A study of emotional intelligence, perceived stress and coping in final year medical undergraduates

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Abstract
The term “Emotional Intelligence” (EI) describes the “ability to monitor one’s own and others’ feelings and emotions, to discriminate between them and to use the information to guide one’s thinking and actions. It helps people to cope better and therefore is required in medical students to cope with everyday stresses. This study was conducted with an aim to study emotional intelligence, perceived stress and coping in final year medical undergraduates. Evaluation of emotional intelligence, perceived stress, general health, and ways of coping was done. This study concludes that emotional intelligence had a negative correlation with perceived and mental stress, maladaptive coping behaviour (escape avoidance) and a positive correlation with adaptive coping style (Planful problem solving). Higher emotional intelligence is associated with better quality of health.

Keywords: Emotional Intelligence, Stress, Coping, Skills.

Introduction
“There is within the human heart a quality of intelligence which has been known to surpass that attributed to the human mind.” — Aberjhani

The term “Emotional Intelligence” (EI) describes the “ability to monitor one’s own and others’ feelings and emotions, to discriminate between them and to use the information to guide one’s thinking and actions.”1 As feelings take precedence over thoughts in making decisions, the emotional mind is believed to be faster than the rational mind.2

As Goleman suggested, EI includes ability to solve emotional problems, capacity to accept reality, flexibility, and ability to regulate and alter the affective reactions of stress and crisis.3 It has been seen in previous studies that the persons with high emotional intelligence can better recognize potential stressors, can use emotions in coping with problem, as far as they cope in better way with negative emotions evoking in stressful situation.4

Medicine is a profession with a lot of stress and social demands. Therefore, students in these fields have to cope with stress related to burden and excessive workload from clinical practices during their education.5

Aim
To study emotional intelligence, coping mechanisms and perceived stress in final year undergraduate medical students.

Materials and Methods
This was a cross sectional type of study conducted on Final year undergraduate medical students in a rural medical college in Maharashtra.

A brief introductory session explaining the concept of EI and coping strategies, need for the study and the procedure of self-administration of scales, were provided to all participants. Written consent was taken. Ethical clearance for the study was obtained from Institutional Ethical Committee.

A semi structured proforma was used for socio-demographic data. The Emotional Intelligence Scale used was developed by Schutte.6 It is a 33-item scale with a five-point Likert-type scale. Scores ranged from 33-165. Perceived Stress Scale (PSS) was used to assess the perceived stress levels of the individuals pertaining to different situations during the last month.7 Each of the 10-items consists of a five point Likert scale (0 = never to 4 = very often), and the total score ranged from 0 to 40, where higher total scores indicates a higher level of perceived stress. GHQ 30 was used as a self reported proforma for screening physical ailments. Ways to coping questionnaire- It contains 66 questions and to determine the predominant methods used for coping, total score for each of the subscales divided according to the different ways of coping is calculated. If a person is scoring high in a particular subscale, it means person uses that way of coping more as compared to the other ones.8

Subjects
A total number of 119 Students belonging to both sexes, who were in final year MBBS course and gave consent were included in the study through purposive sampling method. Students suffering from any diagnosed mental and physical disorder were excluded. Their age range was 21-23 years.

Statistical analysis
Analysis was done using SPSS version 21 software. Pearson’s correlation and t test were used to assess the relationship between various factors and correlation between variables. P value < 0.05 was taken as significant.

Results
The sample consisted of 119 participants. The mean age was 21.56 years. Sample had 78 female (65.5%) and 41(34.4%)
male participants. The mean scores of the sample on Emotional Intelligence, Perceived Stress, GHQ-30 and Coping styles are presented in Table 1. The mean EI score was 118 and the most used coping mechanism was planful problem solving.

Table 1: The mean scores of emotional intelligence, perceived stress and coping styles

| Coping mechanisms                      | Mean       |
|----------------------------------------|------------|
| Emotional Intelligence                 | 118.57     |
| Perceived Stress Scores                | 26.8991597 |
| GHQ-30                                 | 23.8       |
| Coping mechanism-Distancing            | 11.0336134 |
| Coping mechanism-Accepting Responsibility | 8.87       |
| Coping mechanism- Confrontative coping | 11.21      |
| Coping mechanism- Self control         | 11.61      |
| Coping mechanism-Seeking social support | 10.51      |
| Coping Mechanism-Planful Problem Solving | 13.23      |
| Coping Mechanism-Positive Reappraisal  | 11.94      |
| Coping Mechanism-Escape avoidance      | 11.70      |

Correlation was seen between Emotional intelligence and perceived stress scores. A negative correlation ($r = -0.3635$) was seen between the two and it came out to be statistically significant ($p = 0.000026$). (Graph 1)

Graph 1: The correlation between emotional intelligence and perceived stress

Correlation between various coping mechanisms and Emotional intelligence was done and it was seen that a statistically significant positive correlation ($r = 0.3647$, $p=4.5E-05$) was present between emotional intelligence and planful problem solving. Also, statistically significant negative correlation ($r = -0.8589$, $p=0.00001$) was seen between emotional intelligence and escape avoidance (Table 2).

