

Mental Health Status of Adolescents Studying in Heritage City of Karnataka, Mysore: A Cross Sectional Observation Study

Anitha C.¹, Santhosh Kumar M.², Nikitha Shahajahan³

¹Associate Professor ²Assistant Professor ³Post Graduate, Department of Pediatrics, JSS Medical College, JSS Academy of Higher Education and Research, Mysore, Karnataka 570004, India.

Abstract

Introduction: Adolescents are young people between the age group 10-19 yrs. The term *Adolescence* is derived from the Latin word, *adolescere*, meaning "growing into maturity" [1,2]. It is a period where people undergo dramatic changes in physical appearance as well as rapid changes in physiologic, psychological and social functioning [3]. **Methods:** After obtaining valid consents from authorities and parents of adolescents, interview was done for adolescents based on Teen Screen Questionnaire-Mental health (TSQ-M) validated by child development centre, Trivandrum in all Jayadeva Shivarathreeshwara preuniversity colleges of Mysore city between 1/12/2013 to 1/12/2015. The data was entered in Excel format and analyzed using Epi-Info Software. **Results:** In this cross sectional population based study which included 500 Ist and IInd PUC students, with majority of males (61%) were screened for mental health issues in particular anxiety, depression and suicidal tendency. Our study revealed that 57% of these adolescents had possible anxiety/depression/suicidal tendency or mixture of them (mental health issues). Out of that 32% were depressed, 20% were anxious, 5.2% had suicidal tendency. In further, significant mental health issue was found in adolescents coming from lower socioeconomic status or with single parent. In these adolescents, substance abuse, financial problem and broken homes were the statistically significant risk factors. **Discussion:** In Comparison to other studies, our study also revealed alarming proportion of adolescents were having bad mental health status. In contrast to other studies academic performance and gender were not contributing much differences in proportion of bad mental health status. **Conclusion:** Out of 500 adolescents enrolled in our study 57% (285) had mental health issue. Among them adolescents belonging to Low socio economic and single parent group had statistically significant mental health issue. Further substance abuse, financial problems and broken home were the statistically significant risk factors for mental health problems in them. In view of this study report we encourage further big cross sectional study involving all other preuniversity colleges of Mysore and other cities to arrive at significant conclusion.

Keywords: Adolescence; Anxiety; Depression; Suicide.

Adolescents are young people between the age group 10-19 yrs. The term *Adolescence* is derived from the Latin word, *adolescere*, meaning "growing into maturity" [1,2]. It is a period where people undergo dramatic changes in physical appearance as well as rapid changes in physiologic, psychological and social functioning [3]. The period of adolescence is a developmental phase between childhood and adulthood with specific psychological attributes. The

ongoing adolescent development and alterations produce characteristic symptom patterns and management problems that gel in unique ways with the biological and psychosocial changes. At no other time of life are the psychological elements of illness and behavior so intertwined as in adolescence. Teenagers may appear superficially healthy but during adolescence they may face serious threats from violence, drugs, early sexual activity, eating disorders

Corresponding Author: Santhosh Kumar M., Assistant Professor, Department of Pediatrics, JSS Medical College Hospital, JSS Academy of Higher Education and Research, Mysore, Karnataka 570004, India.
E-mail: Santhosh.kumar94@yahoo.com

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and a variety of common medical ailments [4]. Parental neglect or abuse pushes adolescents into adverse peer influences. Peer group determines substance abuse, sexual promiscuity, high speed driving, stealing, bullying, eve teasing, etc. Adolescents to begin with are self-conscious and are worried about external appearances. They have a feeling that they are continuously 'on stage' and everyone else is starring at them [5].

Methods

This cross sectional interview based study was conducted in pre university colleges of Mysore city between 1/12/2013-1/12/2015. Taking the prevalence of mental health issues in adolescence as 35%, sample size was calculated to be 500 (formula: $S = Z^2 PQ/d^2$; S=sample size, Z= constant(1.96), P=proportion of prevalence, q=1-P, D=constant (0.05). Both boys and girls between ages of 15-18 years and studying in 1st and 2nd PUC were included with exclusion of previously diagnosed psychiatric problems and significant diseases which affect mental health.

