STRESS AND COPING STRATEGIES AMONG MEDICAL UNDERGRADUATES OF KASHMIR VALLEY, INDIA.

Community Medicine

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ABSTRACT

Background: The Bachelor of Medicine and Bachelor of Surgery (MBBS) course in India is demanding as far as student's efforts are concerned. There are certain aspects of the training process that lead to unintended negative consequences on student's physical and emotional health. The study was conducted with the objective to determine the source of stress in first and second year students of Medical undergraduates and to determine the coping strategies adapted by these students in managing their stress.

Methods: Medical students of SKIMS Medical College Srinagar were invited to participate in the study and a predesigned, pretested questionnaire was distributed among these students. The questionnaire was designed to collect information from the students regarding sources of stress and coping strategies.

Results: Among the 176 respondents, majority had academic sources of stress mainly academic workload 89.2%, more in female students (94.9%) (X^2=4.891, df= 1, p value=0.030), followed by long hours of academic work, 77.8%, again more in female students (88.6%), (X^2=9.633, df= 1, p value=0.002) and frequency of examinations 61.9% of the students (X^2 =0.296, df= 1, p value=0.638). The coping strategy adapted by medical students for stress, mainly include emotional support from family and friends 74.4%, acceptance 74.4% and by listening to music 62.5%.

Conclusion: The academic stressors were the main sources of stress and females were comparatively more stressed than males and also had fewer coping strategies.

INTRODUCTION

Stress and its psychological manifestations are inherent in human life and major source of concern in the modern-day society. Stress in individuals is defined as anything that disrupts the normal person's physical or mental wellbeing [1]. A mild form of stress may manifest as a bad mood while an extreme one may lead to an act of violence, burnout or suicide. It is normal for everyone to experience stress, but too much of stress is harmful [2]. As per World Health Organization, a stressor is any stimulus which evokes a stress response. Stressors may be real or imagined, and internal or external. The overall impact of a stressor will depend on its features and the characteristics of those who have been affected (1). Medical students face different kinds of stressors in studies and life. Beginning a university programme involves many changes in a high school students life which can be stressful. Away from home, coping with studies, demands from superiors can be difficult [3]. There are certain aspects of the training process that lead to unintended negative consequences on student's physical and emotional health [4,5]. The Bachelor of Medicine and Bachelor of Surgery (MBBS) course in India is demanding as far as student's efforts are concerned. It has been observed that medical school environments in India are extremely stressful and has lead to suicide and suicidal attempts by the students. Fear of failure, vast amount of content that has to be mastered, inability to cope with the high expectations of parents and peers are found to be the most commonly observed sources of stress [6]. Studies have shown that medical students are most distressed and 30–50% have perceived stress [7,8]. Apart from its adverse effect on quality of life of medical students, stress also influences patient care and also doctor-patient relationship. It is important that stress in medical students be recognized, and strategies developed to deal with it focusing on both individual and situational factors [2]. Students with active style have lower level of psychological distress. It is therefore important to understand the different coping strategies used by students to manage stress. Some of the coping strategies used by students may be helpful in improving the health in addition to managing stress but there are also some strategies such as smoking or alcoholism which can be the source of some other health problems. The study was undertaken to determine the sources of stress among medical undergraduates and the coping strategies adapted by them.

Objectives:
1. To determine the source of stress in first and second year students of Medical undergraduates.
2. To determine the coping strategies used by these students in managing their stress.

MATERIAL AND METHODOLOGY:

First and second year medical students (n=200) of SKIMS (Sher-i-Kashmir Institute of Medical Sciences) Medical College Srinagar were invited to participate in the study in April 2017. Confidentiality of the information provided by the students was ensured.

Study Design: It was a cross-sectional study done to understand the perception of stress in undergraduate medical students, explore the sources of stress in them and study the coping strategies used by these students. Attempts were made to involve all the students in the study after briefing them about the study.

Method of data collection: A predesigned, pretested questionnaire was distributed among these students. The questionnaire was designed to collect information from the students regarding sources of stress and coping strategies. The questionnaire was divided into three parts, academic sources of stress, non-academic sources of stress and the coping strategy adapted by medical students.

