Original Research Article

Prevalence of Stress among high school going adolescents in the rural field practice area of a medical college in Bengaluru: A cross sectional study

[1]Dr. Yashaswini N, [2]Dr. Dinesh Rajaram

[1]Postgraduate Student, Department of Community Medicine, MS Ramaiah Medical College and Hospital, Bengaluru, Karnataka, India
[2]Associate Professor, Department of community medicine, MS Ramaiah Medical College and Hospital, Bengaluru, Karnataka, India

Corresponding Author:
Dr. Yashaswini N

Abstract

Stress is the most common psychological turmoil facing school adolescent function in everyday life. In school life, every school adolescent in one way or another is a victim of stress disorders and many researchers are interested in studying these problems. Hence, a study on "stress among urban and rural high school students and related factors" was conducted during 2022 in MS Ramaiah medical college and Hospital, Bengaluru. The study comprised of 480 Kannada medium students of government and private aided high school from urban and rural areas of field practice area of college. From 8th, 9th and 10th class, 20 students each were taken randomly for the study. General information schedule was used to know the gender, ordinal position, class and type of school of student and structured questionnaire on stressors (Targar, 2009) was used to assess stress among students. The findings from the study revealed that, rural high school students had high level of stress than urban students. Girls were prone to high level of stress than boys and higher the class indicated higher the stress level i.e., 10th class students were more prone to stress. In urban locality, private aided school students were under high level of stress than government school students. This indicates the immediate need for counseling programmers for high school students to reduce the stress during study period as well as during exams.

Keywords: Class, stress, high school, students

Introduction

Adolescence is a transition stage between childhood and adulthood and characterized by rapid physical changes and mental development. According to Ablard and Parker (2010) adolescence stage is defined as the time when individuals begin to function independently of their parents. It is the period of life when a child develops into an adult and generally seen from the age of 12 to 19 years. The modern world, which is said to be a world of achievement, is also a world of stress. One finds stress everywhere; whether it is within the family, business organization or any other social or economic activity. Stress is physiological and psychological imbalance. It arises due to the demands on a and that person's inability to meet those demands. Stress in the students can be very taxing for the parents and the students

themselves. Stress has been tightening its grip on the students, as they have to compete at every step of their academic career in this fast moving world. Many adolescents as they undergo into students life which is subjected to different kinds of stressors they have to face many academic demands. For example, school examination, answering questions in the class, showing progress in school subjects, competing with other classmates, fulfilling teachers and parents academic expectations. These demands may tax or exceed available resources of the students. As a consequence, they can be under stress. So need was felt to conduct a study on, stress among urban and rural high school students.

Materials and Methods Research Design

The differential design was used to know the difference between urban and rural high school student's stress and chi square analysis was employed to know the influence of gender, class, ordinal position and type of school on stress among urban and rural high school students.

Population and Sample

There were totally 98 high schools in urban locality and 188 high schools in rural locality. Eight schools were randomly selected, within eight schools, about 4 per cent of 98 urban schools (four schools: 2 Govt., 2 private aided) and 2 per cent of 188 rural schools (four schools: 2 Govt., 2 private aided) were randomly selected for the study who were willing to participate and had co-operation for the study. The sample comprised of 480 high school students (240 boys and 240 girls) studying in 8th, 9th and 10th classes of schools (government and private aided) situated at urban and rural localities.

Tools used for assessment

The following tools were used to collect different information of the school children for the study.

General information schedule

The schedule was used to collect personal information such as name, gender, ordinal position, class, type of school and locale of school of high school students.

Gender

According to gender, students were classified as boys and girls.

Class

Based on their class, students were classified as 8th, 9th and 10th classes.

Ordinal position

On the basis of the birth order of the adolescents in family, they were grouped into two categories as first born and later born (2nd child onwards).

Type of school

On the bases of the type of the school of the subject, it was grouped into 2 categories as Government school and Private aided school.

Location

On the basis of the location of school of the subjects, it was grouped into 2 categories as Urban and Rural.

Structured questionnaire on stressors

Structured questionnaire on stressors developed by Targar (2009), the questionnaire consisted of 59 items and 8 areas of stressors like school stressors (4 items), parental stressors (7 items), personal stressors (19 items), peer stressors (5 items), external stressors (5 items), physiological stressors (7 items), socio-economic stressors (2items) and teacher stressors (10 items). For each item, 4 alternative answers are given like 4-extreme stress, 3-a lot of stress, 2-slight stress and 1-no stress and scoring is done as follows.

