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SELF-REPORTED STRESS AMONG STUDENTS PREPARING FOR MEDICAL ENTRANCE EXAMINATIONS IN A METROPOLITAN CITY IN WESTERN INDIA.

Medicine

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ABSTRACT

This cross-sectional, observational study was conducted by complete enumeration of 174 students (56.9% girls; 43.1% boys) attending a training centre for medical entrance examinations to determine their socio-demographic profile and various self-reported stressors so that interventions can be planned to reduce stress levels of students. The difference in their age distribution was not significant. The difference in level of education between mothers of girls and boys was statistically significant (Z=3.306; p=0.0009). The gender difference was significant in self-reported easy irritability (Z=2.422; p=0.015) and support from siblings (Z=2.996; p=0.002). There were no significant gender differences in the other responses. In addition to training in the course content, students who are preparing for competitive examinations also require career counseling, training to develop their inter-personal skills, time management, involvement in leisure-related activities and emotional support from peers and family members.

KEYWORDS

Medical entrance examinations, Self-reported stress, Students

INTRODUCTION

Stress is perceived as a lifestyle crisis [1]. Until recently, it was believed that optimum levels of stress propel students to perform well. However, when stress is not harnessed effectively, it can have undesirable consequences. In general, the Indian education system emphasizes rote memorization of lessons that requires elaborate study routines, with inadequate time for socialization and recreation. The medical entrance examination in India is highly competitive wherein an ever-expanding number of hopeful students compete for admissions to medical colleges. Students face tremendous academic stress especially if they are unable to perform at a level that required for tremendously competitive medical entrance examinations [2].

Parents contribute to stress by persistently reiterating the fear of failure which adversely affects students' self-esteem and confidence [3]. Increased parental expectation was perceived to be intolerably stressful by the students [4]. Adolescents were also reported to be indulging in various risky behaviours, such as, increased consumption of alcohol and drugs, unprotected sexual activities, physical inactivity, poor eating and sleeping patterns [5,6].

The consequences of academic stress include inadequate physical exercise, nutrition, substance use, and self-care [7]. Academic stress is a risk factor for psychopathological conditions, such as, depression [8]. In addition to social, emotional, physical and family problems, such as, financial problems, changes in the living environment and difficulties managing personal and academic life [9, 10], students preparing for medical entrance examinations have to deal with the burden of academics with a compulsion to get admission into medical colleges or face an uncertain future. These stressors may collectively impair students' learning ability and academic performance [11].

Academic stress has been identified as the prime cause of stress experienced by students preparing for medical entrance examinations. Academic stress may be ascribed to psychological distress concerning anticipated academic challenges or fear of academic failure [12], self-imposed need to succeed and parental pressure [13], too many assignments, deficient time management and social skills, peer competition [14], scarce academic resources and facilities [15], enormity of the syllabus [14,16], and prolonged study hours [17].

Several stressors in the personal and occupational domain would also elicit physiological responses from the body. Problems reported in students with high levels of academic stress include depression, anxiety, behavioural problems and irritability [17]. Depression is associated with inability to concentrate, fear of failure, and negative perception of the future [18].

The present study was carried out on students preparing for medical entrance examinations to determine their socio-demographic profile and various self-reported stressors so that interventions can be planned to reduce stress levels of students.

MATERIALS AND METHODS

This cross-sectional, observational study was conducted in 2018 in Mumbai city by complete enumeration of students (of either gender) attending a training centre for medical entrance examinations. After obtaining necessary permissions and informed consent, a self-reported questionnaire was given to those willing to participate in the study. The questionnaire contained statements indicating the presence or absence of stressors, such as, doubts about one's endurance and capability, family environment, academic workload, low commitment, and financial concerns. The students were assured of confidentiality of data. Participants who did not return completed questionnaires or returned incompletely filled questionnaires were excluded from the study.

The data were entered in Microsoft Excel (Microsoft Corporation, Redmond, WA, USA) and were statistically analyzed using EpiInfo Version 7.0 (public domain software package from the Centers for Disease Control and Prevention, Atlanta, GA, USA). Categorical data were presented as percentages while continuous data were presented as mean and standard deviation (SD). The 95% confidence interval (CI) was presented as: [Mean-(1.96)*Standard Error)] to [Mean+(1.96)*Standard Error)]. The standard error of difference between two means and that between two proportions were computed. Statistical significance was determined at $p<0.05$.

