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A Study of Perceived Stress among Undergraduate Medical Students of a Private Medical College in Tamilnadu

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Abstract: ***The awareness of stress relieving techniques has led to the decline of stress among the population as a whole as revealed by various studies. But the same does not apply to the student community more so the medical students. The present study was conducted to determine the problem of stress in a private medical college so as to design and implement prevention and control strategies. Method adopted was a cross-sectional study design and the study population comprised of medical students at different stages of training in the institution. Cohen's PSS scale was the instrument used for the purpose. The study revealed that majority 200(59.9%) of the students in all the semesters showed mild stress and the proportion of severe stress was about 4(1.2%).This stresses the role of implementing immediate intervention programmes***

Keywords: Stress, medical students, academic performance

1. Introduction

In the process of accomplishing our goals and responsibilities, we humans are pressurised into following certain rules and display certain behaviours in the society. Inability to cope with this often leads to stress. Stress can be positive or negative. Positive stress is called eustress and negative stress, distress. Eustress triggers the body alarm, and enhances attention, performance and creativity. It has temporary effects only. Distress has negative effects on the body, impairing the person's physical and mental wellbeing.

Stressful academic pressures are there in all fields of education and in all agegroups. Medical schools have unique stressors beyond those of university education. Tertiary medical training has always been regarded as highly stressful[1]. Different studies conducted worldwide among medical students have reported prevalence of stress ranging from 27-73%[2].Various stress factors reported in studies among medical students are volume of material to be learned, long working hours, competitive environment, lack of recreational activities, staying away from home, financial problems.

High levels of stress may have a negative effect on both cognitive functioning and comprehension of medical students [1]. Stress has been found to be associated with psychiatric illnesses like anxiety and depression, interpersonal conflict, sleep problems on one hand and lifestyle changes on the other. It was also reported to decrease attention, hamper decision-making, and reduce students' abilities to establish good relationships with patients resulting in feeling of inadequacy and dissatisfaction with clinical practice in the future. Furthermore, it was linked to medical student suicide, drug abuse and use of alcohol. These facts confirm the negative association of stress with mental, emotional and physical morbidity. Such situations invariably affect the lives of the patients and the health of the community. Therefore, early detection and intervention may prevent and minimize the effects of stress on the students at a later date.

There is an urgent need for every medical college to devise measures to identify stress among the medical students as an ongoing activity and develop strategies to deal with it both at the individual level and curricular level by bringing reforms in medical education. Taking note of the high dropout rate of two to three students every year due to mental illnesses and also the increasing number of coping up problems brought to the notice of the faculty, the present study was carried out in a private medical college in TamilNadu with the objective to determine the problem of perceived stress among undergraduate medical students and to identify the probable factors responsible for it.

2. Methodology

The study was conducted in a Private medical college situated in rural Tamilnadu. The students admitted to the college came mainly from two states,Andhra Pradesh and Tamilnadu and on observation, were from affluent well to do families. Almost all the students were residing in the hostel situated within the premises. The total strength of students was654 distributed throughout the four and half year course and nine semesters.

A cross-sectional study design was opted and the study population comprised of all the medical students at different stages of training in the institution. Sample size was calculated keeping the prevalence at40% as noted in other studies, and found to be 267 (allowable error of 15%) rounded off to 300(adding 5% for adjusting for respondents). To meet the said sample,50% of students were selected from each of the nine terms. Using the attendance

register, the students with either odd or even roll numbers, term wise were identified as the study population. The decision of selecting either odd/even number for each term was by random method. Data collection was done in small batches. Adequate time was given to the students to complete the questions. Data collection spanned over the period of one month.

All students who participated were informed about the objectives of the study and the instrument used. They were also informed that participation was voluntary and anonymity would be maintained. Verbal consent was obtained from them before handing over the questionnaire. Two to three attempts were made to trace the students who were absent during the period of data collection.

The instrument used was the Perceived stress scale by Cohen.S.et al. It is the most widely used psychological instrument for measuring the perception of stress. The PSS has an internal consistency of 0.85 (Cronbach a co-efficient) and test-retest reliability during a short retest interval (several days) of 0.85 [3].

The PSS-14 has a possible range of scores from 0 to 56. The range of PSS scores were also divided into stratified quartiles. Based on the scoring, the lower quartile was classified as not stressed, next quartile as borderline, the third quartile as mild stress and the fourth as severe stress (28 being the operational cut off value for the upper bound). This cut off value was selected in accordance to similar studies from Pakistan and Egypt[4],[5].Data was analysed using SPSS 21 software.