Table 2: Correlation between Coping mechanisms and Emotional intelligence

| Coping mechanisms      | Mean | R   | P value |
|------------------------|------|-----|--------|
| Distancing             | 11.03| 0.11| 0.21   |
| Accepting Responsibility| 8.87 | -0.10| 0.24   |
| Confrontative coping   | 11.21| -0.0253| 0.78   |
| Self-control           | 11.61| 0.02 | 0.78   |
| Seeking social support | 10.51| 0.01 | 0.86   |
| Planful Problem Solving| 13.23| 0.36 | 4.5E-05|
| Positive Reappraisal   | 11.94| 0.11 | 0.23   |
| Escape avoidance       | 11.70| -0.8589| 0.00001|

A comparison was made between emotional intelligence of students whose parents were doctors and those from other professions. There was no significant difference seen ($t = 0.868$, $p = 0.38$). Another comparison was also made between emotional intelligence values of males and females. The difference was statistically non-significant ($t = 1.38$, $p = 0.08$). A comparison was made between emotional intelligence scores and scores obtained on GHQ-30. There was a negative correlation seen which was statistically significant ($r = -0.52$, $p = 0.00001$) (Table 3)

Table 3: Table depicting pearson correlation between emotional intelligence and GHQ-30 scores

| X Values (Emotional Intelligence) | $\sum = 14111$ |
|-----------------------------------|----------------|
| Mean                              | 118.58         |
| $\sum (X - M_x)^2 = SS_x = 18800.992$ |              |
| $\sum (Y - M_y)^2 = SS_y = 15385.109$ |              |
| $X$ and $Y$ Combined               | $N = 119$      |
| $\sum (X - M_x)(Y - M_y) = -8874.303$ |               |
| $R Calculation$                    | $r = \frac{\sum((X - M_x)(Y - M_y))}{\sqrt{\{(SS_x)(SS_y)\}}}$ |
|                                   | $r = -8874.303$ |
|                                   | $\sqrt{\{(18800.992)(15385.109)\}} = 0.5218$ |

Discussion

This study emphasizes the relevance of the concept of Emotional Intelligence in daily life, as it empowers people to have superior self-control, ability to motivate themselves, manage and express emotions appropriately, be assertive yet sympathetic and caring.

Thus EI is important for an individual, more so for doctors. Doctors are expected to be kind, caring, affectionate, have unbiased empathetic approach, adequate
self-control and maintain cordial relation with one’s colleagues.

In this study it was seen that emotional intelligence had a negative correlation with perceived stress which means higher a person scores on the emotional intelligence, lesser a person perceives stress. This has been evident in previous studies as well.10-13

Matthew and Zeidner14 suggest that successful coping with stressful encounters is central to emotional intelligence. Successful coping forms the very bedrock of good mental and physical health.

In our study we found that there was a positive correlation between emotional intelligence and use of planful problem solving which in turn points to the association that persons who use planful problem solving as a coping mechanism had higher scores on emotional intelligence scale. This has been established previously also that high EI individuals employ coping strategies more effectively i.e. use problem-focused coping in situations.15

Escape avoidance way of coping was negatively correlated with emotional intelligence scores owing to the fact established in previous studies also that Emotional Intelligence was related positively with adaptive coping stylesand negatively associated with maladaptive coping styles (escape avoidance, distancing).16,17

It has been seen in previous studies that socio demographic profile also had an impact on levels of emotional intelligence. In our study we also compared some parameters. While comparing between males and females no difference was found between the levels of emotional intelligence. This is not in concordance with the previous studies where it was seen that females score more as compared to males.18-21 This can be attributed to the reason that it was a self-reporting scale and every student wanted show their best behaviour. Another comparison was made between students coming from a medico background and those from a non-medico background. No significant difference was seen in the levels of emotional intelligence in these categories.

We found a significant negative correlation between the general health components and emotional intelligence, such that the lower the general health means score (indicating greater levels of general health), the higher the emotional intelligence. This was also seen in previous studies that better emotional quotient makes quality of life better.22-24

**Strengths and limitations**

Our study was unique in analysing many factors responsible for affecting emotional intelligence together. The limitations include response bias and a small sample size.

**Recommendations**

Further studies should be done to assess other factors affecting emotional intelligence and the medical students should be taught more adaptive coping skills to handle their stress skilfully.

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**Conclusion**

Therefore, we can conclude by stating that emotional intelligence has a negative correlation with perceived stress, mental stress, maladaptive coping behaviour(escape avoidance) and a positive correlation with adaptive coping style (planful problem solving). Furthermore, higher emotional intelligence is associated with better quality of health.
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