

**Assessment of Empathy among Clinical Dental Students in Burdwan Dental College and Hospital**

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**Abstract**

**Introduction:** Empathy plays a vital role in physician–patient therapeutic relationship resulting in a more positive and improved treatment outcome. The present study was conducted with the aim to assess the level of empathy among dental students of Burdwan Dental College and Hospital.

**Materials and methods:** A questionnaire based cross sectional study was conducted on 85 students of final year, interns and house staff of Burdwan Dental College and hospital. Jefferson Scale of Empathy Health Care Provider Student’s Version questionnaire was used. The data was statistically analysed.

**Results:** The mean empathy score was higher among males ( $90.5 \pm 8.8$ ) than females ( $89.3 \pm 6.2$ ). While the final year students had higher empathy scores ( $90.3 \pm 8.04$ ) than interns ( $89.6 \pm 7.9$ ) and house staff ( $89 \pm 7.3$ ).

**Conclusion:** The present study revealed that males and final year BDS students scored higher empathy scores.

**Keywords:** Empathy, Dental, Students, Patient Care, Questionnaire, Jefferson Scale.

**Introduction**

Empathy is fundamental in building the foundation of a good patient-physician relationship. Empathy is understanding and experiencing the feeling of another person’s situation. Empathy plays a vital role in

physician–patient therapeutic relationship<sup>1</sup> which generally results in a more positive and improved treatment outcome such as increased compliance with medical recommendations, decreased pain and reduced recovery time, as well as increased patient satisfaction and decreased medical litigation.<sup>2</sup> Physician empathy increases rapport, patient confidence in the physician, and satisfaction with medical visits.<sup>3</sup> Empathy has been derived from two Greek terms, “em” and “pathos,” meaning “feeling into” and has its origin from the German word “Einführung.”<sup>4</sup> Empathy is defined as a cognitive attribute in which an individual is able to put him or herself into another’s position to share and understand the meaning and significance of one’s behavior.<sup>5</sup> This in turn motivates and guides thinking ability and action leading to successfully adaptation with environmental demands and pressures. The gold standard for assessment of empathy and interpersonal skills is behavioural observation by trained observers to ascertain use of skills. However, this can be only costly and time-consuming.<sup>2</sup> Hence Hojat et al developed an instrument known as the Jefferson Scale of Empathy (JSE), in order to address the lack of a specific empathy scale in healthcare research.<sup>6,7,8</sup>

The role of communication and understanding between health care practitioners and the patient is receiving increasing attention in dentistry. Also the American Dental Education Association listed empathy as crucial clinical expertise for the education of dental students due to its important role in the dental setting.<sup>9</sup> thus providing the appropriate education program in the curriculum in medical and dental schools.<sup>10</sup> However, there is a good deal of literature assessing empathy levels of medical students, lacunae exist with very few studies in research regarding dental students in Indian scenario.

Hence the present study was conducted with the aim to assess the level of empathy among dental students of Burdwan Dental College and Hospital with the objectives to assess any difference in the level of empathy across gender and year of study.

**Material and Methods:** A questionnaire based cross sectional study was conducted on the students of final year, interns and house staff of Burdwan Dental College and hospital. An online Jefferson Scale of Empathy Health

Care Provider Student’s Version, a 20 item self - reporting questionnaire was prepared using google forms was created.

Link to the questionnaire and a cover letter along with informed consent form were distributed to the students via mail.

Students who gave consent and whose email details could be accessed from the student section of the college were included in the study, thus arriving at final sample of 85. The questionnaire was pilot tested and the Cronbach’s alpha has found to be good (0.82). The questionnaire consisted of two parts. Part I consisted of questions related to demographics of the participants like age, gender and academic year. Part II consisted of Jefferson Scale of Empathy Health Care Provider Student’s Version which consists of 20 items answered as 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). Out of these 20 questions, 10 were positively worded questions and 10 were negatively worded questions (Table 5). The negatively worded questions were reverse scored. The total scale ranged from 20 to 140 where greater the score, greater is the empathetic tendency.<sup>1, 6</sup> Prior permission was taken from the institutional ethical committee.

