Research Paper | Public Health

Stress among high school children in Morena District, Madhya Pradesh: A Cross-sectional study

Garima Verma	Masters in Public Health, Manipal University
Shubhi Tomar	Masters in Public Health, Manipal University
CNV Sai Bharath	Masters in Public Health, Manipal University

ABSTRACT The transition from childhood to adulthood is webbed by adolescence. Students at this age face unavoidable stress. The speed and magnitude of these changes overload the capacity of many young people to cope. To assess the stress level among students in Morena district due to various factors influencing stress. The cross sectional survey was carried out among 9th and 10th grade students of both government and private school. A validated K10 scale was used to assess the stress as well as coping. Students out of 228 likely to have severe mental disorder are 15(6.6%). Student found likely to have severe mental disorder has complained of being depressed with lower marks (8.15%), parent and teachers compared with others were complained (11.11%), high expectations of parents (15.56%) and been betrayed by friends (17.86%).

KEYWORDS : Stress, Kessler 10 scale, Mental Disorders, adolescent, Depression

INTRODUCTION

Stress is one response to any challenge, any demand or any change [1]. Adolescence is a period of rapid change when a child develops into an adult. Several changes occurs physically, psychologically, physiologically and socially [2]. Adolescents are confronted with different kinds of stress from relationships with parents, partners, or friends. Not only are academic challenges for adolescents, but students are at stage of beginning to formulate life goals [3]. In this period they face challenges while building relationship, their own identity which at last ends up with stress. Girls were more likely to feel pressure than boys especially towards their outward appearance [3]. Either they adapt to new coping strategies or show maladaptive response and lands up in unhealthy lifestyle [4]. Stress is usually accompanied by various responses like depression, anxiety, aggressiveness, anger which prevents to control consciousness. Boys tend to react in aggressive manner and girls become emotional unstable [14].

Social factors like relationship with parents and other family members, psychological status of parents, social support and peer relations might pave way to stress. Environmental factors include home, school and college surroundings plays major role [3].

Adolescents are the budding future of a nation and it is imperative for the parents, teachers and the caregivers to understand the factors which might be stressful to the adolescents. Majority of the studies done in India focuses on early adults affected by work related stress. Very few Studies done in India are done among adolescence stress. This study tries to determine stress levels among high school students which likely to suffer from mental disorders.

METHODOLOGY:

Study participants:

A cross-sectional study was conducted among two schools of Morena district after obtaining approval from school authority. One is government institution and another is private. Students from classes 9th and 10th formed the study sample.

Sample size:

It is calculated using prevalence as 45.8% [5] and permissible error 10% [5]. The total sample size came out to be 192. Each class has 50-60 students, so only one section of each class was randomly selected, and all the students present from that particular class were included in the study.

Tool:

Self administered questionnaire was used to assess the stress level which contains demographic information [6], educational pressure on students due to various factors [7], and relationship with family members, friend [8]. To assess the psychological stress among students Kessler Psychological Distress Scale (K10) was used [10]. It is used to measure common mental health disorders that may affect attentiveness in studies and class [10]. It consists of 10 questions on negative emotions faced by students in last 4 weeks. According to the time that student has experienced emotional stress the response scale is divided in five levels [10]. The score 1 means none of the time, 2 means a little of the time, 3 means some of the time, 4 means Most of the time, 5 means All the time. The score is summed of each student for all questions with expected minimum score of 10 and maximum score of 50. On the basis of scoring the cut-off score was fixed to determine the grade of mental disorder [10] [Table I]. Written informed consent was given to the students for taking them home for getting signature from the parents. In one week all the questionnaires were collected by the class teacher. Data collection was done for two weeks in July 2013. Students were assessed in the school setting, after giving instructions to administer the questions. 15 minutes were given to the participants to complete the questionnaire. For statistical analysis, SPSS version 15.0 was used. Descriptive were recorded in the results.

RESULTS:

Background characteristics

228 children were taken from private (n = 131) and government (n = 97) schools. Mean age of students was 14.63 (± 0 .918) consisting of Males 123 (53.9%) and 105 (47.1%) females. 46.5% students were from 9th std and 53.5% from 10th std. 65% of students were from general category,14% of schedule caste, 9.2% schedule tribes while other backward castes were 9.2%. 211(92.1%) of fathers had occupation as labourers.

