



# Assessment of Perceived Stress and Coping Strategies among Medical Students in Bijapur: A Cross Sectional Study

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**Financial Support:** None declared

**Conflict of Interest:** None declared

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## How to cite this article:

Farooq, Iti J. Assessment of Perceived Stress and Coping Strategies among Medical Students in Bijapur: A Cross Sectional Study. Natl J Community Med 2018;9(9):700-702

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**Date of Submission:** 30-07-18

**Date of Acceptance:** 16-09-18

**Date of Publication:** 30-09-18

## ABSTRACT

**Introduction:** Students are subjected to different kinds of experiences which make them vulnerable to undergo a lot of stress. Medical education is inherently stressful and demanding, and, students are likely to face stress mostly due to academic stressors.

**Methods:** Study is a cross sectional study conducted at Al-Ameen medical college, Bijapur involving 148 first year undergraduate medical students.

**Results:** The study reveals that all students are unmarried 148 (100%). Majority of them are males, belonged to 17-18 age group, socioeconomic status I, and, had nuclear family. 43 (29.1%) students suffer from stress. Study subjects have mean Perceived stress score 25.608+5.46 and Coping Self-Efficacy Score 157.514+37.35. The study reveals that stress was more common among students having low Coping Self-Efficacy Scores and low stress among students having more Coping Self-Efficacy Scores, which was statistically significant.

**Conclusion:** The study gives us an understanding of the stress and the coping strategies used by undergraduate medical students to manage stress. There is a further need to analyze the source of stressors. To combat stress students need to consider relaxation measures, proper rest, good sleep and timely food intake.

**Key Words:** Stress, students, medical, perceived stress score, Coping Self-Efficacy Score

## INTRODUCTION

Stress is a part of everyone's life. It is normal for everybody to experience stress to some extent, but too much stress may be harmful. Attending college is a rewarding experience but it also can be a time of considerable anxiety and stress for students. Students are subjected to different kinds of experiences which make them vulnerable to undergo a lot of stress. Medical education is inherently stressful and demanding. The students face social, emotional, physical and family problems which may affect their learning ability and academic performance.<sup>1,2</sup> Persistent stress that is not resolved through coping or adaptation may lead to anxiety or withdrawal behavior.<sup>3</sup> Stress can cause physical and mental health problems and may affect student's academic achievement.<sup>4,5</sup> Various stress fac-

tors reported in studies among medical students are academic demands, exams, inability to cope, helplessness, increased psychological pressure, mental tension and too much work load.<sup>6</sup> The transition from pre-clinical to clinical training has also been identified as a crucial stage of medical school regarding student stress.<sup>7</sup> Analyzing knowledge about presence of stress is therefore important in itself and if found should be given attention for timely intervention. Though similar studies have been conducted in India, but as Medical teaching now increasing being an integrated teaching module involving class room teaching and digital learning, compounded by dynamic sociodemography of the region, stress patterns needs a relook, hence this study attempts to assess the stress pattern in undergraduate students.

**MATERIALS AND METHODS**

Present study was a cross-sectional study conducted at Al-Ameen medical college, Bijapur from October 2013 to December 2013. Study was aimed to estimate the prevalence of stress by Perceived stress scale-14 among undergraduate medical students and, to determine the coping strategies for stress by Coping Self-Efficacy Scale among undergraduate medical students. Total 148 first year undergraduate medical students who consented for the study were included in the study. Students were interviewed separately and data was collected using a pre-designed and pretested pro-forma including Perceived stress scale-14,<sup>8</sup> and Coping Self-Efficacy Scale<sup>9</sup>. The participants were assured of confidentiality of the information provided and had an option of refusal to participate in the study. Informed written consent was taken from all the participants. Data was entered in excel sheet and analyzed by proportions, mean, standard deviation and chi-square test using SPSS version 16 software.

Perceived Stress Scale (PSS - 14)<sup>8</sup>: The Perceived Stress Scale (PSS) is the most widely used psychological instrument for measuring the perception of stress. It is a measure of the degree to which situations in one's life are appraised as stressful and are of a general nature and hence are relatively free of content specific to any subpopulation group. The questions in the PSS ask about feelings and thoughts during the last month. PSS scores were obtained by reversing responses (e.g., 0 = 4, 1 = 3, 2 = 2, 3 = 1 & 4 = 0) to the seven positively stated items (items 4, 5, 6, 7, 9, 10, 13) and then summing across all scale items. The PSS-14 has a possible range of scores from 0 to 56 and 28 was the operational cut off value. Score below 28 are not stressed and scores equal or above 28 are stressed. It was selected in accordance to similar studies from India, Pakistan and Egypt.<sup>10,11,12</sup>

Coping Self-Efficacy Scale (CSE)<sup>9</sup>: It is a 26-item measure of one's confidence in performing coping behaviors when faced with stress or life challenges. Each question has score 0 to 10 (0 means cannot do at all to 10 means certain can do).

