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Correlation between Coping Strategies and Perceived Stress among Undergraduate Dental Students

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ABSTRACT

Background: This study was carried out to find the correlation between perceived stress levels and effective coping strategies among dental undergraduates. **Methods**: A cross-sectional survey was performed from various Punjab dental schools. The research included 90 students voluntarily. The data were collected by a survey. Spearman 's rank correlation was used to analyse the results. The level of significance was 0.05%. **Results**: The average age was 19.30±1.74 years among candidates included. There were 49 (54.44%) males and 41 (45.56) females. There were 86 (95.56%) unmarried while 4 (4.44%) were married candidates. There were 33 (36.67%) candidates of 1st year, 24 (26.67%) were in 2nd year, 11 (12.2%) were in 3rd year while 22 (24.4%) were in 4th year. The median PSS score was 33.00 (IQR = 19). The median BC score was 49.00 (IQR = 38). Spearman's rank correlation was applied because both scores were not following normal distribution. A positive significant correlation, although not much strong, was observed between both scores i.e. r = 0.515 (p<0.01). **Conclusion**: Coping strategies has an influence on Perceived stress score of students.

Keywords: Coping strategies, perceived stress, level of significance.

INTRODUCTION

Dentistry is among the most stressful occupations. Today's modern dental procedures demand extensive learning of theory as well as skills from students.[1] Stress among dental graduates is a part of training. During the professional training of students, they start experiencing stress. Numerous sources of stress have been identified in literature.[2] Among these sources are the, lack of leisure time because of tough routine, enormous amount of workload, pressure for getting better grade, faculty and administration attitude, pressure for learning skills, accountability for patients and clinics, personal life apprehensions, professional identity, and financial commitments.[3]

Studies reported that around 30 to 50% dental students suffer from psychological distress. Lazarus and Folkman define psychological stress as a person-environmental relation that the person considers to be outside the of one's resources and threatens their well-being.[4] Among the stress conditions those, that occur chronically are dangerous. As chronic stress conditions can cause long term physical or the psychological morbidity. Also, the stress influences behaviour of an individual. An event or situation which is stressful for one person it may not generate stress in another individual. This difference of not recognizing same event as stressful can be explained by the concept of Perceived stress.[5]

Perceived stress is the assessment of an environmental event by a person and this assessment is influenced by one's own attitudes and beliefs or unhealthy patterns of psychological and emotional responses. So, stressors or environmental events have no power to cause anxiety or the stress, instead it is a person's perception towards these events which is generating stress. Stress work like a double edge sword for an individual, either it will increase his performance, or it will reduce performance till the point of ineffectiveness.[6]

Various studies show that a significant association has been found between student's perceived stress and academic workload. This relationship between the academic workload and the stress perceived will also determine the kind of student coping strategies used.[7] Lazarus and Folkman defined coping as a behavioural exertion. Which an individual does to cater the internal or the external demands during a stressful period. So, in nutshell we can define coping as a mechanism, which is deployed by an individual either cognitively or behaviourally under situations, which are evaluated as exceeding one's problem solving ability.[8]

If a person lacks sufficient coping skills to cope with the problem appropriately and emphasizes the risk posed by the consequences of this insufficient care, he or she would be psychologically susceptible to a certain situation. To deal with stress various patterns have been used by

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individuals. Among these methods are the cognitive, avoidance, emotion focused, and drug abuse have been reported in literature.[9]
When a person sees a lower ability to deal with a situation, situation is partially evaluated as stressful. Controllable stressors generate more constructive mechanisms of coping while uncheckable stressors generate more strategies of avoidance. Studies show that coping is influenced by the year of study, by the gender and the socioeconomic status. Studies show that coping also influences the stress level and student success level.[10] To find correlation among undergraduate dental students, between coping strategies and perceived stress level we conducted this research.

MATERIALS AND METHODS

This was a cross-sectional, multi-departmental correlation study. The research took place in the Behavioural Science Department at the University of Health Sciences in Lahore. Data have been gathered from different Punjab dental colleges. 90 dental subjects from the first year until the final year were included in this study. A questionnaire was designed and then used to obtain data from students after previous studies were taken into account. This questionnaire consists of Perceived stress score (PSS) and Brief cope inventory. SPSS (21) was used for entering and analysing data.

RESULTS

The average age was 19.30±1.74 years among candidates included. There were 49 (54.44%) males and 41 (45.56) females. There were 86 (95.56%) unmarried while 4 (4.44%) were married candidates. There were 33 (36.67%) candidates of 1st year, 24 (26.67%) were in 2nd year, 11 (12.2%) were in 3rd year while 22 (24.4%) were in 4th year. The median PSS score was 33.00 (IQR = 19). The median BC score was 49.00 (IQR = 38). Spearman's rank correlation was applied because both scores were not following normal distribution. A positive significant correlation, although not much strong, was observed between both scores i.e. r = 0.515 (p<0.01). As shown in [Table 1].