Statistical Analysis: Data was compiled in Microsoft Excel 2016 spreadsheet was analysed using IBM SPSS V23. Appropriate statistical tests were applied and p values <0.05 was considered statistically significant.

RESULTS:

Out of the 200 students among which the questionnaire was distributed, 176 returned the filled questionnaire, giving the response rate of 88%. Among the respondents 55.1% were males and 44.9% were females, the difference was not statistically significant (X^2 =0.885, df= 1, p value=0.36). As shown in Table 1, in academic sources of stress, the academic workload was perceived by maximum students, 89.2%, more in female students (94.9%) and the difference was statistically significant (X^2=4.891, df= 1, p value=0.030). It was followed by long hours of academic work 77.8%, again more in female students (88.6%) and the difference was statistically significant (X^2=9.633, df=1, p value=0.002). Frequency of examinations as source of stress was perceived by 61.9% of the students, , almost equally by both the genders (X^2 =0.296, df=1, p value=0.638).

In non-academic sources of stress, lack of time for recreation (66.5%), lack of entertainment in the institution (65.9%), political status of the valley (63.1%), being away from home (60.8%) and high parental pressure (60.6%) were perceived respectively by these students and the difference among the sexes were not statistically significant as shown in Table 2. 49.5% male students have feeling of loneliness and

among females 31.6%, the difference was statistically significant (x^2=5.708, df=1, p value=0.021). Almost similar results were obtained for family problems perceived by male and female students, 37.1% and 19.0% respectively and the difference was again statistically significant (x^2=6.951, df=1, p value=0.012).

As per the questionnaire for the coping strategy adapted by medical students for stress, emotional support from family and friends was positively responded by 74.4% students, more so in female students (82.3%) with statistically significant difference (x^2=4.630, df=1, p value=0.029). 74.4% of students adopted the stress by acceptance and 62.5% by listening to music. The differences were not statistically significant as shown in Table 3. 52.6% of the male students play sports as a coping strategy compared to 36.7% of female students. Again, the difference was statistically significant (x^2=4.422, df=1, p value=0.035).

DISCUSSION:
Among 176 respondents the majority pinpointed the academic sources of stress as main stressor, and it mainly include academic workload 89.2%, more so in female medical students (94.9%), long hours of academic work, 77.8%, again more among female students (88.6%) and the differences were statistically significant as shown in Table 1. Lack of mentorship by the senior students and most of the faculty members seem to be the reason for such a huge positive response for academic source of stress in this part of the world as supported by positive response of 54.6% of students to communicating with approaching staff in questionnaire as shown in Table 1. Similar findings were observed by Sani et al. in Kingdom of Saudi Arabia [9], in which the prevalence of stress among medical students of 71.9%, with females being more stressed (77%) than the males (64%) were witnessed. Studies conducted by, Reio et al. [10] and Steele et al. [11] supported a good relation with the teachers, congenial atmosphere in institution, and assisted learning and autonomy, may help in students in their self-determination and motivation, so that they could work hard and have a positive effect on their physical and emotional health.

In non-academic sources of stress, the major contributors perceived by respondents were lack of time for recreation (66.5%), lack of entertainment in the institution (65.9%), political status of the valley (63.1%), being away from home (60.8%) and high parental pressure (60.6%). Pratap SS, et al. conducted a study in 2013 in coastal Andhra Pradesh and reported lack of entertainment in the institution, worry about future, being away from home and lack of time for recreation as the leading cause of non-academic sources of stress among medical students [12]. Similar findings were reported by Sreeramareddy CT et al. in 2007 in a study from Nepal [13]. Political status of the valley and unpredictability are important non-academic stressors in valley because of he prevailing situation in valley from last three decades as supported by positive response of 63.1% by the respondents to political status of valley of questionnaire as shown in Table 2. The longer duration of study, and higher expectations from parents and relatives of same background acting as role models, poses a greater amount of stress on medical students [14].

In this study the common coping strategies adapted by medical students for stress in majority of cases included emotional support from family and friends and acceptance in 74.4% each and 62.5% listening to music. Similar results were reported by Pratap SS, et al. in a study conducted in Andhra Pradesh [12].

Only 4% students responded positively to tobacco and alcohol consumption as coping mechanism for stress, reflecting the cultural aspect of the valley. Studies from the United Kingdom among medical students have reported use of alcohol, tobacco and drugs as common coping strategies [15-17].

