schools and classes were stratified in second stage of stratification. Overall, 24 schools out of 122 schools were selected randomly through random number generation. In second stage, approximately 50 students were selected randomly from each school in consultation with school principal and teacher.

Study setting: This study was conducted in Government, aided and Private schools in Udupi taluk, Udupi, Karnataka. Study population includes the students of 9th, 10th, 11th, 12th class. Data was collected from 1070 participants from selected schools.

Sample size estimation: For this study, the anticipated prevalence of psychological disorders was taken as 23% (6), with a relative precision of 18%, keeping z at 1.96, design effect of 2. The sample size thus obtained was 1070.

Data collection and study tools: Data was collected through interviewer-administered questionnaire from adolescent within the age group of 14-17 years who were in class 9th to 12th through validated tool (DASS-21). Parental consent was sought from each adolescent for this study two days prior to data collection. Depression, anxiety and stress scale

(DASS21) is a validated 21-item self-report questionnaire and used in Indian setting. (7) The questionnaire was bilingual i.e., both in English and Kannada, which is the local language.

Data Analysis: Data was analyzed using SPSS version 16.0 (SPSS Inc., Chicago IL). Stress and depression scores were ranging from 0 to 21. Score upto 0-4, 5-6, 7-10, 11-13, 14+ were categorized as normal, mild, moderate, severe and extremely severe respectively. Frequencies and percentage were used to summarize the socio demographic factors.

Ethical considerations: The study was approved by Institutional ethical committee of Kasturba medical college, Manipal, IEC number- KMC IEC 26/2015.

Results

Prevalence of stress and depression

Prevalence of stress and depression among adolescents were 30.5% (95% CI, 27%- 34%) and 40% (95% CI, 36% - 42.7%) respectively as provided in [Table 1].

It was higher in the age group of 15 years whereas the stress was higher among aided school adolescents (35.3%) while depression was higher in government school adolescents (38.3%). On comparing the prevalence of stress and depression among different classes. It is evident that stress was higher in students of 12th class (32.9%) whereas depression was higher in 10th class students (31.3%). It was also observed that the stress and depression was higher in board classes i.e. 10th and 12th class than the non-board classes. It was also found that the stress was higher in science stream adolescents (22.6%) whereas depression was higher in commerce stream students (28.6%). Adolescents from nuclear family and from rural area experiences more stress and depression. While comparing the education status of father and mother with stress and depression, it was observed that the adolescents with their parent's education below high school experienced more depression and stress. Upper lower class of socioeconomic status is directly related with higher level of stress and depression (95%) and is decreased with improvement in SES. [Table 2]

Severity of stress and depression

Total 16% of the adolescents had mild stress, nearly one-tenth (11%) of the adolescents had moderate stress, 0.3% adolescents had severe stress. Approximately one-fourth (27%) of the adolescents had mild depression, nearly one-tenth (12%) of the

adolescents had moderate depression, 0.1% adolescents had severe depression.

D. Test of association

There is a statistically significant association between stress and age of adolescents (p value= 0.023), stream (p value <0.001) and type of school (p value= 0.044) and also between depression and father's education (p value= 0.034).

Discussion

The findings of this study shows that the prevalence of stress and depression among adolescents were 30.5% and 40% respectively and prevalence of depression is similar in referred study. (8) Prevalence of stress was found to be 20% among young male adults among various colleges in Ranchi, India which is also relatively low as compared to the present study.(9)

The present study identified that the females were relatively more prone of having stress and depression as compared to males and similar findings were reciprocated in previous study, conducted in India.(10)

Similar study conducted in Chandigarh reproduce same result as in our study which shows that the prevalence was higher among board classes (10th and 12th) than non-board classes (9th and 11th) which might be due to the heavy academic schedule, parents demand and peer pressure.(4,8)

Depression among adolescents was more in government schools as compared to private and aided schools which is comparable to the study conducted by Zare *et al* in 2017.(11) Also, there is statistically significant difference between type of schools and prevalence in the current study.

Similar findings about the stream can be seen by the study conducted among pre-university college students in Mangalore which shows that the students of the commerce branch were found to have moderate to severe depression.(12)

Higher prevalence was found in rural area adolescents which might indicate the inaccessibility of same education, recreational and public health resources as compared to urban areas. Same findings can be seen in earlier literature as well which shows that the students of rural are vulnerable to stress, depression and anxiety. (7)

This study also found that the student who reside in a joint family had experienced less stress and

depression than nuclear family and same can be observed in given study. (13)

Parents education is directly related with the high level of stress and depression and depression is statistically significant with the father's education also. It was also found that the poor socio economic conditions are directly related with higher level of depression and stress and is evident in literature also. (14)

This study also reported about the severity of stress and depression among adolescents. From the category of adolescents among depression and stress, maximum adolescents had minor stress and depression followed by moderate stress and depression. It also provides the opportunity for decision makers to act against stress and depression at the adolescent level for better coping strategies.

