

Empathy and Emotional Intelligence in Dental Practitioners of Bareilly City – A Cross sectional Study

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Abstracts: Background & objectives: Empathy and Emotional Intelligence are the two affective domain parameters which significantly affect a doctor's way of treating patients; hence they may influence the doctor-patient relationship. Establishing a proper doctor-patient relationship has a great impact on professional success of the doctor. Thus, the present study was aimed to assess whether there is any association between empathy of dental practitioners towards their patients and the dental practitioners' emotional intelligence. Methods: A cross-sectional study was conducted on a sample of 243 dental practitioners including clinicians, academicians and post-graduate students from Bareilly city who were instructed to complete a self-administered questionnaire. The questionnaire consisted of the Health Professional (HP) version of the Jefferson Scale of Physician Empathy (JSPE) and the Schutte's Emotional Intelligence Scale (SEIS). Pearson's correlation coefficient and linear regression were used to test the statistical significance of the observations. Results: A positive correlation was found between empathy and emotional intelligence. The correlation was significant $p=0.05$, even after adjusting for the confounders and the regression model showed significance with r value of 0.12 Interpretation & Conclusion: Empathetic dentists were found to have higher emotional intelligence. Irrespective of variations in age, gender, qualification, occupation and years of working experience, empathy and emotional intelligence showed positive correlation. [Gupta A NJIRM 2016; 7(4):106-112]

Key-words: Dental practitioners, Emotional intelligence, Empathy, Health Professional version of the Jefferson Scale of Physician Empathy, Schutte's Emotional Intelligence Scale

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Introduction: "Some patients, though conscious that their condition is perilous, recover their health simply through their contentment with the goodness of the physician". (Hippocrates 460-380 BC)

The importance of the doctor-patient relationship has long been recognized throughout the history of medicine. In a systematic review it was found that those physicians who adopt a warm, friendly and reassuring manner are perceived as more effective than those who keep consultations formal.¹ Doctor-patient relationship depends on various factors, some of them are objective and many of them are subjective by nature. In this study we have selected two important constructs namely, empathy and emotional intelligence which are assumed to influence the doctor-patient relationship and hence the clinical outcome. Empathy refers to putting oneself in another person's shoes and understanding what that person is going through. It is an emotional response that stems from another's emotional state or condition, is congruent with the other's emotional state or condition, and involves at least a minimal degree of differentiation between self and other.² Empathy has been identified as facilitating improved outcomes for both patients and doctors and an important trait for

other healthcare professionals including pharmacists, nurses and care staff.³ The role of empathy in the dentist-patient relationship has received less attention. Some evidence suggests that pediatric dentists using an empathetic listening and communication style have greater treatment success.⁴ Empathy is a higher order emotion and the degree of it differs between the individuals.

Goleman, defines emotional intelligence as the ability to recognize our own feelings and the feelings of others, an ability to motivate and manage emotions, both our own and those of people with whom we share a bond.³ The research by Hannah in New Zealand, demonstrated that emotional intelligence can affect the everyday dentistry practice and the entire healing process, in the doctor's ability to arrive at a correct diagnosis and in maintaining a healthy doctor-patient relationship and also reduces the level of the patient's anxiety. It is worth noting that patients are more likely to return to the doctor who is characterized by a higher level of emotional intelligence.⁵ Both, empathy and emotional intelligence may majorly determine success in life. Providing effective health care is the ultimate aim of any health care professional. This requires hard as well

as soft skills. There has been tremendous research done in the field of hard skills, while the soft skills and their role are less explored. This study focused on soft skills like empathy and emotional intelligence. The presence of empathy and emotional intelligence and their relationship among dental practitioners has received less attention. The research hypothesis for this study is that an association exists between empathy and emotional intelligence among dental practitioners in Bareilly city. The objectives of this study were to assess the relationship between empathy and emotional intelligence in dental practitioners (private practitioners, academicians, private practitioners + academicians and post graduate students) of Bareilly city. The other objective was to compare empathy and emotional intelligence based on gender, occupation and qualification of the dental practitioners.

Methods: Participants: The participants were 243 active dental practitioners (141 males, 102 females) from Bareilly city. It included private practitioners, academicians, private practitioners + academicians and post-graduate students. The sampling frame used was the list of teaching faculty and post-graduate students obtained from the Dental College and the list of private practitioners obtained from IDA (Indian Dental Association), Bareilly branch. There were a total of 261 dental practitioners, among them 78 were teaching staff, 104 post-graduate students and 79 were purely private practitioners. The data could be obtained from only 243 dental practitioners because the others were unavailable and inaccessible for the survey.

Eligibility criteria:

1. Dental practitioners who were available on the days of questionnaire distribution.
2. Those who were into active practice alone, academics alone or into academics and practice both were included.
3. Those who did not give consent and who failed to complete the questionnaire were excluded.