CONCLUSION AND RECOMMENDATIONS:
In this study the academic stressors were the main sources of and females were comparatively more stressed than males and also had fewer coping strategies. The major sources of stress were academic curriculum, time distribution for study and the examination system and the institutional environment.

So, modification of the academic curriculum, student-friendly environment, teaching and student assessing methods, establishing a student counselling centre in the institution with qualified psychologists, encouragement of extracurricular activities to reduce psychological stress may be helpful in improving the physical and mental outcome of the future medical graduates.

Moreover, the stressors should be analysed and addressed by the

management of the institution by using mentors and peer counselling. There should be conducive social environment for the students to minimize their stress. The MCI and Medical institutions must address this important and neglected aspect of medical education.

LIMITATIONS:
The cross-sectional design and study being conducted in only one medical college, so results cannot be generalised, although similar results have been obtained throughout the globe with some additional information in this study as per local scenario cannot be neglected. Since the information was obtained from a self-administered questionnaire, given to students, so information bias cannot be ruled out. This study didn't include all level of undergraduate medical students from different academic years. The sources of stress pointed out by the students are self-reported and ware not verified.

Table 1: Showing Academic Sources of Stress among Medical Students

Academic Sources of Stress	Students who experienced stress n (%)	Males who experienced stress n (%)	Females who experienced stress n (%)	Statistical Analysis
Following the teaching Language	96 (54.5)	56 (57.7)	40 (50.6)	x^2=0.885 df= 1 p value=0.365
Performance in examinations	94 (53.4)	51 (52.4)	43 (54.4)	x^2=0.060 df= 1 p value=0.806
Competition for marks	103 (58.5)	52 (53.6)	51 (64.6)	x^2=2.150 df= 1 p value=0.167
Frequency of examinations	112 (63.6)	60 (61.9)	52 (65.8)	x^2=0.296 df= 1 p value=0.638
Long hours of academic work	137 (77.8)	67 (69.1)	70 (88.6)	x^2=9.633 df= 1 p value=0.002
Communicating with/approaching staff	92 (52.3)	53 (54.6)	39 (49.4)	x^2=0.485 df= 1 p value=0.545
Academic workload	157 (89.2)	82 (84.5)	75 (94.9)	x^2=4.891 df= 1 p value=0.030

Table 2: Showing Non-academic Sources of Stress among Medical Student.

Non-academic Sources of Stress	Total students who experienced stress n (%)	Males who experienced stress n (%)	Females who experienced stress n (%)	Statistical Analysis
Accommodation	87 (49.4)	52 (53.6)	35 (44.3)	x^2=1.508 df= 1 p value=0.230
Adjustment with room mates	45 (25.6)	27 (27.8)	18 (22.8)	x^2=0.584 df= 1 p value=0.490
Relation with friends	34 (19.3)	23 (23.7)	11 (13.9)	x^2=2.676 df= 1 p value=0.126

Feeling of loneliness	73 (41.5)	48 (49.5)	25 (31.6)	x^2=5.708 df= 1 p value=0.021
Lack of entertainment in the institution	116 (65.9)	59 (60.8)	57 (72.2)	x^2=2.486. df= 1 p value=0.150
Lack of time for recreation	117 (66.5)	59 (60.8)	58 (73.4)	x^2=3.098 df= 1 p value=0.081
Health condition	63 (35.8)	33 (35.1)	30 (38.0)	x^2=0.296 df= 1 p value=0.637
Being away from home	107 (60.8)	59 (60.8)	48 (60.8)	x^2=0.000 df= 1 p value=1.000
Financial problems	57 (32.4)	37 (38.1)	20 (25.3)	x^2=3.272 df= 1 p value=0.077
High parental expectation	106 (60.6)	62 (64.6)	44 (55.7)	x^2=1.433 df= 1 p value=0.277
Worry about future	99 (56.3)	58 (59.8)	41 (51.9)	x^2=1.103 df= 1 p value=0.294
Sleep disturbances	77 (43.8)	48 (49.5)	29 (36.7)	x^2=1.103 df= 1 p value=0.294
Political status	111 (63.1)	60 (61.9)	51 (64.6)	x^2=0.136 df= 1 p value=0.755
Family problems	51 (29.0)	36 (37.1)	15 (19.0)	x^2=6.951 df= 1 p value=0.012