Data collection procedures

For the present study, high schools were randomly selected and the Heads of the schools were contacted and permission was taken for conducting the study. Twenty students (both boys and girls) each from 8th, 9th and 10th classes were selected randomly. The concerned class students were approached and explained about the study so as to seek their honest answers.
The questionnaires were distributed to respective class students with right instructions. It took nearly one hour of 4 visits for the completion of all questionnaires for all selected classes. The filled questionnaires were collected and the doubts were cleared on the spot by the interviewer.

Statistical analysis

Frequency and percentages were used to interpret the gender, ordinal position, class, type of school and stress among urban and rural high school students. T-test was used to know the differences in stress among urban and rural areas and Chi-square was used to know the influence of gender, ordinal position, class, type of school on stress among urban and rural high school students.

Results and Discussion
Distribution of urban and rural high school students by personal characteristics

Results on distribution of students according to personal characteristics such as gender, ordinal position, class and type of school are presented in table 1. With regard to gender, among 480 students, 50.62 per cent of students were girls and 49.16 per cent of students were boys. In urban locality, 55 per cent of students were girls and 45 per cent of students were boys. In rural 46.66 per cent of students were girls and 53.33 per cent of students were boys. With regard to ordinal position, in urban locality, majority (60.83%) were later born and 39.16 per cent were first born. In rural locality, 54.16 per cent were later born and 45.83 per cent were first born. In total sample 57.50 were later born and 42.5 per cent were first born. Among total students, they were equally distributed among 8th, 9th and 10th classes (33.33%) and in both urban and rural localities (50%). With respect to type of school, equal numbers of students were distributed in Government and private aided schools (50%) and urban and rural localities (50%). With respect to locale, students were equally distributed among urban and rural localities (50%).

Stressors among urban and rural high school students

The differences in stressors and association and difference between stress among urban and rural high school students is presented in table 2 and 3. It was observed that, in urban locality, the highest mean (38.12) belonged to personal stressors followed by teacher stressors (17.24) and parental stressors (14.08). The least mean (6.39) belonged to socio-economic stressors. In rural locality also, the highest mean (31.73) personal, parental, familial) belonged to personal stressors followed by school stressors (17.27) and external stressors (13.54). The least mean (6.37) belonged to parental stressors. On statistical analysis significant difference found between urban and rural high school students on school, parental, personal, peer, external and teacher stressors at 0.01 level. Only with physiological stressors and socio-economic stressors not found significant difference. Paul and Damodaran (2016) have expressed similar opinion regarding the various characteristics responsible for causing stress besides concern about academic ability and scheduling classes. As per Okwara-Kalu (2014) some of the significant sources of stress included academic, intra-personal and environmental.

The results of table 3 showed the association and difference between stress level and locality of high school students. It was found that, in urban locality, majority (47.91%) of students were in high level of stress followed by medium level of stress (31.25%) and 20.83 per cent of students belonged to low level of stress. In rural locality, the same trend was followed that, 45.83 per cent of students were in high level of stress followed by medium level (29.58%) and 24.58 per cent of students were in low level of stress. When both urban and rural localities considered, 49.79 per cent of students were in high level of stress followed by medium level (26.87%) and 23.33 per cent of students belonged to low level of stress. On statistical analysis the "chi square" value was found to be significant at 0.01 level. The mean score of rural students with regard to level of stress was found to be high (163.78) compared to mean score of urban locality students (143.25) and "t" value was found to be significant between stress and locality. Similar results were reported by Kadapatti (2017) that, there was significant difference found between urban and rural areas of students in stress levels. However, in the present study, the rural students found to had more stress. It appears rural students will be facing extra pressure to perform as a key element of the family's drive to promote their social and economic status in comparison to their urban counterparts as reported by Ai- Qiang *et al*., (2014).

