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Research Paper:

Evaluation of Empathy With Patients and Related Factors in Dental Students

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ABSTRACT

Background and Objectives: A human is a social being and needs social cohesion, support, and understanding. The relationship between the dentist and patient is a specific example of social support and empathy. The patient is also an example of social support. An empathetic dentist-patient relationship can effectively improve the physical, psychological, and social wellbeing of the patient. In this relationship, a physician can make a better diagnosis and deliver a more satisfactory treatment outcome. Therefore, this study aimed to evaluate empathy and its related factors in dental students of Birjand University of Medical Sciences, Birjand City, Iran, in 2020.

Methods: The study population consisted of all students of clinical dentistry. After obtaining informed consent from the students, Jefferson's questionnaire was distributed among them. Students' demographic information was asked in the questionnaire. The obtained data were analyzed by ANOVA and the independent t test at the significant level of 0.05.

Results: A total of 78 (42.3% male and 57.7% female) dental students participated in this study. Their Mean±SD score of empathy was 57±5.57. The mean empathy score was significantly higher in females than males (P=0.04). The mean score of empathy was significantly higher in students who were more interested in their field (P=0.03). The mean score of empathy for students was not significantly different in terms of study semester (P=0.06), marital status (P=0.95), communication skills (P=0.16), and mother's (P=0.11), and father's (P=0.92) education.

Conclusion: The mean score of empathy was significantly higher in females and students who were more interested in their field.

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Introduction

A human is a social being and needs social cohesion, support, understanding, and being understood. The dentist-patient empathic relationship can effectively improve the physical, mental, and social wellbeing of the patient and, reciprocally, that of the dentist [1]. It should be acknowledged that medicine and clinical communication between patient and dentist are essentially ethical. The philosophy of this relationship is the need to care for the patients and relieve their pain. Therefore, the relationship between dentist and patient is the cornerstone of the medical profession and, consequently, medical ethics. Having an empathetic view of patients is one of the main components of this relationship. Empathy is a communication ability whereby one can understand the experiences and concerns of others and express oneself. It manifests as an ability to understand the experiences and inner feelings of other people, to see the world through their eyes, and to enter the emotional realm of other people by entering their emotions [2, 3].

One situation for empathy to manifest itself is the relationship between the dentist and the patient. Research indicates that the emphatic patient-dentist relationship and effective interaction with the patient are associated with patient satisfaction and improved treatment outcomes [1, 4-6]. Empathy facilitates the process of diagnosing the disease, such that the patient feels more relaxed and explains the details of the disease more precisely [7].

One of the concepts associated with empathy is social intelligence. Areas of empathy and social intelligence overlap to a certain extent [8]. Social intelligence implicitly borders upon social skills, social competence, and emotional and interpersonal intelligence [9].

No positive attitude of dentists to empathize with patients is one of the problems and concerns of society [10]. Nowadays, communication and mutual understanding of the providers and recipients of oral and dental health services are seriously considered in the dentistry educational system, and the critical point in this effective relationship is the ability to understand along with a degree of empathy between the patient and the dentist [11].

The negative attitude of patients towards the dentist reduces patient satisfaction and increases the number of functional errors of the dentist and complaints of patients [12]. With greater empathy, therefore, dentists and physicians acquire greater competence in obtaining patient history, performing a clinical examination, assessing demands, preparing the treatment plan, giving post-treatment instructions, and attracting the cooperation of patients [13].

When a dentist is aware of and understands the patient's emotional state, as well as his or her dental condition, chances of an accurate diagnosis would rise [14]. This knowledge may, in turn, improve the dental treatment process and increase the chances of patients' adherence to the dentist's advice [15]. The ability to communicate and empathize with patients reduces the patients' fear and anxiety about dentistry [16, 17]. It improves therapeutic outcomes for oral and facial pains [18] and stimulates the desire to cooperate in receiving dental, orthodontic, dental removal, treatment, root canal, and prosthetic and implant services [19-21].

Also, the results of some studies have shown that when patients are more satisfied with the emotional care of their dentists, they are less likely to file a dental complaint against the dentist, even though they may not be satisfied with the dental results. Symptoms of empathy between the dentist and the patient appear in verbal and nonverbal communication [22].