Table 3: Showing Coping Strategy adapted by Medical Students for Stress.

| Coping Strategy	Total n (%)	Males n (%)	Females n (%)	Statistical Analysis
Acceptance	131 (74.4)	74 (76.6)	57 (72.2)	x^2=0.392 df= 1 p value=0.603
Emotional support from family/friends	131 (74.4)	66 (68.0)	65 (82.3)	x^2=4.63 df= 1 p value=0.029
Going to place of worship	81 (46.0)	47 (48.5)	34 (43.0)	x^2=0.514 df= 1 p value=0.544
Watching a movie	103 (58.5)	52 (53.6)	51 (64.6)	x^2=2.150 df= 1 p value=0.167
Playing sports/games/physical exercises	80 (45.5)	51 (52.6)	29 (36.7)	x^2=4.422 df= 1 p value=0.035
Tobacco/alcohol consumption	7 (4.0)	6 (6.2)	1 (1.3)	p value=0.131 (Fisher's Exact Test)
Positive reframing	95 (54.0)	48 (49.5)	47 (59.5)	x^2=1.756 df= 1 p value=0.224
Travelling	85 (48.3)	47 (48.5)	38 (48.1)	x^2=0.002 df= 1 p value=1.000
Meditation	61 (34.7)	31 (32.0)	30 (38.0)	x^2=0.696 df= 1 p value=0.405
Listening to music/dancing	110 (62.5)	55 (56.7)	55 (69.6)	x^2=3.101 df= 1 p value=0.087
Professional Support	72 (40.9)	35 (36.1)	37 (46.8)	x^2=2.083 df= 1 p value=0.167
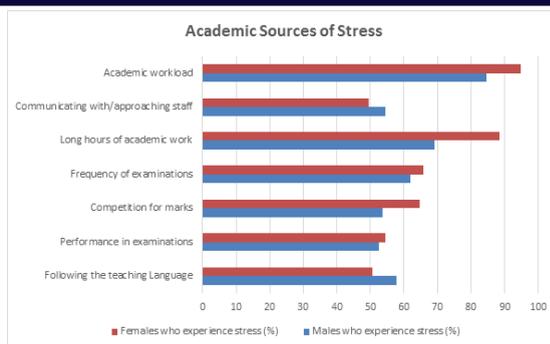
Figure 1: Bar chart showing Academic Source of Stress among Medical Students.
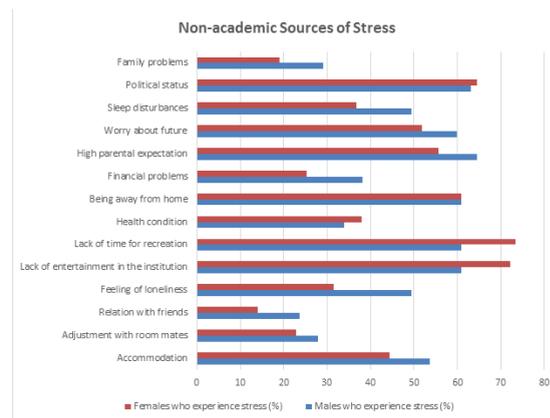

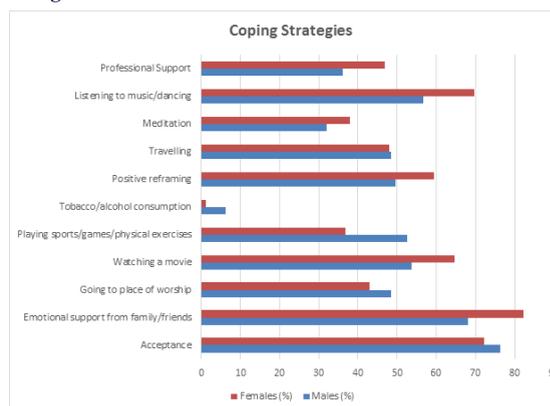**Figure 2: Bar chart showing Non-academic Source of Stress among Medical Students.**

Figure 3: Bar chart showing Coping Strategies of Medical Students for Stress as per Sex.

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