## Statistical analysis

The data was entered manually on Microsoft excel and subjected to statistical analysis in Statistical analysis system. The mean (SD) empathetic scores of the students were calculated. Also any statistical significant difference among groups was determined by the T test and ANOVA. Statistical significance was set at p value < 0.05.

## Results

A total of 85 students participated in the study aged between 21-30 years. The majority (58.8%) of them were males. Distribution of students as per gender and posting of students on the basis of academic year and departments are shown in figures 1, 2 and 3. The mean empathy score among the dental students was  $89.9 \pm 7.8$ . The mean empathy score among males ( $90.5 \pm 8.8$ ) was found to be higher than among females ( $89.3 \pm 6.2$ ) and their difference was statistically significant ( $p < 0.043$ ). The mean empathy score among final year students ( $90.3 \pm 8.04$ ) was higher than interns ( $89.6 \pm 7.9$ ) and house staff ( $89 \pm 7.3$ ) and was not statistically significant. The scores were higher among students of orthodontics department ( $91.87 \pm 6.77$ ) among rest of the departments and were not significant.

Figure 1: Gender distribution

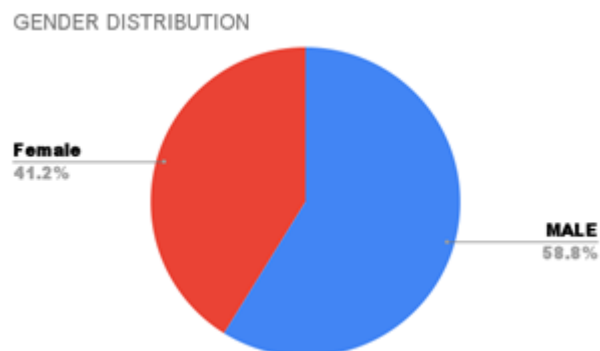


Figure 2: Distribution dental students as per posting

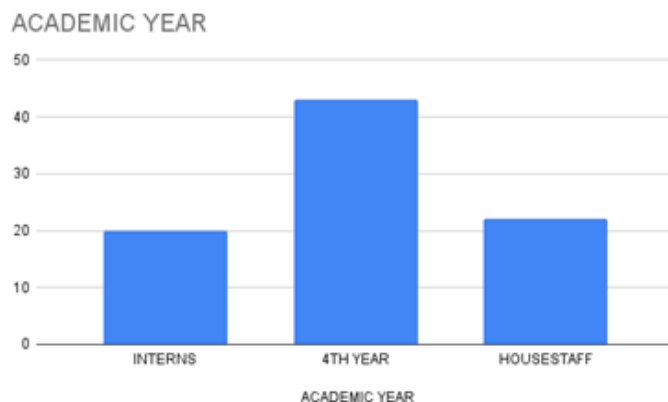


Figure 3: Distribution of dental students according to different departments

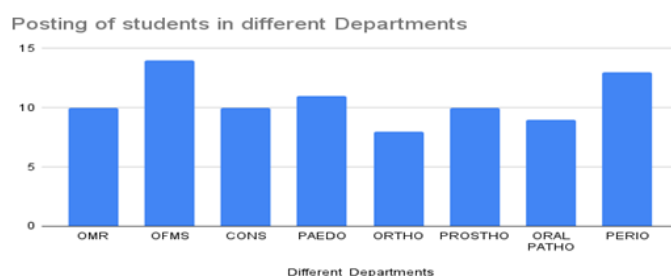


Table 1: Table showing mean empathy scores among dental students

No. of students	Mean empathy score	Standard Deviation	Minimumscore	Maximumscore
85	89.98	7.76	72	110

Table 2: Table showing empathy score between males and females

Gender	No.	Mean Empathy score	Std Dev	Minimum scores	Maximum scores	p-value(<0.05)
Male	50	90.48	8.7	72	110	0.043 *
Female	35	89.28	6.2	80	104	

Table 3: Table showing empathy scores among dental students as per posting

Year posting	No.	Mean Empathy score	Std Dev	Minimum scores	Maximum scores	p-value <0.05
Finalyear	43	90.30	8.04	72	110	0.9
Interns	20	89.55	7.99	72	106	
House staff	22	89.77	7.31	80	105	

