Journal of Advanced Medical and Dental Sciences Research

@Society of Scientific Research and Studies **NLM ID:** 101716117

Journal home page: www.jamdsr.comdoi: 10.21276/jamdsr Indian Citation Index (ICI) Index Copernicus value = 100

(e) ISSN Online: 2321-9599;

(p) ISSN Print: 2348-6805

Original Research

An assessment and correlation of Emotional Intelligence and Mental Health of dental students: A cross sectional study

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ABSTRACT:

Introduction: Inherent emotional intelligence plays a role in individuals' mental capacity, shaping their responses to challenges. Dental students expressing anxiety about potential health risks associated with their profession, specifically exposure to aerosols from rotary and ultrasonic devices during intraoral procedures, are concerned about the potential effects on both their future careers and social connections. **Method**: The present study is a descriptive cross-sectional study conducted among 215 dental students, age 18-years and above was randomly selected. General Health Questionnaire-12 (GHQ- 12) and Quick Emotional Intelligence Self Assessment Test were used for assessment of the study. **Results:** The average general health score was 15.32 and emotional intelligence score was 26.02 with standard deviation of ± 5.42 and ± 3.65 respectively. Spearman Rank correlation coefficient "r"=0.113, showed small positive correlation between ranks from both the score (p=0.0982). **Conclusions**: The dental students show high score of emotional intelligence are less likely to be mentally stressed.

Keywords: Emotional Health; Dental Students; Mental Health

Received: 21 May, 2024

Accepted: 24 June, 2024

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This article may be cited as: Korotania T, Gupta N, Gupta P, Goutam T, Sharma T, Chandel A. An assessment and correlation of Emotional Intelligence and Mental Health of dental students: A cross sectional study. J Adv Med Dent Scie Res 2024;12(7):49-53.

INTRODUCTION

Emotional intelligence gauges cognitive prowess in translating psychological insights into practical terms accessible to individuals outside the realm of professional psychology, such as dentists¹.Emotional intelligence pertains to an individual's capacity to handle and regulate their own emotions, comprehend the emotions of others, and make sound personal and organizational decisions². Emotional intelligence (EQ) includes "the abilities to accurately perceive emotions, to access and generate emotions so as to assist thought, to understand emotions and emotional knowledge, and to reflectively regulate emotions" (Mayer et al., 2004)17. It is evident that emotions play a significant role in the workplace for healthcare professionals, encompassing dentists, hospital staff, and patient's alike³. Among health professions, dental students have been reported to be more prone to

psychological problems (stress, anxiety and depression) and high mental burden even prior COVID-19 pandemic due to the technical nature of the work requiring thorough knowledge of biological sciences in relation to clinical work ¹²⁻¹³. Studies have found that dental students have higher levels of stress as compared to the general population ¹⁴⁻¹⁵. Dentistry has been classified among the toughest, most challenging, and exhausting courses of to study, with dental students required to possess a wide range of competencies such as academic and clinical capabilities, including social skills ¹⁶.

AIMS AND OBJECTIVES

The aim of the study is to assess and correlate emotional Intelligence with mental health. To access emotional intelligence in BDS students and to correlate emotional intelligence with mental health

MATERIAL & METHODS

Type of study: Descriptive type of cross sectional study

Sampling: Simple random sampling

Study population: consisted of under graduate medical students more than 18 years of age, studying in a private dental college in Haryana. Based on the study the sample size was calculated. After putting up the values the sample size comes out to be 188. After addition of 10% more for non-respondents the minimal sample size came out to be 207. In our study we have finally collected data from 215 study participants.

Sampling technique: Simple random sampling technique was used to select the study participants. From the first professional, second professional, third professional and fourth professional, students were randomly selected to participate in the study.

Inclusion criteria

- 1. Under graduate students above 18 years of age and students consenting to be a part of the study.
- 2. Any students already diagnosed or under treatment for psychiatric disorders and Interns were not included.

