



Comparative Study of Stress Between Male and Female 1ST Year Medical Students

KEYWORDS

Stress, Stressor, Male, Female

Dr. Sunil Kumar Jena

Senior Resident, Department of Physiology V.S.S. Medical College, Burla, Odisha, India

ABSTRACT Medical curriculum is highly stressful because within a short period of time students have to complete theory classes of different subjects, clinical classes which includes diagnosis of disease and its treatment. Again some stress is required for learning. As the 1st year students are new to this curriculum definitely they experience some stress. For this study a total of 118 first year students were selected on questionnaire basis. Medical Student Stressor Questionnaire (MSSQ) was used. Female students have significantly more stress towards Academic Related Stressor (ARS) $p < 0.001$, Interpersonal and Intrapersonal Related Stressor (IRS) $p < 0.05$, Teaching and Learning Related Stressor (TLRS) $p < 0.001$. Level of stress is not significant regarding Social Related Stressor (SRS), Drive and Desire Related Stressor and Group Activities Related Stressor.

Introduction

Medical courses in India are very demanding for students which involve emotional aspect as well, sometimes making career in medical education very stressful [1]. The term stress was first employed in a biological context by endocrinologist Hans Selye in 1930s. Stress refers to the consequence of the failure of an organism – human or other animal - to respond adequately to mental, emotional or physical demands whether actual or imagined. Many people suffer from stress in their everyday life, while there is a close relationship between stress and mental health.

Stress is emotional disturbance or change caused by stressors. Some stress in medical school training is needed for learning [2]. Stress which can promote and facilitate learning is called 'favorable stress and stress which can inhibit and suppress learning is called 'unfavorable stress [2]. The same stressors may be perceived differently by different medical students, depending on their cultural background, personal traits, experience and coping skills. Academic related stressors (ARS) refer to any scholastic, university, college, educational or student events that cause stress on students. A study reported that top stressors were tests and examinations, time pressure and getting behind in work as well as conflicting demands, not getting work done within time planned and heavy workload [3]. Another study reported that students who are perfectionists (high self-expectations) are at greater risk for psychological distress [4]. It is perhaps due to high self-expectation to do well in examinations [5]. Interpersonal and intrapersonal related stressors (IRS) refer to any form of relationships between and within individuals that cause stress. Intrapersonal conflict, interpersonal interaction and relationship were reported as stressors for medical students, such as poor motivation to learn, conflict with other students, teachers and personnel [6]. Teaching and learning related stressors (TLRS) refer to any events related to teaching or learning that causes stress. Different study reported that dissatisfaction with quality of education, with lectures, with guidance and feedback from teachers and with recognition of work done as well as uncertainty of what is expected from the students was also perceived as stressors [7]. Social related stressors (SRS) refer to any form of community and societal relationships that cause stress. A study reported that the level of dissatisfaction in social activities was associated with psychological distress among

medical students [6]. Drive and desire related stressors (DRS) refer to any form of internal or external forces that influence one's attitude, emotion, thought and behavior which subsequently cause stress. Different studies reported that political and family pressures as well as fear of wrong career choice and unwilling to study medicine were recognized as stressors in medical students [6] [3]. All the stressors were related to the motivation of the students to learn medicine. Group activities related stressors refer to any group events and interactions that cause stress. It is understandable as most of the educational activities in medicine involve group activities. Therefore, if someone is having difficulty with group activities then the person is easily distressed. The group learning environment, including tutor performance, and interactions with peers and patients caused little stress [8].

Stress can affect the organism acutely or chronic fashion. Acute stress affects an organism in short term while chronic stress affects in long term [9]. Stress also can increase social and economic loss and decrease country's competitiveness [10]. Chronic stress has been found to be associated with abnormal autonomic nervous system functioning [11] [12]. So no doubt, stress is one of the major factors contributing to chronic disorders [13][14].