While there are different ways to assess empathy, such as self-assessment, patient assessment, collateral assessment, psychometric tests, and behavioral observations, the most common method used in health is self-assessment [23]. Due to the lack of a positive attitude among some dentists towards empathy with patients and the importance of this issue in the treatment and patient satisfaction, we decided to examine empathy and related factors in dental students of Birjand University of Medical Sciences, Birjand City, Iran, in 2020.

Methods

In this descriptive-analytical, cross-sectional study, the study population comprised all dental students in the field of clinical dentistry (semesters 6 to 12) at Birjand University of Medical Sciences in 2020. The inclusion criterion was signing the written consent forms. The exclusion criteria consisted of being a guest or transfer student and not completing the study questionnaire. After the study design was approved by the Research Council and the Ethics Committee of Birjand University of Medical Sciences (IR.BUMS.REC.1398.333), the study was initiated in the university's Dental School.

Students were first explained about the procedure and objectives of the study and were informed that their participation was voluntary. Also, they would complete the Jefferson scale of empathy (health care provider's ver-

sion) if they were willing to participate in the study. At the beginning of the questionnaire, students were asked about their demographic characteristics, such as gender and the level of education of their parents.

The Jefferson scale of empathy contains 20 items scored on a 4-point Likert scale. The maximum score is 60, and the is 0. These scores are classified into completely positive, negative, and completely negative attitudes. This scale was assessed in 2015 by Karimi et al. in Mashhad University of Medical Sciences, Mashhad City, Iran, under the title "Surveying the factor structure and reliability of the Persian version of the Jefferson scale of physician empathy-health care provider student version". The Persian version was also standardized [24].

The collected data were analyzed in SPSS v. 18, and the results were reported as mean, standard deviation, and relative frequency distribution. The Kolmogorov-Smirnov test was used to confirm the normal data distribution. The independent t test and 1-way analysis of variance were used to analyze the obtained data. The significance level was set at α=0.05.

Results

This study included 78 dental students at Birjand University of Medical Sciences, most of whom were female. Other demographic characteristics are presented in Table 1.

Based on the students' responses, the majority (n=44; 56.4%) had not passed the communication skills course. Computation of the empathy score revealed an Mean±SD score of 40.83±5.57 on the Jefferson scale of empathy. The mean score of empathy in terms of gender was assessed using the independent t test. It was found that female students (41.93±5.39) had a significantly higher empathy than their male counterparts (39.33±5.54) (P=0.04).

The results showed no significant relationship between the mean empathy score and students' academic semester (P=0.06). But, there was also a significant association between the mean empathy score and students' interest in their field (P=0.03); those who were more interested in the field, obtained higher mean scores. The post hoc test results showed a statistically significance in low and moderate interest in the field of study (P=0.49). The mean scores of empathy were not significantly different between single and married students (P=0.95). Also, there

Table 1. Demographic characteristics of participating students

Variables	Status	No. (%)
Gender	Male	33(42.3)
	Female	45(57.7)
Semester	6	19(24.4)
	8	24(30.8)
	10	22(28.2)
	12	13(16.7)
Marital status	Single	65(83.3)
	Married	13(16.7)
Father's education level	High school diploma or lower	15(19.2)
	Associate or bachelor's	42(53.8)
	Master's or higher	21(26.9)
Mother's education level	High school diploma or lower	27(34.6)
	Associate or bachelor's	35(44.9)
	Master's or higher	16(20.5)

Table 2. Comparing the mean empathy scores of students as per variables

Parameters	Status	Mean±SD	P
Semester	6	42.73±5.68	0.06
	8	40.87±5.25	
	10	38.36±5.42	
	12	42.15±5.28	
Degree of interest in the field of study	Low	38.62±3.37	0.03
	Moderate	39.58±5.36	
	High	42.67±5.76	
Marital status	Single	40.81±5.51	0.95
	Married	40.92±6.11	
Clinical communication skills course passed or not	Yes	39.82±5.81	0.16
	No	41.61±5.32	
Father's education level	High school diploma or lower	40.80±6.29	0.92
	Associate or bachelor's	40.64±5.71	
	Master's or higher	41.23±4.98	
Mother's education level	High school diploma or lower	39.81±4.82	0.11
	Associate or bachelor's	40.45±5.68	
	Master's or higher	43.37±6.07	

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was no significant difference in the mean score of empathy in students who passed or did not pass the communication skills course (P=0.16). There was no significant difference between the mean score of students' empathy and the education level of students' parents (Table 2).