**RESULTS**

The study reveals that all students are unmarried 148 (100%). Majority of them are males 90 (60%). Most of cases i.e. 95 (64.2%) belonged to 17-18 age group. 95(64.2%) cases were from socioeconomic status I by using modified B. G. Prasad classification,<sup>13</sup> and, 117 (79.1%) have nuclear family. Findings were statistically not significant (Table 1). 43 (29.1%) students suffer from stress. Study subjects have mean Perceived stress score 25.608+5.46 and Coping Self-Efficacy Score 157.514+ 37.35 (Table 2).

Majority of students 46(31.1%) have coping score of 0-131, followed by 38 (25.7%) have 154-184, 35 (23.6%) have 185-260 and 29(19.6%) have 132-153 score. The study reveals that stress was more common among students (25) having low Coping Self-Efficacy Scores and low stress among students having more Coping Self-Efficacy Scores, which was statistically significant.(Table 3).

**Table 1: Association between Socio-demographic factors and the Perceived stress scale (n=148)**

Socio-demographic factors	Not Stressed (n=105) (%)	Stressed (n=43) (%)	Total (%)	p value
Age in years				
17-18	71 (75)	24 (25)	95 (64.2)	0.359
19-20	33 (65)	18 (35)	51 (34.5)	
21-22	1 (50)	1 (50)	2 (1.4)	
Gender				
Male	62 (69)	28 (31)	90 (60)	0.492
Female	43 (74)	15 (26)	58 (40)	
Type of family				
Joint	19 (61)	12 (39)	31 (20.9)	0.183
Nuclear	86 (73.5)	31 (26.5)	117 (79.1)	
Socio-economic status				
I	85 (71)	35 (29)	120 (81.1)	0.307
II	14 (82)	3 (18)	17 (11.5)	
III	5 (50)	5 (50)	10 (6.8)	
IV	1 (100)	0	1 (0.7)	

**Table-2: Participants according to their Age, Perceived stress scale and Coping Self-Efficacy Scale**

Variables	Mean	Std. Deviation
Age	18.419	0.6702
Perceived stress scale	25.608	5.4356
Coping Self-Efficacy Scale	157.514	37.3506

**Table 3: Association between Perceived stress scale and the Coping Self-Efficacy Scale**

Coping Self-Efficacy Scores	Not stressed (%)	Stressed (%)	Total
0-131	21(20)	25(58)	46(31)
132-153	27(25.7)	2(4.6)	29(19.6)
154-184	29(27.6)	9(21)	38(25.6)
185-260	28(26.6)	7(16)	35(23.6)
Total	105(100)	43(100)	148(100)

P value <0.001

**DISCUSSION**

This study analyses stress patterns amongst medical students. The overall prevalence of stress found in this study was 43%. Similar prevalence was found in study at Mangalore i.e. 42.5%.<sup>10</sup> While stress prevalence was found to higher in some countries like Saudi Arabia (57%)<sup>14</sup>, Thailand (61.4%),<sup>15</sup> and, Pakistan (85%)<sup>15</sup>. A study done in Mumbai (India), reported that 73% of the students

perceived stress at some point or the other during their medical schooling. In this study, males (65%) perceived more stress as compared to females (35%). This finding is not in line with the findings of studies in Mangalore<sup>10</sup> and Pakistan<sup>11</sup>. Probable reason for the inconsistent results may be due the fact that in our study, sample proportion (60%) of the male students was higher than their female (40%) counterparts. While in other studies<sup>10,11</sup>, female dominated the sample proportion. While a study by Mane AB,<sup>16</sup> reported no difference of stress between males and females.

A study in Malaysia reported that the common stressors include teaching and learning, studying and personal problems. It further concluded that stresses in teaching and learning session had occurred due to problem in managing time properly.<sup>17</sup> The amount and severity of stress experienced by medical students may vary according to the settings of the medical school, the curricula, evaluation (examination) system etc.

Mean PSS score in the study population was 25.608 (SD = 5.46). Similar was finding of study done in Mangalore where the mean PSS was 27.53.<sup>10</sup> In a study done in a medical school in Pakistan, the mean PSS score reported was 30.84 (SD=7.01).<sup>11</sup> In a study done by Mane Abhay, the mean PSS score among medical students was 27.0.<sup>16</sup> Limitation of the study is that it did not take into consideration stressors which have caused stressed to medical students. However, it is reported that, academics/exams are common sources of stress among medical students. Stress was also attributed to psychosocial factors. Limited time for self, family, friends and entertainment due to the demanding medical curriculum was one of the factor. The students, who were stressed, reported that psychosocial and academic related stressors occurred more frequently.<sup>11</sup>

## CONCLUSIONS

The study reveals Stress was more common among students of 17-18 age group, males and having Nuclear family. Stress was more common among students having low Coping Self-Efficacy Scores and low stress among students having high Coping Self-Efficacy Scores. The study gives us an understanding of the stress and the coping strategy used by undergraduate medical students to manage stress. There is a further need to analyze the source of stressors. To combat stress students need to consider relaxation measures, proper rest, good sleep and timely food intake.

Limitation of study: Limitation of the study is that it does not include stress patterns in 2nd, 3rd and final year medical undergraduates. Considering

results of this study more research can be carried out to know the stress patterns.

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