Table 4: Mean empathy score of dental students posted in different departments

Dental Departments	No. of students posted	Mean Empathy score	Std Dev	Minimum scores	Maximum scores	p-value (<0.05)
OralMedicine	10	89	8.06	78	106	0.92
Oral and Maxillofacial Surgery	14	90	7.81	80	105	
Pedodontics	11	91.36	9.82	72	104	
Conservative	10	88.9	5.68	81	98	
Orthodontics	8	91.87	6.77	84	103	
Prosthodontics	10	92	9.09	83	110	
Oral Pathology	9	88	4.18	81	92	
Periodontology	13	89.07	9.42	72	105	

Table 5: Jefferson Scale of Empathy Health Care Provider Student's Version

Question number	Question
1	My understanding of how my patients and their families feel do not influence medical or surgical treatment
2	I believe that emotion has no place in the treatment of medical illness
3	My patients value my understanding of their feelings, which is therapeutic in its own right
4	Empathy is a therapeutic skill without which success in treatment is limited
5	I believe that empathy is an important therapeutic factor in medical or surgical treatment
6	My patients feel better when I understand their feelings
7	Patients' illnesses can be cured only by medical or surgical treatment; therefore, emotionalities to my patients do not have a significant influence on medical or surgical outcomes
8	An important component of the relationship with my patients is my understanding of their emotional status, as well as that of their families
9	I don't allow myself to be influenced by strong personal bonds between my patients and their Family members
10	Attentiveness to my patients' personal experiences does not influence treatment outcome
11	I try to think like my patients to render

	better care
12	I consider understanding my patients' body language as important as verbal communication in caregiver-patient relationships
13	I try to understand what is going on in my patients' minds by paying attention to their nonverbal cues and body language
14	I try to imagine myself in my patients' shoes when providing care to them
15	I try not to pay attention to my patients' emotions in history taking or in asking about their physical health
16	It is difficult for me to view things from my patients' perspectives
17	I have a good sense of humor, which I think contributes to a better clinical outcome
18	Because people are different, it is difficult for me to see things from my patients' perspectives
19	Asking patients about what is happening in their personal lives is not helpful in understanding their physical complaints
20	I do not enjoy reading nonmedical literature and the arts

### Discussion

Pederson defined empathy succinctly as the "appropriate understanding of the patient". 4 Sympathy, as opposed to empathy, is predominantly an affective or emotional attribute that involves intense feelings of a patient's pain and suffering. Empathy in contrast is predominantly a cognitive entity. 6 It is assumed that the relationship between cognitive empathy and positive clinical outcomes is linear, meaning that the outcomes

progressively become better as a function of an increase in empathy. In contrast, the relationship between sympathy and clinical outcomes is like an inverted U shape meaning that sympathy to a limited extent can be beneficial, but excessive sympathy can be detrimental.<sup>6</sup>

The concept of empathy in health care fields is diverse like compassion, thoughtfulness, attentiveness and caring, all of which culminate in a desirable type of “chair side manner” with patients. Meaning of empathy is understanding persons emotion, feeling, experiencing their situation. The cultivation and practice of humanistic values and enhancing interpersonal skills and empathy between doctors and patients are of great importance in any human service and dental profession is no exception. Demonstration of empathy by dentists has been correlated with decreased dental fear, increased compliance with orthodontic treatment, improved treatment success and cooperation in paediatric patients, improved treatment outcomes in my facial pain, and increased patient satisfaction. 5

In the present study, Jefferson Scale of Empathy Health Care Provider Student’s Version has been used to assess the level of empathy among clinical dental students. The scale was developed by the Jefferson Medical College for the medical students (S-version) and was later modified into Healthcare Provider student version (HPS). The psychometric properties of JSE-HPS scale have been reported as satisfactory with valuable findings by many researchers among dental students.<sup>1,2,11</sup>

In the current study the mean empathy score among the dental students was found to be  $89.9 \pm 7.8$ . The males reported higher empathy scores than females which was similar to the studies conducted by Kalyan VS 1 in Telengana and Babar MG et al 12 in Malasiya. In the present study, final year BDS students showed higher empathy scores. This may be because they are exposed

to regular lectures and new clinical postings where in they are regularly taught, trained and monitored by their teachers regarding their communication skills and behaviour with their patients. The rise in empathy scores were attributed to lectures, role playing or communication skills completed recently in their theory classes as per study done by Prabhu et al and Narang R et al. 5, 13 The results also revealed that the empathy scores were not statistically significant as per dental departments which highlights the fact that empathy is an individual personal trait or characteristic of a healthcare provider and is not related to the department or healthcare setting where he or she is working.

