

Perceived Stress and Coping Profile of Undergraduate Medical Students: A Cross Sectional Study

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ABSTRACT

Background: In the current competitive world, every student's life is very stressful due to various factors like studies, exams, batch mates, lecturers or pressure by parents. Stress is sometimes called as the wear and tear experienced by everyone's body because we need to adjust to the ever changing environment. **Objective:** Aim was to assess the perceived stress and coping profile among undergraduate medical students in Bagalkot. A total of 100 undergraduate students from S. N. Medical College, Bagalkot were included based on systematic random sampling test methods. Each enrolled student was given two self-rating questionnaires-Perceived Stress Scale and Brief Cope Inventory. Chi-square test and Fisher's exact were used for analysis. **Result:** Majority of study participants had belonged to very high health concern level followed by high health concern level. Most of the participants used self-distraction and active coping strategy. Perceived stress was not associated with sex, religion, place of domicile or type of the family. **Conclusion:** The effect of stress depends on the way it is perceived. The coping strategies are usually influenced by socioeconomic and cultural characteristics. So they vary from individuals to individuals. Students who are stressed must receive counseling on how to manage and cope up with the stress. We need to enforce early interventions strategies to improve the quality of life of each student by reducing the stress.

Keywords: Perceived Stress, Coping Profile, Medical Undergraduates.

Medical education is the most stressful period in a budding doctor's life because of multiple reasons like heavy syllabus and competition. If we take stress with a positive attitude, it will

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compel us to act on any situation. But when taken in a negative sense, it will lead to feelings of rejection, anger, and depression-health problems like headaches, stomach upset, sleep disturbances, ulcers, hypertension, heart ailment, and stroke.(1)

Stress contributes to various health problems everywhere. We feel stressed out even at home, office, and academic environments. The consequences of stress differ in what way it is thought and the coping strategies adopted varies between individuals and are influenced by ethnicity, cultural characteristics etc.(2)

The etio-pathogenesis of stress is multi-factorial and differs across environments. Among university students, perceived stress takes the form of academic stress triggered by academic goals, financial burden, time management pressures, and concerns about health.(3)

Stress in medical fraternity is an established phenomenon encountered worldwide and many students seem to be under distress at all stages including pre-clinical, paraclinical, and clinical years. (4, 5, 6, 7)

Stress might lead on to depression, anxiety, alcohol use, nicotine use, burnouts leading to discontinuation of studies, and also suicidal ideas. (8, 9)

Coping strategies are the thoughts and actions used while dealing with a threatening situation. A stressful situation may be considered a threat for one but not necessarily for his/her neighbor. Two people may become stressed by the same situation, but for different reasons. As we all become stressed for one or the other reasons we need to choose a coping strategy depending upon our perception of the severity of the stress. We have problem focused and emotion focused coping strategies.

If a student is mentally healthy, he can have better social relationships, more enthusiasm to learn with ambition to achieve his future goals. Students are subjected to experience many mental disorders due to stress.(10)Stress during education impairs student's cognitive ability and distorts perception(11)

The adverse effect of psychological distress among students lowers their self-esteem which might cause many problems at both personal and professional levels leading to college dropout, impaired ability to work effectively, poor academic, disturbed relationship and suicide. (12)

Few previous studies were conducted in Bagalkot and none of the previous studies have evaluated students' coping strategy. Taking into consideration all these factors it becomes an interesting avenue to explore stress and what coping mechanisms they adopt among undergraduate medical students in Bagalkot.

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Aim:

- To assess the perceived stress and coping profile among undergraduate medical students studying S. N. Medical college, Bagalkot.

METHODOLOGY

Design of the Study

Study design: College based - Cross sectional study.

Study group: Undergraduate medical students

Study period: April 2016

Sample size and its calculation:

All eligible undergraduate medical students according to inclusion criteria are taken.