Instruments: The following instruments were used in this study:

- a. HP (Health Professionals) version of the Jefferson Scale of Physician Empathy (JSPE)⁶
- b. Schutte's Emotional Intelligence Scale (SEIS,1998)⁷

There are numerous methods to assess empathy, out of which self-rating scales are the most commonly reported method used by health care professionals. The Jefferson Scale of Physician Empathy (JSPE) is the only one designed to specifically measure physician empathy.⁶ There are two versions of the JSPE. One version was developed to measure medical students' attitudes toward empathic physician-patient engagement in the context of patient care (S-Version). The other version was specifically designed for physicians and other health professionals (HP-Version).⁸ The HP version of JSPE containing 20 items was used in this study.⁹ Each item was answered on a five-point Likert scale. To reduce the confounding effect of a response pattern known as "acquiescence response bias", half the items are positively worded and directly scored (1 = strongly disagree, 5 = strongly agree), and the other half are negatively worded and reversed scored (1 = strongly agree, 7 = strongly disagree).⁸ The final score for an individual is obtained by summing up all the individual scores.

The Emotional Intelligence Scale (EIS), developed by Schutte and her colleagues based on Salovey and Mayer's (1990) model of EI was used in this study.¹⁰ The Schutte Emotional Intelligence Scale comprises 33 self-referencing statements, three of which are reverse-scored, and requires subjects to rate the extent to which they agree or disagree with each statement on a five-point scale (1 = strongly disagree, 5 = strongly agree). Participants reply on a Likert scale and a total score is derived by summing up all the individual item responses. The SEIS assesses perception, understanding, expression, ability to regulate and harness emotions of the self and others.⁷

A specially designed questionnaire was prepared for the purpose of collecting data. The questionnaire had a provision for recording socio-demographic details which included name (optional), age, gender, qualification, occupation, number of years of work experience and socio-economic status (annual income). The phone number and email id of the dental practitioner was also recorded to establish contact whenever needed. The questionnaire was adapted for use on dentists by substituting the words 'physician' and 'doctor' with 'dentist', and the word 'medical' with 'dental'.

Ethical issues: Approval was obtained from IRB of Institute of Dental Sciences, Bareilly. Informed

voluntary consent was obtained from every participant after thoroughly describing the study and also giving an option to reject from participation if they intend to do so. The participants were assured that the information would be kept completely confidential.

Pilot study: A pilot study was conducted on 15 dental practitioners which showed the Cronbach alpha (internal consistency) as 0.85 for the HP version of JSPE and 0.91 for the SEIS. The Test-Retest reliability was found to be 0.77 for JSPE and 0.73 for SEIS. The reliability of both the instruments was within acceptable standards of > 0.7

Data Collection: The questionnaire distribution among the participants took two complete days. The investigator (AG) herself distributed the questionnaire for self administration. The participants were given next two days to answer the questionnaire so that they have sufficient time to answer the questionnaire without fatigue. The collection of questionnaires was done on next two days.

Statistical tests: The data was compiled and statistically analyzed using SPSS software version 19. Mann Whitney U test was used to compare the mean JSPE scores and mean SEIS scores between males and females.

Since normality assumption was not met when data was stratified based on the qualification into three groups as BDS, PG student and MDS, Kruskal Wallis ANOVA was done followed by post hoc analysis using multiple Mann Whitney U test.

Comparison of mean JSPE and SEIS scores were done among private practitioners, academicians, private practitioners + academicians and PG students using Kruskal Wallis ANOVA as the data did not meet normality assumption. Post hoc analysis was done by multiple Mann Whitney U test.

Spearman’s rank order correlation test was done to find out the co-relation between mean JSPE scores and SEIS scores. A p value of ≤ 0.05 was considered as statistically significant.

Result: Table number 1 shows that the mean JSPE scores were 75.89 and 76.86 in males and females respectively. This difference was statistically not

significant with a p value of 0.12. Mean SEIS scores were 132.26 and 129.31 in males and females respectively. This difference was statistically not significant with a p value of 0.32.

Table 1: Comparison of Empathy and EI in different genders

	Gender	N	Mean	Standard deviation	z value and p value
JSPE	Male	141	75.89	7.82	1.53, 0.12
	Female	102	76.86	8.48	
SEIS	Male	141	132.26	9.78	0.98, 0.32
	Female	102	129.31	13.46	

Mann Whitney U test

Table number 2 shows that the mean JSPE scores were 75.97, 75.04 and 78.34 among dental practitioners qualified as BDS, PG students and MDS respectively. These differences were statistically not significant with a p value of 0.16. Mean SEIS scores were 134.14, 127.50 and 133.15 among dental practitioners qualified as BDS, PG students and MDS respectively. These differences were statistically significant with a p value of 0.02. Post hoc analysis further revealed statistically significant differences in mean SEIS scores between BDS and PG students with a p value of 0.01. Statistically significant differences in mean SEIS scores were also found between PG students and MDS with a p value of 0.03.