RESULTS AND DISCUSSION

A total of 174 students (99 girls; 56.9%; 75 boys; 43.1%) returned completed questionnaires in the study. The mean age was 17.47 +/- 0.99 years (95% CI: 17.27-17.67 years) and 17.53 +/- 1.04 years (95% CI: 17.27-17.77 years) for girls and boys, respectively. The difference in age distribution was not significant (Z=0.384; p=0.700). 91 (91.92%) girls and 70 (93.33%) boys had completed their entire schooling in urban areas. The difference in gender-wise distribution for place of schooling was not significant (Z=0.351; p=0.726).

Table-1: Family profile and environment

Parameter	Girls (n=99)	Boys (n=75)	Z value	'p' value
Father: Graduate+	78 (78.78%)	54 (72.00%)	1.036	0.298
Mother: Graduate+	73 (73.73%)	37 (49.33%)	3.306	0.0009 *
Maternal employment	45 (45.45%)	28 (37.33%)	1.075	0.280
No siblings	22 (22.22%)	24 (32.00%)	1.448	0.147
One sibling	63 (63.63%)	48 (64.00%)	0.049	0.960
2 or more siblings	14 (14.14%)	09 (12.00%)	0.413	0.681
Having hobbies	61 (61.61%)	46 (61.33%)	0.038	0.968

Z = Standard error of difference between two proportions; *Significant

Parental educational level, maternal employment, number of siblings and hobbies of the respondents are depicted in Table-1. The differences in levels of education of mothers of girls and boys was statistically significant (Z=3.306; p=0.0009).

Table-2: Responses to questionnaire

Response	Girls (n=99)	Boys (n=75)	Z value	'p' value
Disturbed sleep	28 (28.28%)	17 (22.67%)	0.837	0.400
Dissatisfied with course	12 (12.12%)	15 (20.00%)	1.421	0.155
Studies not keeping pace	64 (64.65%)	51 (68.00%)	0.462	0.645
No extra-curricular activities	33 (33.33%)	33(44.00%)	1.436	0.149
Problem in motivating self	41 (41.41%)	35 (46.67%)	0.692	0.490
Peer competition	46 (46.46%)	29 (38.67%)	1.028	0.303
Considering other careers	23 (23.23%)	24 (32.00%)	1.289	0.197
Regret medical entrance	13 (13.13%)	09 (12.00%)	0.222	0.825
Unsure of abilities	13 (13.13%)	11 (14.67%)	0.290	0.771
Emotionally exhausted	26 (26.26%)	24 (32.00%)	0.828	0.406
Easily annoyed / irritated	47 (47.47%)	22 (29.33%)	2.422	0.015 *
Parents are supportive	74 (74.75%)	46 (61.33%)	1.894	0.587
Siblings are supportive	57 (57.58%)	26 (34.67%)	2.996	0.002 *
Fear of failure	45 (45.45%)	29 (38.67%)	0.896	0.368
Hates parental comparison	51 (51.52%)	44 (58.67%)	0.938	0.347
Parental pressure	31 (31.31%)	32 (42.67%)	1.543	0.123

Z = Standard error of difference between two proportions; *Significant

The gender difference was statistically significant in self-reported easy annoyance / irritability (Z=2.422; p=0.015) and support from siblings (Z=2.996; p=0.002). There were no significant gender differences in the other responses (Table-2). An American study observed that female students reported higher stress than their male counterparts, which adversely affected their academic performance [19].

The educational system should help students decide on future career based on their abilities and talents; develop their inter-personal skills and attempt to alleviate mental stress caused by family conditions [20]. Coping strategies include proper time management, involving in leisure-related activities, support from friends and family [21].

LIMITATIONS

This was a cross-sectional study with possibility of confounding variables. It was not possible to verify the students' self-reported responses. When compared with the large population of the students preparing for medical entrance examinations, the sample size was relatively small. Therefore, it is not possible to generalize the findings of this study.

CONCLUSION

Students who are preparing for medical entrance examinations require the necessary cognitive domain knowledge for appearing for the examinations as well as emotional and mentoring so that stress for early diagnosis and treatment of stress.

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