Sample size was calculated as below:

According to analytical study done by Nandi M, Hazra A , Sarkar S, Mondal R, Ghosal MK at Institute of Post Graduate Medical Education and Research , Kolkata revealed the prevalence of stress among medical students was 43.35% .

Considering this, our sample size was calculated. Hence, the prevalence was taken $p=43.35$. The allowable error (l) is taken 10%.The sample size was calculated with the formula

$$\begin{aligned} N &= 4pq/l^2 \\ P &= 43.35, q=56.65, l=10\% \\ &= 4 \times (43.35) \times (56.65) / (10)^2 \\ &= 98.23 \\ &= 98 \end{aligned}$$

So the desired sample is 100. The 100 undergraduate medical students are selected for study by using systematic random sampling test methods.

Inclusion criteria

- a) Undergraduate medical students residing at the hostel, S.N.Medical College, Bagalkot.
- b) Individuals giving informed consent.

Exclusion criteria

- (a) Patients previously diagnosed or individuals on treatment for psychiatric disorders.

Parameters Studied and Techniques to be Employed

Ethical clearance was obtained from the Institute's Ethics Committee (Human Studies). Written informed consent (English) was taken from all study subjects, before enrolment in the study.

Collection of samples

We gave the number for all 500 UG students, then every 5th student is selected for the study.

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This cross-sectional study enrolled 100 undergraduate medical students. The nature and the purpose of the study was explained briefly to the study population in the informed consent form and then the study population were recruited according to inclusion-exclusion criteria based on universal sampling. Then, specially constructed semi structured Proforma was given to the study population for collecting socio-demographic details and collecting various study parameters. Standardized scales as below, which were self-administrable, were handed over to the sample population.

1. The Perceived Stress Scale (PSS) is the most widely used psychological instrument for measuring the perception of stress. It measure show much a situations in anyone's life are perceived as stressful. The questions in the scale enquire the participants about their feelings and thoughts during the previous one month. In every case, participant is asked to indicate by circling how often he/she felt or thought a certain way ranging from 0 means never to 4 referring very often. We need to reversing responses to get the PSS scores (e.g., 0 = 4, 1 = 3, 2 = 2, 3 = 1 & 4 = 0) to the 4 positive items (items 4, 5, 7, & 8) and then adding all the scale items. Interpreting scores: 0-7=very low health concern, 8-11 is a low health concern, 12-15= average health concerns, 16-20=high health concern, 21+ =very high health concern. The PSS was initially designed for use in community samples with minimum qualification of high school education. The items are simple to understand, and the different responses are grasped easily. The questions are of a general nature.(13)
2. Brief Cope Inventory: The Brief COPE is a self-report questionnaire used to assess a number of different coping behaviors and thoughts after a person's response to a specific situation. It consists of 14 subscales: self-distraction, active coping, denial, and substance use, use of emotional support, use of instrumental support, behavioral disengagement, venting, positive reframing, planning, humor, acceptance, religion, and self-blame. After reading a situational specific scenario, 28 coping behaviors and thoughts (2 items for each subscale) These items deal with ways one is coping with the stress in his/her life. There are many ways to try to deal with problems. These items ask what the participant does to cope with the given situation. Each item says something about a particular way of coping. It assesses to what extent the participant is doing what the item says. How much or how frequently. Participant is asked to rate each item separately in his/her mind from the others, with a scale of 1 (—I haven't been doing this at all) to 4 = 0.57-0.90α(—I've been doing this a lot. (14) It is a well validated scale even in Indian population. (15)

During the study period, the following parameters were estimated

Data was collected and tabulated using Microsoft excel. Frequency and percentages calculated for all quantitative measures. Mean and standard deviation were calculated for qualitative measures. Chi- square test was used to analyze categorical values. P value of <0.05 is considered as statistically significant. SPSS 11 was used to process the data.

