Original Article

ASSESSMENT OF RELATIONSHIP BETWEEN DENTAL STUDENTS EMPATHY AND PATIENTS PERCEPTION OF EMPATHY: A QUESTIONNAIRE BASED CROSS SECTIONAL STUDY

Karuna Burde[1], Vikram Garcha[2],Vittaldas Shetty[3],Vineet Vinay[4],Manisha Pathak[5],Roshni Mukhi[6]
1.Post Graduate Student, Department of Public Health Dentistry, Sinhgad Dental College and Hospital, Pune.
2.Reader, Department of Public Health Dentistry, Sinhgad Dental College and Hospital, Pune
3.Professor,Department of Public Health Dentistry, Sinhgad Dental College and Hospital, Pune
4.Senior Lecturer,Department of Public Health Dentistry, Sinhgad Dental College and Hospital, Pune
5.Post Graduate Student, Department of Public Health Dentistry, Sinhgad Dental College and Hospital, Pune
6.Post Graduate Student, Department of Public Health Dentistry, Sinhgad Dental College and Hospital, Pune

ABSTRACT:

Objectives: To assess the relationship between dental students' empathy and patient perception of empathy.

Materials and method: A questionnaire was administered to150 dental students of third year, final year and interns and 105 patients of a Dental College, Pune. Jefferson Scale of Empathy Health Care Provider Student Version (JSP-HPS) was administered to dental students of third year, final year, interns. Jefferson scale of patient's perception of physician empathy (JSPPPE) which was translated in Marathi language was administered to patients visiting the outpatient department of the hospital to assess the empathetic level of dental students. Association of level of dental students' empathy and patients perception of empathy towards dental students was done using Chi-square test and Pearson's correlation test.

Results: The mean Jefferson Scale of Empathy, Health Care Provider Student version (JSE-HPS) and Jefferson Scale of Patient Perceptions of Physician Empathy (JSPPPE) score among dental students and interns and patients was 89.28 ±8.227 and 22.90±8.79 respectively. Conclusion: Assessment and improvement in factors that determine the empathy levels of dental students' and the patient's perception in turn, is the key to leading a healthy doctor-patient relationship.

KEYWORDS- Cross sectional study, Dental students, Empathy, Jefferson Scale of Empathy, Health Care Provider

INTRODUCTION:

Empathy is understanding and experiencing the feeling of another person's situation. It is the key element in building the foundation of a good patient-physician relationship which generally results in a more positive clinical outcome. Empathy and sympathy both deal with sharing. In empathy, understanding is shared but in sympathy emotions are shared with their patients. Empathy is described by two concepts- cognitive and affective. The cognitive concept of empathy deals with personal growth, career satisfaction, and optimal clinical outcomes. Affectively defined sympathy on the other hand, may lead to career burnout, compassion fatigue, exhaustion, and vicarious traumatization. Depending upon individual perception, empathy levels vary in different individuals. Women generally, tend to be more empathic

when compared to men. Understanding is the key component in a patient-physician relationship.[1]

Patients feel good and satisfied if their feelings are understood by their doctors which is a part of patient physician empathetic relationship.[2] If the doctor is unable to understand patient's perspective, then it might result in difficulties in communicating problems by the patient to the doctor which may leave the patient unsatisfied. It has generally been noticed that the empathy level among medical and dental students is decreasing.[3] This study was thus conducted with the aim to assess the relationship between dental students empathy and patient perception of empathy.

OBJECTIVES

To assess the relationship between dental students' empathy and patient perception of empathy.

MATERIALS AND METHODS:

A questionnaire based cross sectional study was conducted among third, final year and interns and patients visiting the outpatient department of Sinhgad Dental College, Pune. Prior permission for conduction of the study was obtained from Institutional Ethical Committee of Sinhgad Dental College and Hospital. The Jefferson Scale of Empathy was used to examine the empathy level.[4] The reporting of this study is in accordance to the STROBE guidelines.