Table 2: Comparison of Empathy and EI based on qualification

		N	Mean	Standard deviation	H value and p value
J S P E	BDS	66	75.97	7.21	3.62, 0.16
	PG student	103	75.04	8.90	
	MDS	74	78.34	7.36	
S E I S	BDS	66	134.14	7.01	8.10, 0.02*
	PG student	103	127.50	15.06	
	MDS	74	133.15	7.06	

Kruskal Wallis ANOVA

*Statistically Significant (P value ≤ 0.05)

Post-hoc analysis for comparison of SEIS scores

	BDS	PG student	MDS
BDS	-	0.01	-
PG student	-	-	0.03
MDS	0.53	-	-

Mann Whitney U test

Table number 3 shows that the mean JSPE scores were 79.67, 76.37, 76.67 and 75.04 among academicians, private practitioners, both (academician + private practitioners) and PG students respectively. These differences were statistically not significant with a p value of 0.14. Mean SEIS scores were 133.45, 133.49, 134.00 and 127.50 among academicians, private practitioners, both (academician + private practitioners) and PG students respectively. These differences were statistically significant with a p value of 0.05. Post hoc analysis further revealed statistically significant differences in mean SEIS scores between Private practitioner and PG student and both (academician + private practitioners) and PG students with a p value of 0.02 and 0.05 respectively.

Table 3: Comparison of Empathy and EI based on occupation

		N	Mean	Standard deviation	H value and p value
J S P E	Academician	33	79.67	7.47	5.40, 0.14
	Private practitioner	71	76.37	5.73	
	Both	36	76.67	9.54	
	PG student	103	75.04	8.90	
S E I S	Academician	33	133.45	7.92	7.81, 0.05*
	Private practitioner	71	133.49	6.88	
	Both	36	134.00	6.63	
	PG student	103	127.50	15.06	

Kruskal Wallis ANOVA

*Statistically Significant (P value \leq 0.05)**Post-hoc analysis for comparison of SEIS scores**

	Academician	Private practitioner	Both	PG student
Academician	-	0.83	0.80	0.07
Private practitioner	-	-	0.99	0.02
Both	-	-	-	0.05
PG student	-	-	-	-

Mann Whitney U test

Table number 4 shows a mild correlation between empathy and emotional intelligence with a r value of +0.12 which is statistically significant with a p value equal to 0.05.

Table 4: Correlation between Empathy and EI

	Mean	Standard deviation	r value, p value
JSPE	76.30	8.10	0.12, 0.05
SEIS	131.02	11.54	

Spearman's rank order correlation test

Discussion: The present study is a cross-sectional survey conducted on 243 dental practitioners of Bareilly city with an intention to find out whether there exists any association between empathy and emotional intelligence. Sample size calculation was not done because we wanted to take whole population i.e. all dentists practicing and teaching in Bareilly since we wanted to generalize our results only to the dentists in Bareilly city. Hence we considered "Whole sample" in the study. There are totally 261 dental surgeons practicing dentistry in Bareilly city. We could at best include 243 dental practitioners from whom we could gather the required data. Despite all our efforts 18 dental practitioners could not be included in the survey as they were unavailable when approached.

We preferred to use HP version of JSPE to measure emotional empathy as it is exclusively designed and widely used for measuring physicians' (doctors) empathy. This instrument has been validated earlier and it was found to be having acceptable psychometric properties.⁴ It has only 20 questions hence the time required to answer the instrument is less and the chances of questionnaire fatigue is also relatively less.

SEIS was used to measure emotional intelligence because it has been found to have good psychometric properties¹¹ and it has been used on dental practitioners in India in multiple studies. It has only 33 questions whereas the other instruments were more complex and have too many questions.

Emotional intelligence is a relatively new concept which came to light in the early 90's by Goleman et al in his pioneering studies. It is the ability to understand

our own emotions as well as others and deal with people positively for healthy relationships and achieving success. Dentistry is a health care profession which is fundamentally founded on the principles of professional ethics. Providing effective and efficient health care to the patient demands much more from the dentist than his technical competency. The dentist-patient relationship plays a crucial role in determining success of treatment. As dental care providers, we are expected to be empathetic to our patients. Empathy is defined as “the ability to put oneself into the mental shoes of another person to understand his/her emotions and feelings”.¹² It is also described as the process of understanding a person’s subjective experience by vicariously sharing that experience while maintaining an observant stance.¹³ It is also said to be the ability to see the world through someone else’s eyes.¹⁴ It is one of the key factors in developing and maintaining healthy relationships. It plays a vital role in the development of behavior and mellows down aggression towards others. It is found to encourage prosocial or altruistic behaviour.¹⁵ It is believed that empathy should characterize all health care professionals and patients communication in order to achieve healing.¹⁶ Notwithstanding the advancement in technology, the healing relationship between the patient and the health professional remains essential for delivering quality care.¹⁴ Empathy is not an accident rather it is to be carefully cultivated. Although we are trained to be empathetic, the degree of empathy differs from one dentist to another dentist.

