PERCEIVED STRESS, TRIGGERING FACTORS AND COPING STRATEGIES AMONG FIRST YEAR MBBS STUDENTS: A CASE OF REHMAN MEDICAL COLLEGE PESHAWAR, PAKISTAN

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Abstract

Introduction: Every individual experiences some type of stress, but life of a medical student is relatively more stressful. Rehman Medical College adapted to the integrated modular system in order to expose its students to clinical environment right from the first year, hence adding more to an already stressful environment. This study aimed to evaluate stress levels, triggering factors and coping strategies among first year MBBS students at Rehman Medical College Peshawar, Pakistan.

Material & Methods: It was a cross-sectional survey based on self-administered questionnaire, where Perceived Stress was measured using the Perceived Stress Scale (PSS-14). A total number of 47 medical undergraduates from the first year MBBS participated in the study. SPSS version 15 was used for data analysis.

Result: Ninety percent of students reported some level of stress; 14(30%) were in very much stressful condition with significant difference among male and female students (p=0.004). The major triggering factors among students were difficulty in coping with integrated curriculum, frequent examinations, environment of institute and economical support. Ignoring the stress, going to sleep, indulging in games and sharing of problems were the main coping strategies adopted by the students for managing their stress levels.

Conclusion: Stress among medical students was frequent, triggered by high parental expectations, difficulty in coping with modular curriculum, frequent examinations, institutional environment and worries of economic support. Ignoring the stress, going to sleep, indulging in games, sharing the problem with relatives or friends were the major coping strategies.

Keywords: Physiological stress, Medical students, Mental Suffering, Curriculum, Counseling.

INTRODUCTION

Stress is usually defined as the body's nonspecific response or reaction to demands made on it, or to disturbing events in the environment. It is a process by which we perceive and cope with environmental pressure and challenges (1, 2). Thus, stress is simply, the emotional disturbances or alteration caused by triggering/stressors factors.

Every adolescent experiences some type of stress during their past. Stress could be either good or bad depending on the source, situation and coping ability of the person.

Medical education/training has always been regarded as a highly tense environment for students which further adds stressful situation (3). Students are subjected to different kinds of stressors, such as the pressures of academics with an obligation to succeed, difficulties in assimilation with integrated modular system and organization culture. The students also face social, emotional and physical and family problems which boost their stress and may affect their learning ability and academic performance depending on their cultural background, personality traits, experience and coping skill (3, 4). Furthermore literature also shows that such type of stressful situation led to drug abuse, use of alcohol and medical student suicide (5-8). Apart from this it is also confirmed that these alarming facts are not significantly associated with distressed mental status, emotional and

physical morbidity(8, 9). Literature reveals high prevalence of stress among medical students, ranging from 21% to 56% (10-12). These have more predominantly been prevalent among the first year students as they face difficulties in adjustment to new environment of medical training/education (10, 13). Literature also revealed high rate of stress related psychological problems in medical student at various stages of medical training, particularly at the beginning or at of first year(14).

Earlier studies have classified stressors into three main categories: academic pressures, social issues and financial problems (15, 16). In addition to these triggering factors, stress among medical students is also induced by unsuitable teaching methods; an unsatisfactory college study environment; fear of failure in examinations, and socio-economic problems (17, 18). All of those triggering factors result in perceived anxiety and depression, negative life-style practices and a worse status of physical and mental health changes since the start of their college studies (18, 19). However using effective and appropriate coping strategies by students may neutralize the impact of newly encountered stressful situations and reduce the level of stress (9, 20).

Study at Rehman Medical College (RMC) could also be a stressful experience as it believes in quality and standard medical education. It does not compromise with discipline and standards of education. The organization has explicit commitments to provide the best possible facilities to the young doctors and expect reciprocal commitments of full devotion to the study.

To achieve their mission RMC has formulated and implemented different international level strategies like following integrated modular system, conducting regular formative, summative assessment, objectively structured practical examination (OSPE),

objectively structured clinical examination (OSCE) and promoting research activities. Therefore, it is noteworthy that stress on medical students need to be recognized, and strategies should be developed to focus on both individual and institutional factors.

Purpose of this study was to provide baseline data of magnitude of stress among First Year MBBS students at RMC Peshawar as such a study was not previously reported in KPK. By determining the stress level, stressors, coping strategies and factors contributing to the distress we can gain valuable information which will help teachers and students to handle stressors more efficiently.

MATERIALS & METHODS

The present questionnaire based survey was undertaken with the pioneer First Year MBBS students admitted to RMC Peshawar in 2010. All 100 students were invited to voluntarily participate in this study in a universal sampling approach. Students were convinced to take part in the study however they were not forced to be part of the study. Thus those students were excluded who were not willing to take part in the study at any time before, during or even after the study.