There are two versions of this Jefferson Scale of Empathy- the physician version and the student version. Student version of Jefferson Scale of Empathy has two versions one is used with medical students (S version) and other is used for Health Care Provider Students (HPS version). Jefferson Scale of Patient Perceptions of Physician Empathy (JSPPPE) is an instrument that measures the patient's perception towards the ability of the physician in understanding their empathy. Validation of the Jefferson Scale of Patient Perceptions of Physician Empathy (JSPPPE) in Marathi language was done prior to the conduction of the study. For calculation of sample size, a pilot study was conducted among dental students and the required sample size for the present study was estimated to be 150. All the patient visiting the outpatient department during the one month period were included in the study. Around 105 patients and 150 dental students were included in the study. Dental students and patients who were present at the time of study were included in the study. A written informed consent was obtained from the students and patients. With the convenience sampling procedure dental students and patients were selected for the study. A self-administered questionnaire was distributed among dental students, interns and the patients visiting the outpatient department of the institution. To assess dental students empathy Jefferson Scale of Empathy Health Care Provider Student Version (JSP-HPS) was

administered to 150 dental students. The instrument consists of 20 items answered on 7-point Likert scale scored from 1(strongly disagree) to 7 (strongly agree). Jefferson Scale of Patient Perceptions of Physician Empathy (JSPPPE) was distributed among patients to assess patient perception of empathy which was translated in Marathi language consisting of 5 items answered on 7-point Likert scale scored from 1(strongly disagree) to 7 (strongly agree). The completed questionnaire was collected and responses were entered in Microsoft excel version 21. Statistical analysis was performed using SPSS software (ver. 21 IBM, Chicago, Il, USA). Association of level of dental students empathy and patients perception of empathy towards dental students was done using chi-square test. Pearson's correlation test was used to assess the correlation between the variables. The level of significance was kept at $p<0.05$ (95% confidence interval)

RESULTS:

A total of 150 dental students and 105 patients visiting the outpatient department of institution participated in the study. Out of 150 dental students 36 were male and 114 were females. The mean (SD) score of Jefferson Scale of Empathy, Health Care Provider Student version (JSE-HPS) of dental students was 89.28 (±8.22). The mean (SD) score and standard deviation of Jefferson Scale of Patient Perceptions of Physician Empathy (JSPPPE) score of patients was

22.90(±8.79) respectively. There was a statistically significant positive correlation between JSE-HPS and JSPPPE ($p<0.05$). Table 1 shows the Jefferson Scale of Empathy Health Care Provider Student Version (JSP-HPS) items were answered on a 7 point Likert-type scale (1 = Strongly Disagree, 7 = Strongly Agree). All correlations were statistically significant ($P<0.05$). In Jefferson Scale of Empathy, Health Care Provider Student version (JSE-HPS) the highest mean score for the item "Patients feel better when their health care provider understands their feeling" was 5.57(±1.56) and lowest mean score for the item "Asking patients about what is happening in their personal lives is not helpful in understanding their physical complaints" was 2.68(±1.28). Table 2 represents Jefferson Scale of Patient's Perceptions of Physician Empathy items answered on a 7-point Likert-type scale (1 = Strongly Disagree, 7 = Strongly Agree). All correlations were statistically significant. In Jefferson Scale of Patient Perceptions of Physician Empathy (JSPPPE) the highest mean score for the item "Understands my emotions, feelings and concerns" was 6.54(±1.46) and lowest mean score for the item was "Asks about what is happening in my daily life" was 2.45(±1.23). For Question no 1. 42 out of 150 participants agreed whereas only 4 participants had neutral opinion. This difference was found to be statistically significant (p<0.038). For Question no 3. 24 out of 150 participants agreed whereas only 8 participants had neutral opinion. This difference was

found to be statistically significant (p<0.045). For Question no 7. 24 out of 150 participants agreed whereas only 8 participants had neutral opinion. This difference was found to be statistically significant (p<0.045). For Question no 8. 29 out of 150 participants agreed whereas only 12 participants had neutral opinion. This difference was found to be statistically significant (p<0.019). For Question no 13. 80 out of 150 participants agreed whereas only 4 participants had neutral opinion. This difference was found to be statistically significant (p<0.03). For Question no 19. 9 out of 150 participants agreed whereas only 4 participants had neutral opinion. This difference was found to be statistically significant (p<0.01). Pearson's correlation test was used to assess the correlation between the variables. The level of significance was kept at p<0.05 (95% confidence interval). There was a statistically significant positive correlation between JSE-HPS and JSPPPE (p<0.05).(Table 3)