Table 1: Correlation between PSS and BC score

Spearman's rho		BC score
PSS score	Correlation Coefficient	0.515**
	P-value	0.000
	n	90

**Correlation at level 0.01 is significant.

Data was stratified for age of patients. In teenagers, a positive week but significant correlation was observed between both scores i.e. r = 0.312 (p<0.05). In adults, a positive significantly strong correlation was observed between both scores i.e. r = 0.685 (p<0.01).

Table 2: Correlation between PSS and BC score in age strata

Age Group	PSS score	BC score
Teenagers (17-19)	Pearson Correlation	0.312*
	P-value	0.027
	n	50
Adults (20-22)	Pearson Correlation	0.685**
	P-value	0.000
	n	40

* Correlation at level 0.05 is significant
** Correlation at level 0.01 is significant

Data was stratified for years of study. In 1st year, a positive and very weak insignificant correlation was observed between both scores i.e. r = 0.200 (p>0.05). Between PSS and BC scores a significant positive correlation were found among the second-year students (For second year students r = 0.621 and p value was less than 0.01). Similar strong correlation between PSS and BC were found among third year and fourth year students score (for third year students r = 0.755 and for fourth year students, r = 0.652). This data is shown in [Table 3].

Table 3: Correlation between PSS and BC score in year of study strata

Years of study	PSS score	BC score
1st	Pearson Correlation	0.200
	P-value	0.264
	n	33
2nd	Pearson Correlation	0.621**
	P-value	0.001
	n	24
3rd	Pearson Correlation	0.755**
	P-value	0.007
	n	11
4th	Pearson Correlation	0.652**
	P-value	0.001
	n	22

* Correlation at level 0.01 is significant

DISCUSSION

Stress is described as the "reaction of a body towards a change involving a physical, mental or emotional reaction".[11] Stress perception among different people is not the same; beliefs, attitudes and work can influence it. Education, especially higher education, generally places the registered students under a significant amount of stress.[12] Among the higher education categories, medical education appears to be most stressful. Dental students show greater stress as compared to students of other science subjects.[13]
The median PSS score was 33.00 (IQR = 19) and median BC score was 49.00 (IQR = 38). A positive significant correlation, although not much strong, was observed between both scores i.e. r = 0.515 (p<0.01). However, as per the results of another study coping strategies did not show any significant relation with the total stressor score. There was a mild positive association of coping strategies with stressor score.[14]

In literature various sources of stress have been ruled out among dental students. Findings of one study shows that final year students are more stressed because of difficulty in finding the new cases and fear of contaminating with disease i.e. because of infection control issues. Likewise, students of third year they are stressed because they face difficulty in finding suitable patients for learning purposes.[15] The mean stress level and coping stress score were high among married candidates as compared to unmarried candidates i.e. in married candidates, the mean PSS score was 8.00±.16 while in unmarried candidates was 31.79±11.18. In married candidates, the mean BC score was 72.25±19.55 while in unmarried candidates was 50.52±21.68.

Mostly, students studying in higher classes have high PSS score and have higher stress level than students studying in initial classes like 1st or 2nd year. These findings were in accordance to some other cross-sectional studies conducted on stress level of dental students.[16] So as observed in our study, as the level of classes increased the stress level was also increased i.e. in 1st year candidates, the mean PSS score was 31.39±9.83, in 2nd years was 32.50±11.46, in 3rd years was 34.00±14.51 and in 4th was 33.45±12.66. In 1st year candidates, the mean BC score was 54.12±20.46, in 2nd years was 47.92±19.72, in 3rd years was 47.91±28.16 and in 4th was 53.23±23.80.

In another study by researcher compared perceived stress score with year of study for undergraduate dental students. Results from this study shows that second year dental students have higher perceived stress score as compared to students of other professional years.[17] While Al-Sowygh found that the mean PSS score of 1st year students was 22.94 (3.35), which was less than 2nd and 3rd year students i.e. 22.56 (3.88) and 22.35 (4.67) while PSS score of 4th year students was maximum i.e. 23.97 (3.86).[17,18] Based on gender, in our study, in males, the mean PSS score was 32.41±10.79 while in females was 32.63±12.32. In males, the mean BC score was 53.10±22.35 while in females was 49.56±21.59 and the difference was also insignificant ($p>0.05$).

Veeraboina et al,[19] have conducted a study. This research was intended to compare the perceived stress rate between men and women. Their results show that males have less perceived stress score as compared to females. To deal with this high stress level, students also deployed various coping strategies. For adaptive coping strategies no significant difference between coping and perceived stress score was recorded.[19] But for maladaptive coping strategies a significant difference was found. For example, for maladaptive coping strategy "Denial" a significant difference was found. While another study supported the evidence and showed that mean PSS score was 22.02 (3.74) for male students while 24.59 (3.99) for female students and this was a significantly high score among female candidates ($p<0.001$).[20]

CONCLUSION

Coping strategies has an influence on Perceived stress score of students.

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