Thus, this data may suggest that constant education in behavioral and cognitive science may be effective in developing empathetic skills and thereby positive clinical outcomes. This study throws light on the fact that empathy is an important aspect to ponder upon as it is one of the most valuable traits of health care providers which patients look up to. Hence, education in behavioral sciences and further training at undergraduate level may be effective in increasing empathetic attitude towards the patient in clinics.<sup>7</sup>

## Conclusion

The present study reveals that there is difference in mean empathy scores is different among the clinical dental students. Males scored higher compared to females and final year BDS students scored higher than interns and house staff. . Based on results of the present study, there is a need to train competent professionals not only from technical point of view but also in “life skills” such as communication, interpersonal relationship, and empathy even after passing their professional curriculum through regular interactive seminars, lectures and workshops. This will in turn increase their patient compliance and clinical outcome.

## References

1. Kalyan SV, Manjula S, Padma TM, Pratap KV, Vineela P, Varma SC. Assessment of empathy among clinical dental students in a teaching dental institution in Telangana State, India. *J Indian Assoc Public Health Dent* 2017;15:162-5.
2. Prabhu S, Kumar VS, Prasanth SS, Kishore S. Standing in patients' shoes — survey on empathy among dental students in India. *J Educ Ethics Dent* 2014;4:69-73.
3. Santos M A, Grosseman S, Morelli T C , Giuliano I C B, Erdmann T R. Empathy differences by gender and specialty preference in medical students: a study in Brazil. *International Journal of Medical Education*. 2016;7:149-153
4. Sapna B, Vargese S. Assessment of empathy level in dental third and final year students in Davangere city- a cross-sectional study. - *Indian Journal Of Research* 2019 ;8 (11) :50-53
5. Suresan V, Mohanty P, Jalaluddin M, et al. Patients' Perception of Dental Students' Consultation and Relational Empathy (CARE) in an Academic Dental Institution of Bhubaneswar City, India. *World J Dent* 2022;13(6):652–657.
6. Hojat M. Jefferson Scale of Empathy 2016 ed available at <http://jefferson.edu/ScaleofEmpathy>
7. Hojat M, Gonnella JS, Nasca TJ, Mangione S, Vergare M and Magee M. Physician empathy: definition, components, measurement, and relationship to gender and specialty. *Am J Psychiatry*. 2002; 159: 1563-1569.
8. Hojat M, Gonnella JS, Nasca TJ, Mangione S, Veloksi JJ and Magee M. The Jefferson Scale of Physician Empathy: further psychometric data and differences by gender and specialty at item level. *Acad Med*. 2002; 77: 58-60.
9. Detsomboonrat P , Theppanich S , Banyen S , Hongviphat S , Khamnil Y , Lapauthaya K , AnupapSomboonsavatdee A, Min S N. Empathy level towards patients among thai dental students: a cross- sectional study. *BMC Oral Health*.2023; 23:184
10. Tripathi R, Batra M, Khanduri N, Bali H, Gupta S, Rahotgi S. Assessment of Empathy among Dental Students Using the Jefferson Scale of Empathy. *Medical Journal of Pokhara Academy of Health Sciences* 2022 ; 5(2): 487-90.
11. Burde K , Garcha V ,Shetty V, Vinay V, Pathak M , Mukhi R. Assessment of relationship between dental students empathy and patients perception of empathy: a questionnaire based cross sectional study. *International Journal of Dental and Health Sciences*. 2018;5(2):171-179.
12. Babar MG, Omar H, Lim LP, Khan SA, Mitha S, Ahmad S F B , Hasan SS. An assessment of dental students' empathy levels in Malaysia. *International Journal of Medical Education*. 2013;4:223-229.
13. Narang R, Mittal L, Saha S, Aggarwal VP, Sood P, Mehra S. Empathy among dental students: A systematic review of literature. *J Indian Soc Pedod Prev Dent*. 2019; 37(4):316-326.