Influence of related factors on stress among urban and rural high school students

Results of table 4 shows the association between stress and gender of urban and rural high school students which revealed that, in urban locality, majority of boys were under high level of stress (48.14%) followed by medium level of stress (35.18%) and 16.66 per cent boys had low level of stress. In case of girls, majority were in high level of stress (47.72%) followed by medium level of stress (28.03%) and 24.24 per cent girls were in low level of stress. The statistical analysis revealed that, there was a significant association found between gender and stress among urban high school students at 0.05 level. In rural locality, with regards to boys majority of them were under high level of stress (53.12%) followed by low level of stress (31.25%) and 21.09 per cent boys had medium level of stress. With regard to girls it was found that, majority were in high level of stress (50%) followed by medium level of stress (24.10%) and 19.64 per cent girls were in low level of stress. The "chi square" analysis showed a significant association ($\chi^2 = 21.12$) between gender and stress among rural high school students at 0.01 level. Results of the studies conducted by Rajkumar *et al*., (2012), Ai-Qiang *et al*., (2014) and Solomon *et al*., (2014) reported significant association found between gender and stress among students.

Association between ordinal position and stress among urban and rural high school students

Results of table 5 shows the association between stress and ordinal of urban and rural high school students which revealed that, in urban as well as in rural localities, most of the first born students were in high stress when compared to later born students but there was no significant association found. Similar results reported by the Rajkumar *et al*., (2012) and Ai-qiang *et al*., (2014) that, there was no association found between the stress and ordinal position of secondary school students.

Association between class and stress among urban and rural high school students

The results on association between class and stress among urban and rural high school students is presented in table 6. In urban locality, among 8th class students, majority of them (36.25%) belonged to low level of stress followed by high level of stress (35.00%) and 28.75 per cent of students were under medium level of stress. Among 9th class students, majority of them were under medium level of stress (47.50%) followed by high level of stress (38.75%) and 15 per cent of students were under low level of stress. Among 10th class students highest percentage of them (70%) belonged to high level of stress followed by medium level of stress (17.50%) and 11.25 per cent of students were under low level of stress. The chi square analysis showed a significant association (χ^2 = 32.97) between class and stress at 0.01 level of significance.

In rural locality, it was found that, among 8th class students, most of them (47.50%) belonged to low level of stress followed by medium level of stress (27.50%) and 25 per cent of students were under high level of stress. Among 9th class students, majority of them were under high level of stress (53.75%) followed by low level of stress (25.00%) and 21.25 per cent of students were under medium level of stress. Among 10th class students, highest percentage of them (76.25%) belonged to high level of stress followed by medium level of stress (18.75%) and only 5 per cent of them were under low level of stress. In total, 10th class students were under high level of stress in both urban and rural localities. On analysis, results showed a highly significant association.

These results are in line with the results reported by Saini *et al*., (2010), Rajkumar *et al*., (2012) and Sarada *et al*., *(*2017) they stated that, stress was significantly higher among the 10th class students compared to 9th and 8th class students. It was a stark reminder of the tremendous pressure faced by the students with regards to their performance in the board examinations.

Association between type of school and stress among urban and rural high school students

The results in table 7 depict the association between type of school and stress among urban and rural high school students. In urban locality, 43.33 percent of government school students were under high level of stress followed by medium level of stress (33.33%) and 23.33 per cent of students were under low level of stress. It was found that majority of private aided school students were also under high level of stress (52.50%) followed by medium level and low level of stress (29.16% and 18.33%) respectively. In total, private aided school students were under high level of stress (Table 8).

Similarly, Saini *et al*., (2010) reported that, academic stress among the private school students was higher than government school students. The difference in terms of academic stress between the two groups of students was also statistically tested which was also found to be significant.

Table 1

Level of stress	Range of score
Low stress	87 and below
Average stress	88-143
High stress	144 and above

Table 2: Frequency distribution of urban and rural high school students by personal characteristics

N=480

Personal characteristics		Urban (n=240)		Rural (n=240)		Total (480)	
		n	%	n	%	N	%
Gender	Girls	132	55	112	46.66	244	50.62
	Boys	108	45	128	53.33	236	49.16
Ordinal position	1st born	94	39.16	110	45.83	204	42.50
	Later born	146	60.83	130	54.16	276	57.50
Class of students	8th class	80	33.33	80	33.33	160	33.33
	9th class	80	33.33	80	33.33	160	33.33
	10th class	80	33.33	80	33.33	160	33.33
Type of school	Govt.	120	50	120	50	240	50.00
	Private aided	120	50	120	50	240	50.00