A letter of request was taken from the concerned head of the department and was submitted to the Principals of three Pre- University Colleges, which were selected on basis of easy approach and easy administrative purposes. The contents of the questionnaire were discussed with the Principals of the colleges and then after obtaining written consent from parents/guardians personal interviews were conducted with students based on a Teen Screen Questionnaire-Mental health, validated by Child Development Centre, Trivandrum [6]. The questionnaire included Socio- demographic profile, details regarding scholastic performance, family issues, personal details including substance abuse related to mental health problems. Socio-demographic profile included Type of Family, Residence, socio-economic status as per modified Kuppuswamy classification. Type of family classified as nuclear family, joint family and extended family. Nuclear family was defined as family consisting of married couple and their children while they are still regarded as dependents.

The main characteristics of Joint family were:

1. It consists of a number of married couples and their children who live together in the same

Table 1: TSQ-M Questionnaire with scoring

Diagnosis	Questions	Scoring Never sometimes often 0 1 2
Anxiety	<p><i>Do You Frequently Have any of the Following Symptoms in the Recent Past? (Past 2weeks to One Month)</i></p> <p>Excessive sweating Difficulty in breathing Inability to relax Loss of interest in things Trembling/shaking palpitation Feeling dizzy</p>	
Depression	<p><i>Do You Frequently Have Any of the Following Symptoms In The Recent Past? (Past 2weeks To One Month)</i></p> <p>Sleep significantly less/ more Apetite significantly less/more Guilt feeling irritability Loss of interest in things u always enjoyed Tiredness/fatigue</p>	
Suicidal Tendency	<p><i>Have u Ever Felt That</i></p> <p>You are good for nothing There is no future for u Life is not worth living You are helpless Have u ever felt to harm yourself Have u ever attempted suicide</p>	

Scoring of ed7, ed6, ed6 were used to diagnose anxiety, depression and suicidal tendency respectively

household. All the men are related by blood and the women of the household are their wives, unmarried girls and widows of the family kinsmen.

2. All the property is held in common.
3. All the authority is vested in the senior male member of the family. Extended family: This tends to be a household where there are representatives of three generations [7]. Residence was divided into urban, suburban and rural based on criteria given ministry of home affairs [8]. Academic performance was judged according to the percentage of marks scored in the last term exam. As per the Department of Karnataka Pre-University Education 35% is considered pass percentage, 75-85% is considered as first class and above 85% as distinction. In this study, adolescents were screened only for abuse of alcohol and tobacco as they are the most commonly abused substances in adolescents.

Table 1 shows the questions and scoring used as per TSQ-M to classify anxiety, depression and suicidal tendency.

Statistical Analysis

The data was entered in Excel format and analyzed using Epi-Info Software. Descriptive

statistics like frequency and percentages were calculated. Chi square test was done to find the association for categorical variables. Strength of association between the two variables will be assessed by Odd's ratio. P value ≤ 0.05 at 95% confidence interval was considered significant.

Results

In this study 500 adolescents were enrolled for questionnaire. Table 2 shows demographic details of adolescents enrolled in the study along with prevalence of mental health issues in them. Study revealed that 285 (57%) adolescents out of 500 had mental health issues. Among affected adolescents of 285, 160 (56%) were depressed with mean score of 8, 100 (35%) were anxious with mean score of 9 and 25 (9%) had suicidal tendency with mean score of 6.

Table 3 shows the risk factor association of substance abuse, quarrel in family, physical assault in family, financial problem in family and broken home in relation to mental health problems among enrolled adolescents. It was found that substance abuse (pvalue 0.003), financial problem (pvalue 0.000), broken homes (p value 0.009) were the significant risk factors associated with mental health issues in study group adolescents.