DISCUSSION:

Meaning of empathy is understanding persons emotion, feeling, experiencing their situation.[5] Jefferson Scale of Empathy Health Care Provider Student Version (JSP-HPS) is used to assess level of dental students empathy. The present study aimed to assess the relationship between dental students empathy and patient perception of empathy. The findings of the present study are consistent with those of the study conducted by Babar M *et al,* 2013 where they found that women are more empathetic towards patient than the men. This can be due to higher number of female students than the male students in the present study, selection of dentistry as study and trends that are recently seen had shown that selection of this degree is higher among females than the males.[4] Questionnaire for dental students consisting of 20 questions showed that the mean score for empathy amongst the dental students was 89.28 ±8.227. Mean score of Jefferson Scale of Patient Perceptions of Physician Empathy (JSPPPE) was 22.90±8.79, based on 5 questions asked which was translated in Marathi language for better understanding of the patients. There was a statistically significant correlation between JSE-HPS and JSPPPE (p<0.05). The scores of JSPPPE ranged from minimum of 5 to maximum of 35 for each patient. The mean score for 105 patients in our study was 22.90. The score of JSP-HPS for each dental student ranged from 20-140. In our study the mean JSP-HPS score for 150 dental students and interns was 89.28. Most of the participating dentists in our study were females. These findings may be due to their ethnicity, different traditions that are followed and also may be due to the reason that female dentists may be more empathetic towards their patients than the male dentist which are in accordance with the study done by Prabhu *et al,* 2014.[6]

Limitations of the study was the small sample size and the participants selected were non-random. It is very important to maintain a positive doctor patient relationship. In order to understand what a patient is experiencing through situations, a doctor must empathise with the patient. The most complex task is taking care of the patient rather than just treating the disease. An empathic doctor-patient relationship is the key to successfully and satisfactorily treating a patient. The most important component of empathy is perspective taking. Understanding the concerns of the patient is explained by perspective taking. Compassionate care is another component of empathy which explains emotions and feelings along with empathetic understanding.

In the previous discussion about empathy it is understood that communication and mutual understanding between doctor and patient can lead to more positive doctor patient relationship and further it can give more positive results with a sensesatisfaction in the patient. Lot of evidence is required that will find out the factors which contributes to this relationship.[7] Though empathy is considered as the backbone of doctor-patient relationship research on this topic is limited and hence further studies are needed for measurement of empathy.[8]

CONCLUSION:

In conclusion further studies are needed to assess change in level of empathy among dental students to maintain more positive relationship between doctor and patient. There was a statistical significant correlation between of Jefferson Scale of Empathy Health Care Provider Student version (JSE-HPS) and Jefferson Scale of Patient Perceptions of Physician Empathy (JSPPPE) which was translated in Marathi. Both are sound instruments to measure level of empathy.

REFRENCES:

1. Di Lillo M, Cicchetti A, Lo Scalzo A, Taroni F, Hojat M.The Jefferson Scale of Physician Empathy: Preliminary psychometrics and group comparisons in Italian physicians. *Acad Med* 2009;84(9):1198-202.
2. Glaser K, Markham F, Alder H, Mcmanus, PR, Hojat M. Relationships between scores on the Jefferson Scale of physician empathy, patient perceptions of physician empathy, and humanistic approaches to patient care: A validity study *Med Med Sci Monit* 2007;13(7):291-4.
3. Hojat M, Gonnella JS, Nasca TJ, Salvatore Mangione S, Vergare M and Magee M. Physician Empathy: Definition, components, measurement, and relationship to gender and specialty. *Am J Psychiatry* 2002;159(9):1563-9.
4. Babar M , Omar H, Lim L, Khan S, Mitha S, Ahmad S, Hasan S. An

assessment of dental student's empathy levels in Malaysia. *Int J of Med Educ* 2013;4:223-9.

5. Kliszcz J, Nowicka-Sauer K, Trzeciak B, Nowak P , Sadowska A. Empathy in health care providers – validation study of the Polish version of the Jefferson Scale of Empathy. *Adv Med Sci* 2006;51:219-5.

6. Prabhu S, Kumar SV., Prasanth SS, Kishore S. Standing in patients' shoes-survey on empathy among dental students in India. *J Educ Ethics Dent* 2014;4(2):69-73.