Study tool: Consisted of a pre designed, pre tested semi open ended questionnaire having three sections. Section one was having questions regarding the socio

demographic information of the study participants, section two was for the self-assessment of emotional intelligence using **Quick Emotional Intelligence Self-Assessment questionnaire**(13). Section three of the questionnaire utilized **General Health Questionnaire-12** (**GHQ- 12**)(14) developed by Goldberg which has been adopted by WHO, was used to assess the mental health status of study participants.

Quick Emotional Intelligence Self-Assessment has 4 domains

- 1. Emotional awareness
- 2. Emotional management
- 3. Social emotional awareness
- 4. Relationship management

Each domain has a set of statements which are to be ranked by the participant based on the suitability to him or her. The ranks ranged from zero (never), 1 (rarely), 2 (sometimes), 3 (often) and 4 (always) on five point Likert scale.

General Health Questionnaire (GHQ-12) comprised of 12 questions to assess general and psychological health during past one month. Each question had 4 responses which were given a score as 0, 1, 2 and 3. A score up to 15 is typical, Score more than 15 is an evidence of distress Score more than 20 is suggestive of severe problems and psychological distress.

We gathered information in a classroom setting from willing participants. They were seated with ample space between them to guarantee privacy and confidentiality.

RESULTS

S No.	Characteristics	Category	Frequency	(%)
1	Age (years)	18	6	2.8
		19	14	6.5
		20	27	12.5
		21	28	13
		22	37	17.2
		23	31	14.4
		24	51	23.7
		25	21	9.8
2	Gender	Male	81	37.7
		Female	134	62.3
3	Native place	City	145	67.4
	_	Village	70	32.6
4	Type of Family	Nuclear	141	65.6
		Joint	74	34.4

Table 1 presents the socio-demographic characteristics of the 215 study participants, with 37.7% males and 62.3% females. The majority, 67.4%, hailed from a city, and 65.6% lived in nuclear families.

S. No.	Emotional intelligence Domain	Mean Score	
1	Emotional awareness Score (0-40)	26.76	
2	Emotional management score(0-40)	25.75	
3	Social emotional awareness score(0-40)	25.41	
4	Relationship management score(0-40)	26.12	
5	Average Emotional intelligence score	26.02	

Table 2 shows the average emotional intelligence score was 26.02 with a standard deviation of ± 3.65 .

S. No.	Characteristics	Category	Frequency	Emotional Intelligence Score	Emotional Intelligence	X ² p-value
				below average	Score above	_
					average	
1	Age (years)	18-21	75	28	47	x ² =0.753
		22-25	140	37	103	p = 0.097
2	Gender	Male	81	22	59	x ² =0.581
		Female	134	43	91	p = 0.445
3	Native Place	Nuclear	145	50	95	x ² =3.814
		Joint	70	15	55	p = 0.050
4	Academic year	First year	52	18	34	
		Second	43	11	32	x ² =1.118
		year	47	13	34	p = 0.772
		Third year	73	23	50	
		Fourth year				

Table 3 shows the association between socio-demographic variables and average emotional intelligence score of the study participants. A statistically significant association was found between the native place of study participants and average emotional intelligence score. (p<0.05)



Figure 1 shows the association between socio-demographic variables and average emotional intelligence score of the study participants. Males had an average emotional intelligence of 26.35 ± 3.40 , while females had 25.69 ± 3.09 .

S.	Characteristics	Category	Frequency	Score more than	Score less	X ²
No.			(%)	15	than 15	p-value
1	Age (years)	18-21	75	42	33	x ² =3.022
		22-25	140	61	79	p =0.082
2	Gender	Male	81	39	42	x ² =0.003
		Female	134	64	70	p =0.956
3	Native Place	Nuclear	145	68	77	x ² =0.182
		Joint	70	35	35	p =0.669
4	Academic year	First year	52	16	36	
		Second	43	18	25	x ² =11.749
		year				p = 0.008
		Third year	47	25	22	
		Fourth	73	44	29	
		vear				

Table 4 shows the association between socio-demographic variables and average General Health score of the study participants. A statistically significant association was found between academic year in which they are studying and average General Health score (p<0.05).