Table 2: Demographic data of subjects in relation to mental health

	Anxiety	Depression	Suicidal tendency	None	Total
Gender					
Male	72	86	21	124	303
Female	28	72	06	91	197
Type of family					
Nuclear	100	80	20	120	320
Joint	60	20	05	95	180
Residence					
Urban	100	40	10	80	230
Semiurban	80	15	05	100	200
Rural	20	15	00	35	70
Socio economic Status					
Lower	30	15	05	50	100
Middle	90	40	10	140	280
Upper	60	30	05	25	120
Marital Status of Parents					
Single	40	45	15	60	160
Parent/Divorce					
Married	120	55	10	155	340
Academics					
>85%	09	06	01	16	50
76-85%	30	39	12	81	120
61-75%	33	53	06	92	180
51-60	21	32	06	59	100
30-50	07	16	02	25	50

Table 3: Risk factors association with mental health status of study group

Risk factor	Anxiety	Depression	Suicide	Total	P value
Substance Abuse (n=100)	30	10	04	44	0.003
Quarrel In family (n=73)	29	15	03	47	0.167
Physical assault in family (n=95)	41	06	02	49	0.235
Financial Problem in family (200)	74	10	03	87	0.000
Broken Home (n=150)	40	45	15	100	0.009

Discussion

Study revealed 57% of enrolled adolescents are having mental health issues in the form of depression (56%), anxiety (35%) and suicidal tendency (9%). A study done by Dr. Nitin Joseph showed that depression was seen among 79.2% students and the severity of depression was also found to significantly increase with the age of the participants.

He also concluded that prevalence of depression was found to be more among students in Government College (84.1%) than students in private colleges [9]. P Jayanthi, M Thirunavukarasu and Rajamanickam Rajkumar conducted a study at higher secondary schools among 1120 adolescents, inferred that adolescents who had academic stress were at 2.4 times higher risk of depression than adolescents without academic stress [10].

Academic matters are the most important sources of chronic and sporadic stress for young people in both Western and Asian countries, and has significant associations with mental health problems, such as depression, anxiety and suicidal ideation [11,12].

In contrast to our study, Annette M. La Greca, Nadja Lopez study showed that girls reported more social anxiety than boys, and social anxiety was more strongly linked to girl's social functioning than boys' [3]. A study done in Kolkata showed that 20.1% of boys and 17.9% of girls suffered from anxiety, this correlates with our study results which has 23.7% of males and 14% females with anxiety.

Adolescents belonging to lower middle and upper lower suffered more anxiety than those from both high and low socio economic groups, similar to our study [13]. Our study showed adolescents were 2.84 times, 3 times, 3.11 times more likely to develop mental health issues if they belonged to a family with a

member abusing substance, with quarrels between parents and with financial issues respectively (p value-0.001). Substance abuse like alcoholism and smoking can cause constant quarrels between parents and financial issues in families. This could ultimately lead to unpleasant family environment which predisposes these children for depression and other mental issues. Adolescents were 2.39 times more likely to develop depression if they belonged to a family with any member suffering from chronic illness. (p value- 0.001). Substance abuse in adolescents is an emerging issue in public. In our study 5% of adolescents had substance abuse-major contribution being from males. They abused alcohol and tobacco-smoking.

A study done by Johnston LD, O'Malley PM, Bachman JG, Schulenberg JE showed that by the end of high school, 77% of students have tried alcohol, and 46% have done so by eighth grade. More than half (58%) of 12th grade students and one fifth (20%) of 8th grade students report having been drunk at least once in their life. By 12th grade, 54% of American Youth have tried cigarettes and 245 are current smokers [14].

A study done by Dean G. Kilpatrick came to the conclusion that more than 10% of 17 year olds had current substance abuse or dependence; familial alcohol problems were also independently related to increased risk of adolescent alcohol and hard abuse [15].

Another clinical reporting by John W. Kulig stated that substance abuse among family members is associated with childhood behavior problems, school problems and that 1 in 5 children grows up in a home in which there is someone who abuses alcohol or other drugs [16]. Our study has also showed that 26% of males with substance abuse had a family member with substance abuse.

Conclusion

Alarming proportion of adolescents studying in mysore city are suffering from mental health issues for which substance abuse, financial problem in family and broken home are the significant risk factors.

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