Data Collection Tool
Data were collected using self-administered questionnaire consisting of four parts: the first part for demographic data, the second part for perceived stress, third part for triggering factors and the final part was about coping strategies to resolve the stress. Perceived stress was measured using the perceived stress scale (PSS-14) which comprised of stress related questions. The response varying from 0 to 4 for each item (never, almost never, sometimes, and often), respectively on the basis of their occurrence during one month prior to the survey (21). The PSS has an internal consistency of 0.85

(Cronbach alpha co-efficient) (21). It assesses the degree to which participants evaluate their lives during the journey of medical education as being stressful during the past month. This tool was modified according to the local context.

Process of data collection

After taking verbal informed consent, the students were asked to complete/fill in the questionnaire under guidance of research team member. The data were collected by guided self-administered questionnaire which were taken back on the same day from participants.

Data Analysis

Data were analyzed using Statistical Package for Social Sciences (SPSS) version 15.0. All data collection forms were given serial numbers. Data were entered, then for each variable. Frequencies and percentages were calculated for demographic data of students. Chi square test was used for significance testing of qualitative variables keeping $p \leq 0.05$.

RESULTS

Forty-seven students showed interest to take part in the study. Both male and female were approximately equal in number (48.9% male and 51.0% female). Majority (74.5%) of fathers/guardians of students had master's degrees; 76.6% of parents/guardians were either government or private employees, whereas 23.4% had their own business (table 1).

Table 1: Demographic data of students (n=47)

Demographic data	Percentage
Gender	
Male	48.9
Female	51.1
Fathers' educational level	
Matriculate	02.1
FSc	04.3
Graduate	19.1
Master	74.5
Fathers' Occupational Status	
Government Employee	48.9
Private Employee	27.7
Self Employed	23.4

Presence of very much stressful condition was reported by 14(30%) students, whereas 28(60%) reported that they felt a little stress during last month (table 2). A significant difference was seen among males and females (p=0.004). Similarly 33(70%) students felt anxiety due to some reason. When asked whether they had been able to manage stress, approximately 91% of them believed that they were able to manage stress. Most (38, 81%) felt irritability due to some reason. Similarly, 42(89%) students said they were able to manage their day to day problems, but 38(81%) students found it hard to deal with personal problems. Moreover 35(74%) students responded that they felt overburdened by such problems.

Table 2: Presence and perception of stress by medical students (n=47).

Core theme of stress		Total n =47 f (%)	Male n =23 f (%)	Female n = 24 f (%)
Level of stress felt	No stress	05(10%)	05(22%)	00(00%)
	A little	28(60%)	11(48%)	17(70%)
	Very Much	14(30%)	07(30%)	07(30%)
Felt anxiety due to some reason?	Yes	33(70%)	15(65%)	18(75%)
	No	14(30%)	08(35%)	06(25%)
Felt irritability (last month)?	Yes	35(75%)	16(70%)	19(79%)
	No	12(25%)	07(30%)	05(21%)
Able to manage stress?	Yes	38(81%)	17(74%)	21(87%)
	No	09(19%)	06 (26%)	03(13%)
Able to handle day to day problems?	Yes	42(89%)	21(91%)	21(88%)
	No	05(11%)	02(09%)	03(12%)
Hard to deal with personal problems?	Yes	38(81%)	19(83%)	19(80%)
	No	09(19%)	04(17%)	05(20%)
Felt overburdened by the problems	Yes	35(74%)	18(78%)	17(71%)
	No	12 (26%)	05(22%)	07(29%)

Perceived triggering factors

Perceived stressors included; high parental expectations, difficulty in coping with integrated curriculum, finding relative reading materials and different level of examinations. In addition it also included environment of institute, economical support and teacher grudges (table 3).

Table 3: Stress triggering factors perceived by 1st year MBBS students (n=47)

Triggering factors	Responses	Percentages
Coping with integrated curriculum	yes	61.7%
	no	38.3%
Post session test	yes	53.1%
	no	46.8%
End of week test	yes	53.1%
	no	46.8%
End of module test	yes	53.1%
	no	46.8%
Annual examination	yes	65.9%
	no	34%
Environment of institute	yes	70.3%
	no	27.6%
Economical support	yes	57.4%
	no	42.5%

Result reveals that 36% of participants were stressed because of high parental expectations. In addition difficulty in coping with integrated modular curriculum was another stressor for 62% of the students. Similarly high frequency of examination was found as a stressor, where post session test, end of week test, and end of module test was perceived as triggering factors by 53% of students. While 66% student valued annual examination as such.