Therefore, the present study will provide the better estimate or understanding of the current scenario of stress and depression among school going adolescents and act a decision-making benchmark for policy making activities.

Conclusion

According to this study, the prevalence of stress and depression among school going adolescents in Udupi taluk, Karnataka was high. Based on the result of this study, there is an urgent need to identify the higher rates of stress and depression among adolescents and there is an urgent to work at the policy level for such mental health issues.

Recommendation

As the course and pattern of stress and depression is still unknown, longitudinal study might be required to find out the course and pattern of stress and disorder among school going adolescents. Qualitative study can also be useful to understand the reason behind the high prevalence of stress and depression.

Limitation of the study

This study had adolescents from schools only and didn't include school drop outs.

Relevance of the study

This study will help us to estimate the burden of stress and depression among adolescents in Udupi taluk, Karnataka, India and understand the factors associated with stress and depression for early detection of its burden than can prevent many psychiatric disorders for their mental wellbeing.

Authors Contribution

VA: Conceptualizing, designing, literature review, data analysis, manuscript preparation, editing and review. RAP: involved in conceptualizing, designing, data analyzing and manuscript preparation. AT: Conceptualized the study, involved in data analysis and manuscript preparation. BVS: Involved in designing the study, data and statistical analysis and reviewing the manuscript.

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Tables

TABLE 1 PREVALENCE OF STRESS AND DEPRESSION AMONG ADOLESCENTS

Gender	Stress		Total, n (%)
	Present, n (%)	Absent, n (%)	
Male	165 (29.7)	390 (70.3)	555 (100)
Female	158 (31.4)	345 (68.6)	503 (100)
Total	323 (30.5)	735 (69.5)	1058 (100)
	Depression		
	Present, n (%)	Absent, n (%)	Total, n (%)
Male	221 (39.8)	334 (60.2)	555 (100)
Female	202 (40.2)	301 (59.8)	503 (100)
Total	423 (40)	635 (60)	1058 (100)

TABLE 2 PREVALENCE OF STRESS AND DEPRESSION AMONG DIFFERENT VARIABLES

Variables		Stress		Depression	
		Present	Absent	Present	Absent
Age	14	74 (22.9)	178 (24.2)	93 (22)	159 (25)
	15	111 (34.3)	238 (32.4)	148 (35)	201 (31.7)
	16	63 (19.4)	166 (22.6)	87 (20.5)	142 (22.4)
	17	75 (23.2)	153 (20.8)	95 (22.5)	133 (20.9)
Type of school	Private	109 (33.7)	197 (26.8)	124 (29.3)	182 (28.7)
	Government	100 (31)	262 (35.6)	162 (38.3)	228 (35.9)
	Aided	114 (35.3)	276 (37.6)	137 (32.4)	225 (35.4)
Class	9	53 (16.5)	109 (14.8)	70 (16.7)	92 (14.5)
	10	102 (31.6)	211 (28.7)	134 (31.3)	181 (28.5)
	11	62(19)	175 (23.8)	100 (23.6)	134 (21.1)
	12	106 (32.9)	240 (32.7)	120 (28.4)	228 (35.9)
Stream	No Stream	156 (48.3)	324 (44.1)	204 (48)	276 (43.5)
	Science	73 (22.6)	219 (29.8)	55 (13.2)	111 (17.5)
	Commerce	68 (21.1)	98 (13.3)	121 (28.6)	171 (26.9)
	Arts	26 (8)	94 (12.8)	43 (10.2)	77 (12.1)
Type of family	Joint	90 (27.9)	200 (27.2)	109 (25.8)	181 (28.5)
	Nuclear	233 (72.1)	535 (72.8)	314 (74.2)	454 (71.5)
Place of residence	Rural	174 (53.9)	403 (54.8)	218 (51.5)	359 (56.5)
	Urban	149 (46.1)	332 (45.2)	205 (48.5)	276 (43.5)
Father Education	Above high school	47 (14.5)	131 (17.8)	63 (14.8)	124 (20)
	High school and below	260 (80.4)	597 (81.3)	352 (83.2)	511 (80)
Mother education	Above high school	31 (9.5)	65 (8.8)	32 (7.5)	69 (11)
	High school and below	284 (87.9)	667 (90.7)	386 (91.2)	566 (89)
SES	Upper	1 (0.3)	7 (1)	2 (0.5)	6 (0.9)
	Upper middle	39 (12.1)	79 (10.7)	49 (11.6)	69 (10.9)
	Lower middle	117 (36.3)	266 (36.2)	150 (35.5)	233 (36.7)
	Upper lower	162 (50.3)	378 (51.4)	216 (51.2)	324 (51)
	Lower	3 (0.9)	5 (0.7)	5 (1.2)	3 (0.5)