On the Kessler scale the mean score is 18.47 (± 6.122). Students who are likely to have severe mental disorder are 15(6.6%) out of 228 [Table II]. The relationship of students according to Kessler 10 scale with educational information has been reported in Table III. Only negative emotional stress of student has been mentioned in the table according to each question. Student likely to have severe mental disorder has complained of being depressed with lower marks were found 8.15%, parent and teachers compared with others were 11.11%, high expectations of parents were 15.56% and been betrayed by friends were 17.86%.Stress among students due to family and peer environment is shown in figure I and II.

DISCUSSIONS:

The study shows that stress level among high school children is high. Many of them are likely to suffer from severe mental disorder due to various personal and environmental stressors. A study was conducted to find out stress, psychological health, on adolescent school students in Chandigarh. The results shows that out of 2402 students, 45.8% had psychological problems, half of the students faced problems in their role as students, 8.82% students reported that life as a burden [5] This

study shows that 39% of the students likely to have psychological problems of various degrees .

The study on Assessing Stress among University Students indicate that female students had more stress than males, and it is explained by the fact that females are subjected to the community pressure and they are still under the pressure of the cultural habits[11]. Our study also indicates that out of all females, 42.31% have stress of various levels while out of all males; only 31.97% has stress of various levels.

A study was done to understand the unmanaged stress among the early adolescent in which result shows that peer pressure and peer changing relationship causes stress whose root cause is conflicting expectations of relationship [12]. In this study the peer pressure is very high among school children in whom 12.8% are betrayed by friends, 9.6 % are ignored by friends, 39.8 % had arguments with friends, 7.6 % are involved in physical fights with friends.

Studies show that the adolescent feel depressed due to incompatibility of dealing with challenges comes at transition phase. It also illustrates the major stressor among adolescent are too much homework, poor academic performance, family related problems, love affairs, peers, etc [13]. Our studies results states that many students are stressed because of lack of family support, poverty, homework is a burden, gets less time to relax, teachers and parents compare with other children, no appreciation.

LIMITATIONS:
The study included only two schools so it lacks true representativeness, to provide generalizability further studies on this subject needs to be done with larger sample size. As this study is cross sectional study, temporal relationship between stress and its factors cannot be made because both exposure and outcome were measured at same time.

RECOMMENDATIONS:
More number of schools should be included in further studies to have better understanding of stress, and to identify risk factors for stress.

APPENDIX
Table1: K10 cut-off score:

K10 score	Likely into have mental disorder
10-19	Likely to be well
20-24	Likely to have a mild disorder
25-29	Likely to have moderate mental disorder
30-50	Likely to have severe mental disorder

Table II : Kessler's 10 scoring:

Category-wise Kessler scoring	Frequency	Percent	Cumulative Percent
Likely to be well	139	61.0	61.0
Likely to have a mild mental disorder	51	22.4	83.3
Likely to have moderate mental disorder	23	10.1	93.4
Likely to have a severe mental disorder	15	6.6	100.0
Total	228	100.0	

Table III: Relationship between Kessler's 10 scale and educational information of students:-

Questions	Negative emotions	Category-wise Kessler scoring*			
		A (%)	B (%)	C (%)	D (%)
Depressed with lower marks	YES	68 (29.82)	39 (17.1)	17(7.45)	12(5.26)
Happy with exam percentage	NO	59(25.87)	21(9.21)	4(1.75)	4(1.75)
Lower marks despite studying hard	YES	75 (32.89)	33(14.47)	13(5.70)	13(5.70)
Compare performance with classmate	YES	89(39.03)	36(15.78)	17(7.45)	10(4.38)
Co-operative teacher	NO	10(4.38)	4(1.75)	3(1.31)	0
Overburdened by studies	YES	7(3.07)	6(2.63)	3(1.31)	4(1.75)
Family help in studies	NO	1(.43)	2(.87)	0	0
Exam fear	YES	36(15.78)	18(7.89)	9(3.94)	12(5.26)
On time homework	NO	13(5.70)	10(4.38)	3(1.31)	5(2.19)
Stress and fatigue from homework	YES	10(4.38)	11(4.82)	4(1.75)	4(1.75)