Majority (70%) of students felt uncomfortable in college. This showed significant difference (p=0.026), where female felt more comfortable than male students. In RMC, special consideration was given to the economic background of the students during admission process and those students were preferred who had sound financial background but still 57% students perceived financial support as a stressor. Data showed that about 26% of male students felt stress due to grudge holding teachers but no female reported such happening which indicated that male student more often (p= 0.007) faced teacher grudge (see table 3).

Coping strategies

Sharing of problems with friends and colleagues or family members was the most considerable strategy for relieve of stress. Nearly 74% of students were using such approach. 57% students reported that they simply ignore (running away from the stress) when they feel stress due to some problem. Only 11% of students were using relaxant medicines out of which 60% were female. Similarly 52% of students were also used to take rest when they felt stress. In the same way 70% of students indulged in game (computer or physical) to run away from Perceived stress (see table 4).

Table 4: *Coping strategies opted by students for relief of stress (n=47).*

Coping Strategies	Responses	Percentages
Ignoring stress	yes	53%
	no	47%
Taking medicine	yes	11%
	no	89%
Using tobacco	yes	9%
	no	91%
Sharing of problems	yes	74%
	no	26%
Going to sleep/ Taking a nap	yes	52%
	no	48%
Indulging in games	yes	70%
	no	30%

DISCUSSION

The purpose of this study was to have snapshot of perceived stress, triggering factors and coping strategies among 1st year MBBS students at RMC. The prevalence of distress among students was categorized as feeling no stress, little stress and very much stress. Study shows that 30% students were in very distressed condition due to some problems they faced

during last month. A significant difference (p=0.004) of perceived stress was found among male and female participants, where nearly all of female have felt certain level of stress. This prevalence was higher as compared to the normal population (22) and findings of other local studies (23-25). However, result was consistent with the findings of previous study conducted with medical students (3).

Frequent evaluation strategy is the main theme of this integrated educational system, while students are not accustomed to this type of evaluation strategy; therefore most of students were in stress because of frequent evaluations (exam stress). Similar findings were also evident by other studies (26, 27). Although the increased perceived stress was due to frequent evaluation and difficulty in coping with integrated modular system but it is expected that as students get used to it, they would appreciate this system.

When students were asked whether they have felt anxiety (feeling of fear, unease, and worry) due to some reason, nearly 70% of students answered with yes. Similarly 75% reported that they have been irritated by problems they faced during last month. This indicate that majority of students are in transition stage of stress i.e. more frequent feelings of fear, unease, anxiety and irritability could lead to stress among students (28).

As stress is associated with multiple factors, hence it could impair one's day to day life. As medical students have very busy schedule, 11% of students reported that they were not able to handle their day to day problems, while 81% felt it hard to deal with their personal problems.

As a result 74% of students felt overburdened by busy schedule, high parental expectation, teacher grudge, frequent evaluations as well as personal and day to day problems. Consequently 53% students felt that the problem which they faced last month were

some time not in their control, while 15% were often not in command of controlling their problem. The same indicators have also been highlighted with details by Disability Resource Centre (DRC), University of Cambridge. They noted that most people experienced different problems (personal and job related) at some stage of their lives which led to certain level of stress (28). Especially in case of students, frequent examination, due dates of assignments, worries about failure and other pressures can quickly transform these into problems that affect academic progress, or may itself be the problem (28). Personal problem like leaving home, family problems, relationship break-up, being ill, experiencing discrimination, pregnancy, and use of recreational drugs are other causes of stress (28).

Attempting to understand what was causing stress was a really hard proposition because it could be just about anything that varies noticeably from one person to the other. There were numerous triggers that would and did result in stress in various individuals. But keeping the content of medical education and context of RMC, we asked questions about factors related to their education and life. The main triggering factors were difficulty in coping with modular curriculum, frequent examination, organizational environment and economical support which are also supported by literature (20,29, 30, 31).

Different approaches were tried by students to relieve their stress. Majority (53%) of students tried to ignore the stress, while 74% and 52% used to share the problems and took more frequent naps respectively; 70% indulged themselves in different types of games. In addition very low numbers of students (11% and 9%) were using medicine and tobacco respectively.

Limitations

A low response rate resulted in a smaller than expected sample size that was not enough to generalize the results.

Conclusion

Stress was a common occurrence among first year MBBS students at RMC. The chief contributors were difficulty in coping with modular curriculum, frequent evaluations, economical support and high parental expectations. The main coping strategies were indulging in games, prayers, sleeping or just ignoring the stress. There is a need for further assessment and prompt psychiatric counseling to prevent development of panic states.

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