7. Kane G, Gotto J, Mangione S, West S, Hojat M. Jefferson Scale of Patient's Perceptions of Physician Empathy: Preliminary psychometric data. *Croat Med J* 2007;48(1):81-6.

8. Ward J, Sachaal M, Sullivan J, Bowen M, Erdmann J, Hojat M. Reliability and Validity of the Jefferson Scale of Empathy in Undergraduate Nursing Students. *J of Nurs Meas* 2009;17(1):73-83.

TABLES:

Table1: The Jefferson Scale of Empathy Health Care Provider Student Version (JSP-HPS) items were answered on a 7 point Likert-type scale (1 = Strongly Disagree, 7 = Strongly Agree). All correlations were statistically significant ($p<0.05$)

Questions	1	2	3	4	5	6	7	p value
Understanding of their patients' feelings and the feelings of their patients' families do not influence treatment outcomes	22(14.7)	52(34.7)	19(127)	21(14)	7(4.7)	24(16.6)	5(3.3)	p<0.05
Patients feel better when their HCP understands their feeling	6(4.0)	4(2.7)	7(4.7)	0	4(2.7)	86(57.3)	43(28.7)	p<0.05
It is difficult for a HCP to view things from patients' perspectives	1(7)	29(19.3)	20(13.3)	5(3.3)	48(32)	43(28.7)	4(2.7)	p<0.05
Understanding body language is as important as verbal communication in HCP-patient relationships	3(2)	10(6.7)	1(0.7)	0	16(10.7)	64(42.7)	56(37.3)	p<0.05
A HCP sense of humour contributes to a better clinical out-come	2(1.3)	3(2.0)	5(3.3)	2(1.3)	23(15.3)	86(57.3)	29(19.3)	p<0.05
Because people are different, it is difficult to see things from patients' perspectives	9(6)	12(8.0)	12(8.0)	18(12)	42(28.0)	54(36)	3(20)	p<0.05
Attention to patients' emotions is not important in patient interview	3(22.0)	84(56.0)	9(6.0)	3(2.0)	7(4.7)	14(9.3)	0	p<0.05
Attentiveness to patients' personal experiences does not influence treatment outcomes	21(14.0)	67(44.7)	6(4.0)	12(8.0)	7(4.7)	29(19.3)	8(5.3)	p<0.05
HCP should try to stand in	2(1.3)	20(13.3)	15(10.0)	12(8.0)	27(18.0)	40(26.7)	34(22.7)	p<0.05

their patients' shoes when providing care to them							
Patients value a HCP understanding of their feelings which is therapeutic in its own right	5(3.3)	11(7.3)	4(2.7)	8(5.3)	17(11.3)	79(52.7)	26(17.3)	p<0.05
Patients' illnesses can be cured only by targeted treatment; therefore, HCP emotional ties with their patients do not have a significant influence in treatment outcomes.	18(12.0)	40(26.7)	43(28.7)	24(16)	13(8.7)	12(8.0)	0	p<0.05
Asking patients about what is happening in their personal lives is not helpful in understanding their physical complaints	9(6.0)	55(36.7)	45(30.0)	6(4.0)	13(8.7)	17(11.3)	5(3.3)	p<0.05
HCP should try to understand what is going on in their patients' minds by paying attention to their non-verbal cues and body language	1(0.7)	3(2.0)	15(10.0)	4(2.7)	17(11.3)	80(53.0)	30(20.0)	p<0.05
I believe that emotion has no place in the treatment of medical illness.	13(8.7)	74(49.3)	19(12.7)	10(6.7)	6(4.6)	21(14.0)	7(4.7)	p<0.05
Empathy is a therapeutic skill without which a HCP success is limited	0	12(8.0)	14(9.3)	0	19(12.7)	75(50.0)	30(20.0)	p<0.05
understanding of the emotional status of their patients, as well as that of their families is one important component of the HCP– patient relationship.	1(0.7)	2(1.3)	7(4.7)	10(6.7)	25(16.7)	98(65.3)	7(4.7)	
HCP should try to think like their patients in order to render better care.	9(6.0)	13(8.7)	13(8.7)	11(7.3)	39(26.0)	59(39.3)	6(6.0)	p<0.05
HCP should not allow themselves to be influenced by strong personal bonds between their patients and their family members	7(4.7)	15(10.0)	12(8.0)	27(18)	25(16.7)	45(30.0)	19(12.7)	p<0.05
I do not enjoy reading non-medical literature or the arts	40(29.7)	82(54.7)	10(6.7)	4(2.7)	3(2.0)	9(6.0)	2(1.3)	p<0.05
I believe that empathy is an important factor in patients' treatment	1(0.7)	9(6.0)	2(1.3)	4(2.7)	5(3.3)	89(59.3)	40(26.7)	p<0.05