Material and Method

The study was conducted in the department of Physiology V.S.S. Medical College Burla, Sambalpur, Odisha, India. It was approved by Institutional Ethical Committee V.S.S. Medical College. For this study Medical Student Stressor Questionnaire (MSSQ) was used. It comprises of 40 items which are grouped in six domains or stressor groups i.e. Academic Related Stressors (ARS), Intrapersonal and Interpersonal Related Stressors (IRS), Teaching and Learning Related Stressors (TLRS), Social Related Stressors (SRS), Drive and Desire Related Stressors (DRS), Group Activities Related Stressors (GARS). It is a self reporting questionnaire and each item represents a particular stressor. The items are rated under 5 categories i.e. 0, 1, 2, 3 and 4 to indicate intensity of stress.

This study was conducted from January 2012 to August 2012. Students were explained about the study. A written consent was taken from each student. Questionnaires were distributed among 141 first year medical students in month

of January 2012 and 130 questionnaires were returned. Those questionnaires were analyzed and students suffering from any chronic diseases were excluded from study and 118 students were selected for study which includes 78 male and 40 female students

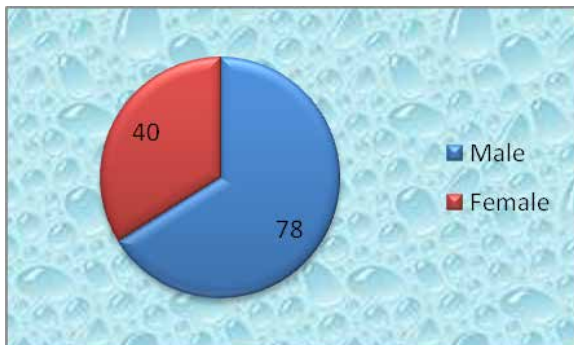


Fig 1: Distribution of subjects in male and female group.

Results

Statistical analysis was done by statistical software SPSS 16. Statistical test used was Mann-Whitney U test and level of stress between male and female was compared for each stressor group. Table 1 shows the result and it was found that female students have more stress towards Academic Related Stressors (ARS) (p < 0.001), Interpersonal and Intrapersonal Related Stressors (IRS) (p < 0.05), Teaching and Learning Related Stressors (TLRS) (p < 0.001) groups where as there is no significant difference in level of stress towards SRS, DRS and GARS stressor groups.

Discussion

Stress is a part of fast paced life. Medical students experience stress because the curriculum is highly stressful.

In this study it was found that female students have more stress towards ARS than male students. This may be due to excess consciousness of female students towards examination systems, assessment methods, grading methods, academic schedule, student activities related to academic events such as getting poor marks in examinations, high-self expectation to do well in studies, large amount of content to be studied, having difficulty to understand content, lack of time to do revision etc.

Female students have more stress towards IRS than male students. Interpersonal stressors generally relate to relationships between individuals including as verbal, physical and emotional abuse caused by other persons, and conflict with personnel, teachers, colleagues, and staff. Thus female students may be more conscious regarding this matter than male students.

Female students experience more stress towards TLRS than male students and this may be due to appropriateness of tasks given by teachers to students, teachers' competency to supervise and teach students, quality of feedback given by teachers to students, recognition and support given by teachers to students, and clarity of learning objectives given by teachers to students. The female students may react more towards these matters than male students.

SRS relates to leisure time with family and friends, working with the public, time for self, working interruption by others, and facing patients' problems. DRS relates to unwillingness to study medicine due to various reasons such as not being one's choice to study it, wrongly choosing the course, parental wish to study medicine. GARS generally relate to participation in group discussions, group presentations and others expectations to do well. There is no significant difference in level of stress towards SRS, DRS and GARS which may be due to the similar reaction of both male and female students towards these stressors.

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Stressor groups	No of Male students	No of female students	Mean Rank Male students	Mean Rank Female students	Mann-Whitney U value	P value
ARS	78	40	51.17	75.75	910	0.000
IRS	78	40	52.83	72.50	1040	0.003
TLRS	78	40	42.83	92.00	260	0.000
SRS	78	40	58.67	61.12	1495	0.710
DRS	78	40	55.33	67.62	1235	0.06
GARS	78	40	55.33	67.62	1235	0.063

Table 1: Comparison of stress between male and female subjects.

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