3. Results and Discussion

The study was carried out on three hundred and thirty four students distributed in all the nine semester (taking 50% of students in each term).Of these, 75 were in first year,92 in second year and 76in third year and 91 in final year. The mean age of the participants was 20.25 (± 3.6 SD) years

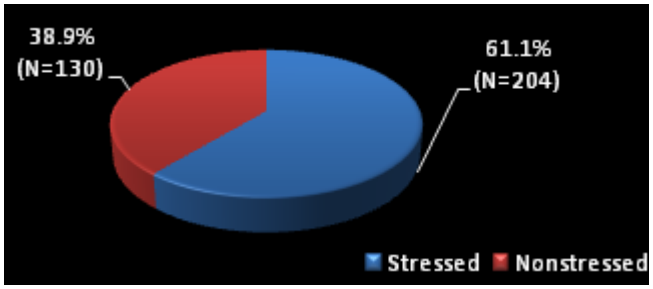

Figure 1: Problem of Stress among medical undergraduate students

The proportion of students with stress in the present study was found to be 61.1% [Fig 1].Brahma Bhatt et al [2]in his study reported a stress of 42.5% among medical undergraduates. A studydone in Sindh (Pakistan) [6], reported that overall 85% of students felt stressed at one or other time during their study period. A study done in Mumbai (India) [7], reported that 73% of the students perceived stress at some point or the other during their medical schooling. The varied results in different studies can be attributed probably due to factors like the settings of the medical school, the curricula, evaluation (examination) system etc. Also, these studies have used different instruments to measure stress. This limits the comparability among these studies [2].

Further, it was found that majority 200(59.9%) of the students in all the semesters showed mild stress and the proportion of severe stress was about 4(1.2%). And 125(37.4%) were in the borderline vulnerability for stress [Table 1].

Table 1: Distribution of Stress in the Study Population by PSS Score

PSS Score	Frequency (%)	Level of Stress
0-14	5 (1.5)	No stress
15-28	125 (37.4)	Borderline stress
29-42	200 (59.9)	Mild Stress
43-56	4 (1.2)	Severe stress

Of the students who had mild stress, 84.6% were in the final year with almost equal proportion (50%) of students in other years [Table 2]. This reflects the gravity of the situation and the need for immediate intervention. The reason may be their anxiety and apprehension for their future: the post-graduation course to pursue, the competition of the postgraduate examinations, the answer to: “next what?” and also the difficulty in comprehending the clinical subjects.

Table 2: Academic Year Wise Distribution of Stress Scores

Year of Study	PSS SCORES				
	0-14 (%)	15-28 (%)	29-42 (%)	43-56 (%)	TOTAL
I	1 (1.3)	33 (44)	40 (53.3)	1 (1.3)	75
II	4 (4.3)	40 (43.5)	46 (50)	2 (2.2)	92
III	0	38 (50)	37 (48.7)	1 (1.3)	76
IV	0	14 (15.4)	77 (84.6)	0	91
TOTAL	5 (1.5)	125 (37.4)	200 (59.9)	4 (1.2)	334

Only a minority of students 5(1.5%) were in the not stressed category and they were in the first and second year. Surprisingly, there was one severely stressed student each in first, second and third year.

On item analysis of the perceived stress scale [Table 3], it was found that about 143(42.8%) felt things were going their way only sometimes and 35(10.5%) felt things never went their way. Because of things that were outside their control, 110(32.9%) got angry sometimes. Almost equal number of students felt angry fairly often and very often. This shows the expectations of students in not accepting the way things go on in life.

When asked about how often they were upset because of something that has happened unexpectedly, only 9(2.7 %) felt they were never upset if things didn’t go their way and majority 183 (54.8 %) claimed they would get upset only sometimes. When asked about their ability to control the important things in their life, 134(40.1 %) said they could control it only sometimes and only 51(15.3%) could very

often control the important things in their life. In this process, 140(41.9%) felt nervous and stressed while facing the important things in life and only 13(3.9%) never felt stressed. Almost half of them 152(45.5 %) sometimes dealt successfully with irritating life hassles,29(8.7%) could never be successful. On ability to control irritations in their life, 125(37.4%) could do so sometimes and 91(27.2%) could do so fairly often. When surrounded by difficulties, 138(41.3%) said they could not overcome them sometimes and the rest of the students were equally distributed in their opinion (never/almost never/fairly often/very often).This reflects the presence of coping skills in lesser proportion of students. On the contrary, more proportion of students had the coping abilities in solving irritating problems.