We hypothesized that empathy and emotional intelligence are positively associated. In the current study, empathy and emotional intelligence did not differ between male and female dental practitioners. This finding was in concordance with the findings of studies done by Mukti Shah and Nutankumar S. Thingujam¹⁷, Mina Rastegar et al¹⁰, Mariangela Di Lillo et al⁸ and A. Beattie et al⁶. On the contrary, empathy and emotional intelligence were found to be higher in females as compared to males in the studies done by Jeffrey J. Sherman and Adam Cramer⁴, Nazish Imran et al¹⁸ and Joseph Ciarrochi et al¹⁹. A study done by Qaiser Ali Baig reported higher emotional intelligence in males than females.²⁰ There are various other studies conducted on empathy and emotional intelligence but with different instruments used. Although the comparison is not very valid, still we have tried to compare our findings with those studies.

The research done by Mina Rastegar et al reported no gender difference regarding empathy as was found in our study.¹⁰ Studies done by Sylvia K. Fields et al²¹, Katherine Berg et al²², Mohammadreza Hojat et al²³, Abhijeet Faye et al²⁴, Nazish Imran et al¹⁸, Nancy Fjortoft et al²⁵ and Areeb Sohail Bangash et al²⁶ reported higher empathy in females than in males. Study done by Kavana G. Venkatappa et al²⁷ found higher emotional intelligence in females than males. Studies done by Muneer G. Babar et al²⁸, DJ Bhaskar et al²⁹ and Abhijeet Faye et al²⁴ reported higher empathy and emotional intelligence in males than females.

In the current study no significant difference was found in empathy between graduate practitioners, post graduate students and post graduate practitioners, although empathy was found to be relatively high among post graduate practitioners and least in post graduate students. Post graduate students are placed in a unique situation where they are under immense pressure to prepare and perform; they are more pre-occupied in completing their clinical and academic quota. They are often time strapped, working with busy schedules, multi-tasking and perhaps more stressed when compared to graduate practitioners and post graduate practitioners who are independently working. Probably these factors account for relatively less empathy in post graduate students but it is suggested to be explored further. Emotional intelligence was found to be statistically significant between BDS practitioners, post graduate students and MDS practitioners. Post graduate students were found to be least emotionally intelligent when compared to graduate practitioners and post graduate practitioners. This difference was significantly high in graduate practitioners and post graduate practitioners. These findings also suggest that the exclusive setting in which post graduate students are placed might be influencing negatively the emotional intelligence. Literature revealed no other studies of similar kind to perform valid comparisons. It is worth to tread this untrodden dimension to unravel the hidden facts.

When data was stratified based on the nature of work performed by the dentist into four groups as only academicians, only private practitioners, both academicians and private practitioners, and post graduate students, no significant difference was found in relation to empathy although highest empathy was found among purely academicians and least was

observed in post graduate students. Emotional intelligence was found to be significantly different between post graduate students and the other three groups suggesting that all other groups have higher emotional intelligence when compared to post graduate students. These findings may be again attributed to unique situational status of post graduate students which is elaborated in the above paragraph. Literature does not reveal any other studies with which valid comparisons could be done.

A mild positive correlation was found between empathy and emotional intelligence among dental practitioners of Bareilly city which was statistically significant. Our findings were in concordance with the findings reported in studies done by Mina Rastegar et al¹⁰ and Abhijeet Faye et al²⁴.

There is some evidence to suggest that empathy and emotional intelligence of health care providers may positively influence the patient outcomes. In a study done by Hui Ching Weng et al empathy was found to have more influence on long term patient satisfaction when compared to emotional intelligence although both parameters did positively influence satisfaction among patients.³⁰ Literature also suggests the doctor-patient relationship as unique, built on mutual faith and trust, society expects doctors to be caring, soft natured, amiable and empathetic towards them.^{31,32} Our curriculum has emphasized more upon producing doctors with cognitive and psychomotor competencies rather than affective skills which comprises of emotional skills. It is high time that equal importance be given in the curriculum and also in the training period to promote inculcation of positive emotions including emotional harmony in order to be beneficial to the community at large.

Conclusion: It was concluded that, when compared on the basis of qualification and occupation, post graduate students were found to be least emotionally intelligent. There was no significant difference found between male and female dental practitioners as regards to empathy and emotional intelligence. A mild but positive correlation was found between empathy and emotional intelligence in dental practitioners of Bareilly city.

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