Discussion

One of the most critical components of communication between a dentist and a patient is the ability to create an understanding to demonstrate clinical empathy. Empathy is a characteristic of a dentist and depends upon his/her innate ability to understand the patient's feelings. It plays many essential functions in the dentist-patient relationship. Focusing on the patient, listening to the patient's medical and dental history, and understanding the patient's emotions are some of these functions that significantly affect the patient's treatment process [13, 25, 26]. Therefore, given the importance of this issue, this study aimed to investigate the degree of empathy and related factors in dental students of Birjand University of Medical Sciences in 2020.

In this study, the average score of Jefferson's empathy for female students was significantly higher than that of the male students. Generally, women have stronger emotional feelings than men, and their emotions are aroused earlier, helping them communicate with people faster and with better quality. The results of this study were consistent with studies conducted by Shahab et al. [27], Hojjat et al. [28], Archer et al. [29], Mirani et al. [30], and Sadeghiyeh et al. [31]. However, Kazemipoor et al. [32], Ameh et al. [33], and ALaee et al. [34] reported that the mean score of empathy was not significantly associated with gender. Among the reasons for this discrepancy are differences in study populations and the type of instruments employed in the study. In our study, only general dental students participated, while other studies recruited general medicine and specialized dental students or dentists, where the participants were different in age.

In this study, there was no significant association between the mean score of empathy of the students and their academic semester. Similarly, the results of Kazemipoor et al. [32] and Ameh et al.'s studies [33] indicate that the mean score of students' empathy was not significantly associated with their academic semester.

Shariat et al. [35], Shahab et al. [27], Hashemipour et al. [36], La Monica et al. [37], Chen et al. [11], Mirani et al. [30], and Archer et al. [29] found a significant relationship between the mean score of empathy of dental students and their academic semester, which does not correspond with our findings. One of the reasons for this discrepancy is that moral characteristics, such as empathy, require a long time to form. It is likely that this trait was influenced by the student's family and community environment before the study period and that the study period was less effective.

There was no significant correlation between the marital status of students and the average score of empathy of students participating in the study. Likewise, in the studies of Kazemipoor et al. [32] and Shariat et al. [35], there was no significant relationship between the average score of students' empathy and marital status. In Shahab et al.'s study [27], there was a significant relationship between the average score of empathy and marital status of students, such that the average score of empathy in married students was significantly higher than that of single students. This finding fails to correspond with our results. One reason for this discrepancy is the difference in the human samples recruited in the two studies.

In Kazemipoor et al.'s study [32], the mean score of empathy of students who passed the communication skills course was significantly higher than students who did not pass, which does not correspond with our results. One of the reasons for this discrepancy is that in Kazemipour et al.'s study, junior and senior students of dentistry constituted 80% of the participants, while in our study, only 45% of students were in the last two years of the dentistry program. It can also be noted that although some effects and training play an essential role in increasing empathy, these effects are short-lived [26, 38].

In this study, the students who were more interested in the field had obtained higher mean scores. According to Esagian et al.'s study [39], clinical interest resulted in a better understanding of the patient's mental state and greater empathy. Finally, despite the limitations of this study, it is suggested that the students choose their field based on their interests.

Conclusion

According to the study results, the average scores of empathy of female students and students who were very interested in their field showed a significant difference from those of male students and students who were less interested in their field of study. However, no significant relationship was found between the average score of empathy and the variables of marital status, academic semester, and the education level of students' parents.

Ethical Considerations

Compliance with ethical guidelines

This study was approved by the Research Council and the Ethics Committee of Birjand University of Medical Sciences (IR.BUMS.REC.1398.333).

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Authors' contributions

Conceptualization and supervision: Soheila Darmiani and Reza Dastjerdi; Methodology: Mahbubeh Haghi Rudi; Investigation, Writing – original draft, and Writing – review & editing: All authors; Data collection: Mahbubeh Haghi Rudi ; Data analysis: Hamid Salehinia.

Conflict of interest

The authors declared no conflict of interest.

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