(*A - likely to be well, B - likely to have a mild mental disorder, C - likely to have moderate mental   disorder, D - likely to have a severe mental disorder)
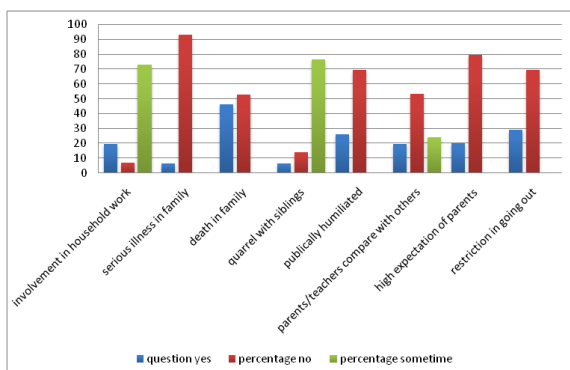

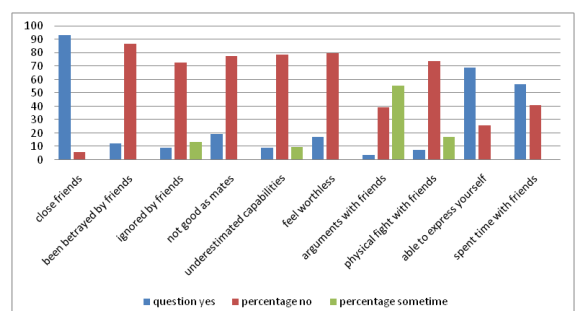**Figure I: Relationship of students with family members:**

Figure II: Relation of student with the peers :

REFERENCES

[1] Dubat K, Punia S and Goyal R .(2007). A Study of Life Stress and Coping Styles among Adolescent Girls. J. Soc. Sci.; 14(2) : 191-194. | [2] Newman D. A study on stress levels in Adolescents.(1984) A Thesis presented to the Graduate Council University of Tennesse at Martin. | [3] Carrier M.(2009). adolscents growing up in Today's world. Adolescent and Stress Mar 25. | [4] Parpio P, Farooq S, Gulzar S, Tharani A, Ali T, Javed F. (2012). Factors associated with stress among adolescents in the city of Nawabshah, Pakistan. JPMA.;62:1209. | [5] Arun P, CHAVAN B .(2009). Stress and suicidal ideas in adolescent student In chandigarh. Indian J Med Sci, July ; 63; 7. | [6] Taragar S. (2009) Stressors among the students of high school. Department of human development college of rural home science, Dharwad university of agricultural sciences, Dharwad. June, | [7] Gupta M, Gupta R, Mishra S , Sharma S.(2011). An Examination of the Relationship between Academic Stress and Academic Achievement in Secondary Classes Students of Meerut. VSRD-TNTJ.; 2 (7);320-325. | [8] Deb S , Chatterjee P, Walsh K.(2010). Anxiety among high school students in India: Comparisons across gender, school type, social strata and perceptions of quality time with parents. Australian Journal of Educational & Developmental Psychology.;10;18 - 31. | [9] Augustine L, Vazir S, Rao S, Rao M, Laxmaiah A, Nair K. (2011). Perceived stress, life events & coping among higher secondary students of Hyderabad, India: A pilot study. Indian J Med Res. July;134;61-68. | [10]. The Kessler Psychological Distress Scale (K10) (2006). National Standard for Health Assessment of Rail Safety Workers. | [11] Ahmad M, Thawabieh, Qaisy L. (2012) Assessing Stress among University Students. American International Journal of Contemporary Research. feb ;2 (2) | [12]. Andrew G, Slade T. Interpreting scores on the Kessler Psychological Distress Scale. Australian and New Zealand Journal of Public Health 2001. 25(6): 494-497. Clinical Research Unit for Anxiety Disorders (CRUFAD) | [13]. Simuforosa M.(2013). Stress and Adolescent Development. Greener Journal of Educational Research. 3 (8); 373-380. | [14]. Katona N, SzitÓ I. Student stress in adolescent.