Table 3: Differences in stressors among urban and rural high school students

N=480

Areas of stressors	Urban (240)		Rural (240)		t-value
	Mean	SD	Mean	SD	
School	7.84	2.31	17.27	7.69	8.69**
Parental	14.08	3.85	6.37	2.97	5.22**
Personal	38.01	8.20	31.73	8.69	7.92**
Peer	9.68	3.22	8.36	2.57	7.55**
External	9.35	2.90	13.54	3.69	6.28**
Teacher	17.24	6.13	10.69	2.45	3.61**
Physiological	11.24	3.63	7.69	2.13	1.17
Socio-economic	6.39	2.13	15.39	4.69	1.01

**Significant at 0.01 level.

Table 4: Association and difference between stress among urban and rural high school students

N=480

Locality	Levels of stress								χ^2 value	Mean ± SD	t-value
	Low		Medium		High		Total				
	n	%	n	%	n	%	n	%			
Urban	50	20.83	75	31.25	115	47.91	240	100		143.25 ± 38.23	
Rural	62	24.58	54	29.58	124	45.83	240	100	23.52**	163.78 ± 41.23	6.95**
Total	112	23.33	129	26.87	239	49.79	480	100		153 ± 40.20	

**Significant at 0.0 1 level.

Table 5: Association between gender and stress among urban and rural high school students

N=480

Level of stress	Urban (240)				χ^2 value	Rural (240)				χ^2 value
	Boys (108)		Girls (132)			Boys (128)		Girls (112)		
	N	%	n	%		n	%	n	%	
Low	18	16.66	32	24.24		35	27.34	27	25.00	
Medium	38	35.18	37	28.03	19.31*	32	25.00	22	19.64	21.12**
High	52	48.14	63	47.72		61	53.12	63	50	

*Significant at 0.05 level.

** Significant at 0.01 level.

Table 6: Association between ordinal position and stress among urban and rural high school students

N=480

Level of stress	Urban (240)				χ² value	Rural (240)				χ² value
	First born (94)		Later born (146)			First born (110)		Later born (130)		
	N	%	n	%		n	%	n	%	
Low	17	18.08	33	22.60		24	21.81	38	29.23	
Medium	24	36.17	51	34.93	2.17	13	29.09	41	31.53	6.03
High	53	56.38	62	42.46		73	66.36	51	39.23	

Table 7: Association between class and stress among urban and rural high school students

N=480

Level of stress	Urban (240)						χ² value	Rural (240)						χ² value
	8th class (80)		9th class (80)		10th class (80)			8th class (80)		9th class (80)		10th class (80)		
	N	%	n	%	n	%		n	%	n	%	n	%	
Low	28	35.00	12	15.00	10	12.50		27	33.75	23	28.75	12	15.00	
Medium	23	28.75	38	47.50	14	17.50	12.97**	25	31.25	14	17.50	15	18.75	14.67**
High	29	36.25	30	37.50	56	70		28	35.00	43	53.75	53	66.25	

**Significant at 0.01 level

Table 8: Association between type of school and stress among urban and rural high school students

N=480

Level of stress	Urban (240)				χ² value	Rural (240)				χ² value
	Government school (120)		Private aided school (120)			Government school (120)		Private aided school (120)		
	n	%	n	%		n	%	n	%	
Low	28	23.33	22	18.33		15	12.5	47	39.16	
Medium	40	33.33	35	29.16	19.55**	26	21.66	28	23.33	21.22**
High	52	43.33	63	52.50		79	65.83	45	37.50	

**Significant at 0.01 level.

With regard to rural locality, it was found that, majority (65.83) of government school students were prone to high level of stress followed by medium level of stress (21.66%) and 12.5 per cent of students were under low level of stress. Among private aided school students, 39.16 per cent students were under low level of stress followed by high level of stress (37.50%) and 23.33 per cent of students were prone to medium level of stress. In total, Government school students were under high level of stress. However on statistical analysis the results was found to be statistically significant association between type of school and stress among both urban and rural high school students at 0.01 level. Similar results have been reported by Rajkumar *et al*., (2012) and Ghosh (2016) who also found the significant association between level of stress and type of school.

Conclusion

The present study focused on influence of related factors on stress among urban and rural high school students. Majority of urban and rural high school students were under high level of stress. Girls were more prone to stress and higher the class indicated the high level of stress. When compared to government and private school students, in urban locality, private aided school students were under more stress compared government school students and in contrast, in rural locality, government school students were in high level of stress compared to private aided school students. So, the immediate need for counseling programmes and

remedial measures such as such as yoga, meditation and participation in some recreational activities were needed to reduce the stress among high school students.

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