Only 106(31.7%) felt that they can sometimes cope with the important changes that were occurring in life effectively. The proportion of students who said they could cope effectively very often (15%) and those who(13.2%) could never cope effectively with the important changes in life, was almost the same. Only sometimes 153(45.8%) felt they could not cope with all the things they had to do

When asked about the confidence to handle their personal problems, only 96(28.7%) were confident very often and 89(26.6%) were confident only sometimes. About things they have to accomplish,114(34.1%) think about it sometimes and 98(29.3%) think very often about it. This shows the laxity and lack of planning and competency for the future. Focus group discussions were carried out in groups of thirty each.The stressors given out by the students are

- Academic reasons:

Exam tension, unequal duration for first and second year as first year is reduced to one year with lot to study, time shortage for studies, last minute exam preparation due to the ongoing weekly tests, vast subjects to read, lack of time for recreation

- Reasons related to family

Few students werepressurized by their parents to studymedicine;many had to keep up with parent's ambitions and expectations. Most of the students commonly complained of homesickness that hampered their studies and other activities.

- Psychosocial reasons

The lack of confidence, inability to handle academic pressures, difficulty in concentrating, inferiority complex, lack of communication skills and language barrier, misunderstanding, not getting well along with friends, lack of good relations with the opposite sex, inability to socialize that lead to loneliness, poor quality of hostel food were some of the reasons quoted by the students

Students knew well that stress is common and expected in medical profession and they tried at their maximum capacity to cope with the stressful situation.

Table 3: Student's Response to Perceived Stress Scale-14 Statements

Statements	*Never (%)*	*Almost never (%)*	*Some Times (%)*	*Fairly often (%)*	*Very often (%)*
In the last month, how often have you been upset because of something that happened unexpectedly?	9 (2.7)	21 (6.3)	183 (54.8)	61 (18.3)	60 (18)
In the last month, how often have you felt that you were unable to control the important things in your life?	29 (8.7)	50 (15)	134 (40.1)	70 (21)	51 (15.3)
In the last month, how often have you felt nervous and "stressed"?	13 (3.9)	32 (9.6)	140 (41.9)	79 (23.7)	70 (21)
In the last month, how often have you dealt successfully with irritating life hassles?	37 (11.1)	53 (15.9)	152 (45.5)	63 (18.9)	29 (8.7)
In the last month, how often have you felt that you were effectively coping with important changes that were occurring in your life?	50 (15)	72 (21.6)	106 (31.7)	62 (18.6)	44 (13.2)
In the last month, how often have you felt confident about your ability to handle your personal problems?	96 (28.7)	65 (19.5)	89 (26.6)	47 (14.1)	37 (11.1)
In the last month, how often have you felt that things were going your way?	44 (13.2)	48 (14.4)	143 (42.8)	63 (18.9)	36 (10.8)
In the last month, how often have you found that you could not cope with all things that you had to do?	33 (9.9)	51 (15.3)	153 (45.8)	59 (17.7)	38 (11.4)
In the last month, how often have you been able to control irritations in your life?	42 (12.6)	91 (27.2)	125 (37.4)	56 (16.8)	20 (6)
In the last month, how often have you felt that you were on top of things?	23 (6.9)	53 (15.9)	158 (47.3)	53 (15.9)	47 (14.1)
In the last month, how often have you been angry because of things that were outside of your control	24 (7.2)	32 (9.6)	110 (32.9)	76 (22.8)	92 (27.5)
In the last month, how often have you found your -self thinking about things you have to accomplish?	12 (3.6)	29 (8.7)	114 (34.1)	81 (24.3)	98 (29.3)
In the last month, how often have you been able to control the way you spend your time?	54 (16.2)	73 (21.9)	116 (34.7)	61 (18.3)	30 (9)
In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?	51 (15.3)	53 (15.9)	138 (41.3)	53 (15.9)	39 (11.7)

When asked about the methods to overcome stress, few said" just move on with whatever happens in life", "don't think too much about the things that's not in our control". Some suggested the need for periodical counselling, need for parental support, personality development programmes like patience and dedication.

4. Conclusion

It can be derived that stress is present among medical students and the reasons are plenty .The need of the hour is to establish counselling centres that are active and functioning. It is imperative now to have mentor mentee sessions for students in small group with faculty as mentors and also have student's parent- teachers meeting sessions biannually. These intervention programs needs to be planned and implemented suitably in coordination with administration and various other faculties for successful distressing of students in medical education.

An innovative approach would be to have academic hours dedicated for stress relaxation methodslike yoga and meditation, physical activities, recreational activities as part of the curriculum.This will go a long way in the holistic development of not only the individual but will produce efficient medical professionals.

5. Future Scope

To incorporate the need to meet the emotional and psychological demands of students into the teaching curriculum using innovative approaches at the institution level.

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Author Profile

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