RESULTS

The mean age of the respondents was 21.6years (SD-1.75). Of the 100 participants 78% were male, 73% were from urban background, and 79% were from nuclear family and most of them were from higher socio-economic status.(Table 1) Based on the Perceived Stress Scale, majority belonged to very high health concern level 42% followed by high health concern level 28%.(Table 2) Based on Brief Cope Inventory, 45% of study participants are having self-distraction, 38%-active coping, 13%-denial, 11%-substance use, 24%-use of emotional support, 30%-use of instrumental support, 12%-behavioral disengagement, 16%-venting, 17%-positive reframing, 25% -planning, 28%- humour, 24%-acceptance, 27%-religion and 26%-self-blame. Perceived stress was not associated with gender, religion, place, type of family or year of MBBS. They are not statistically significant.

Table 1: Descriptive statistics of socio-demographic factors among medical undergraduates

Variable		Numbers %
Gender	Male	78%
	Female	22%
Age(in years)	16-20	26%
	21-25	71%
	26-30	3%
Year of MBBS	First	7%
	Second	36%
	Third	27%
	Fourth	30%
Place	Rural	27%
	Urban	73%
Family Type	Nuclear	79%
	Joint	21%
Socioeconomic status	Higher	99%
	Lower	1%
Habits	Nil	95%
	Alcohol Abuse	1%
	Nicotine Use	4%

Table 2: PSS Scores and Percentage of stressed students

PSS Scores	Percentage of Students
0-7	2%
8-11	12%
12-15	16%
16-20	28%
21+	42%

DISCUSSION

Stress is experienced in each and every field by every one of us in day to day practice. Main factors related to students' stress may be attributed to parents' expectations, long study duration for completing MBBS. These lead to a large amount of stress on medical students. It is essential for students to be mentally sound to succeed in academics. There are various scales to assess the stress like GHQ-28, DASS-21 and Perceived stress scale, which are widely used. These scales have been tested and validated in multiple languages. As found in our study, other studies also show that these scales have a good internal consistency. Our study reports a very large number of medical students experiencing high amount of perceived stress, and the coping strategies used by stressed students to deal with the stress are different from that used by non-stressed students. One study conducted by Sreerama reddy et.al., showed similar findings.(16)A study by Redhwan et.al. Among medical students in Malaysia reported that most common methods used to deal with stressful events were the active coping strategies.(17)

In a study done by Salam A et.al., it was found a total of 41.9% of the medical students were having emotional disturbances.(18)Stress can occur due to variety of factors like social adjustment to the environment, assignments, relationship with others, competitive pressure to secure a maximum marks in exams. The ability to deal with the stress depends on individual coping skills. Excessive exposure to stress may pose to physical and mental health problems. (19)In another study by Zaid ZA et.al, it was noted that the prevalence of emotional disorders among students was very high and showed significant association between emotional disorders and students' relationship with the parents, siblings and teachers and also the grade of pressure before the exams. It is better have high index of suspicion about emotional disorders at an early stage so that we can offer treatment to those who are affected. (20)Stress contributes to multiple health related problems worldwide. Medical students are exposed to different stressors during their study period. Majority of them used active coping and self-distraction rather than avoidant strategies. If we are able to assess the causes of stress among students and the ways the students use to deal with the stress will aid the teachers to monitor and control the stress inducing factors in order to reduce stress experienced by students.

CONCLUSION

The understanding of stress is complex and causes are multi-factorial. Finding the students in distress will help reduce psychiatric morbidity and even prevent suicide attempts. Assessing students' problems will definitely help prevent the ill effects of stress on health and academic performance. Our study results also warrant the need for further study, in the form of longitudinal follow-up. We can help the students to cope up with their problems in the academics by stress management programmes in all medical colleges like conducting workshops on stress and effective coping strategies. As the well-known saying goes, there is no health without mental health and we want to conclude by saying that emotional disturbances in the form of depressive,

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anxiety symptoms are present in larger rate among undergraduate medical students that require early intervention.

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Abbreviations: STS – Stress, PSS – Perceived stress scale, MS – Medical Students, UG – Undergraduates.

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