Figure 2 shows the association between socio-demographic variables and average General Health score of the study participants.

The average general health score was 15.32 ± 5.42 , with males at 15.56 ± 5.26 and females at 15.08 ± 5.29 . A small positive correlation (Spearman Rank correlation coefficient "r" = 0.113, p=0.0982) between emotional intelligence and mental health status, suggesting a subtle link.

DISCUSSION

In dental practice, being emotionally intelligent means understanding and managing your own emotions, as well as recognizing and empathizing with patients' feelings. It's crucial to create a supportive environment and be aware of mental health to ensure patients feel comfortable and cared for during dental procedures. This helps build trust and contributes to overall well-being. The study showed that there would positive correlation between he Emotional Intelligence(EI) and mental health. (0.0982, p<0.01). Research revealed that high scores on trait of emotional intelligence could control and regulate their behavior in a way that could promote well-being, mental health, quality work of life and retention time (Sultan SR et al, 2013)⁵

The results of this study were similar to those of previous students. For example, a meta-analysis of 44 effect sizes based on the response of 7898 participants found that higher emotional intelligence was significantly associated with better health¹⁰.

In our study 5.5% students had good EI, 63.72% had average EI and 30.78% had poor EI similarly study conducted by **Ravichandra KS et al** in **2015**¹ 11.55% had good EI, 54.02% had average EI and 30.89% had poor EI.

Female students universally report higher levels of stress and anxiety although there are a few exceptions. In our study they also show high score of emotions intelligence. This observation could be explained by the intrinsic psychological differences between genders: females are more likely to articulate their worries and emotions.⁹

In our study average emotional intelligence score comes out to be 26.02 ± 3.65 similarly study conducted by **Sundararajan S et al** in 2018^7 average EI score was found to be 25.74 ± 4.7 and in contrast an study conducted by **Suleman Q et al in 2018⁸** had emotional intelligence score of 30.51 ± 3.66 .

Understanding and managing emotions can positively impact mental and physical health. According to **Matthews et al**.(2002)¹¹, having emotional intelligence not only affects conditions where emotions are crucial but also conditions related to other aspects of emotional intelligence. In simpler terms, being aware of emotions, using them to think better, and regulating them can influence both mental disorders linked to emotions and disorders involving non-emotional aspects of emotional intelligence.¹¹

In our study the average General health score for assessment of mental health was found to be 15.32 ± 5.42 similarly study conducted by **Khan H et al** (**2022**)⁶ the average General health score was found to be 12.93 ± 6.98 .

Implications

These findings have practical implications. Our analysis showed a strong connection between emotional intelligence and mental health issues among students. This implies that interventions could focus on students experiencing rejection or isolation, providing additional support like short-term counseling. To proactively address these issues, funding for campus initiatives promoting regular and healthy student interactions is crucial. Improving students' sense of belonging could also help reduce experiences of rejection. Enhancing emotional intelligence is another potential avenue for intervention, as each scale is independently linked to belongingness. However, more research is needed to understand the relationship between emotional intelligence, belongingness, and mental health in college contexts, including differences between intelligence emotional subscales and their malleability. If each aspect of emotional intelligence significantly impacts mental health outcomes, targeted interventions should focus on the most changeable aspect.

Limitation

It's important to consider the limitations of our study. Firstly, we relied on students reporting about themselves, which may have some drawbacks. Another issue is that our sample was too small, so the findings might not apply to a broader range of situations.

CONCLUSION

We can conclude that the dental students show high score of emotional intelligence are less likely to be mentally stressed. So, they tends to experience better well-being and mental health.

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