Table2: The Jefferson Scale of Patient's Perceptions of Physician Empathy items were answered on a 7-point Likert-type scale (1 = Strongly Disagree, 7 = Strongly Agree). All correlations were statistically significant

Questions	Strongly Disagree	Disagree	Disagree Somewhat	Neither Disagree nor Agree	Agree Somewhat	Agree	Strongly Agree	p value
Understands my emotions,	17(11.3)	3(2.0)	1(0.7)	14(9.3)	15(10.0)	42(28.0)	28(18.7)	p<0.05

feelings and concerns							
Seems concerned about me and my family	17(11.3)	11(7.3)	10(6.7)	8(5.3)	16(10.7)	24(16.0)	19(12.7)	p<0.05
Can view things from my perspective (see things as I see them)	17(11.3)	13(8.7)	13(8.7)	6(4.0)	15(10.0)	22(14.7)	19(12.7)	p<0.05
Asks about what is happening in my daily life	26(17.3)	12(8.0)	14(9.3)	3(2.0)	16(10.7)	16(10.7)	18(12.0)	p<0.05
Is an understanding doctor	11(7.3)	7(4.7)	3(2.0)	1(0.7)	9(6.0)	50(33.3)	24(16.0)	p<0.05

Table3: Pearson's correlation test used to assess the correlation between the variables. The level of significance was kept at p<0.05 (95% confidence interval)

Patient Dental students	Q1	Q2	Q3	Q4	Q5
Q1 Pearson correlation p value	.013 .896	-.020 .839	-.032 .743	-.065 .510	-.049 .619
Q2 Pearson correlation p value	.002 .983	.116 .237	.112 .254	.042 .670	.103 .296
Q3 Pearson correlation p value	.058 .555	.165 .092*	.083 .399	.058 .555	.155 .114
Q4 Pearson correlation p value	.111 .261	.166 .091*	.206 .035*	.140 .155	.377 .000*
Q5 Pearson correlation p value	-.012 .903	.049 .619	.013 .899	.055 .578	.121 .220
Q6 Pearson correlation p value	-.086 .381	-.212 .030*	-.182 .063	-.189 .054*	.086 .383
Q7 Pearson correlation p value	-.065 .508	-.139 .157	-.126 .199	-.026 .796	-.176 .072*
Q8 Pearson correlation p value	-.122 .215	-.041 .677	-.085 .386	-.079 .426	-.139 .157

Q9 Pearson correlation p value	.044 .654	.181 .064	.174 .076	.042 .668	.113 .252
Q10 Pearson correlation p value	-.094 .342	-.001 .993	-.057 .565	-.127 .196	-.022 .824
Q11 Pearson correlation p value	.006 .953	-.170 .082	-.097 .327	-.092 .352	-.052 .600
Q12 Pearson correlation p value	.073 .456	.038 .700	.123 .212	.116 .238	.152 .121
Q13 Pearson correlation p value	.123 .213	.227 .020	.159 .106	.155 .115	.239 .014
Q14 Pearson correlation p value	.016 .872	-.144 .142	-.059 .553	-.049 .622	-.051 .604
Q15 Pearson correlation p value	.061 .536	.194 .048*	.146 .136	.167 .089	.248 .011*
Q16 Pearson correlation p value	053 .594	.123 .213	.053 .590	.094 .341	.298 .002*
Q17 Pearson correlation p value	-.033 .735	.039 .690	-.054 .585	-.050 .612	-.008 .935
Q18 Pearson correlation p value	.018 .857	.010 .923	.007 .946	.032 .747	.021 .829
Q19 Pearson correlation p value	-.122 .216	-.201 .039*	-.114 .245	-.087 .378	-.205 .036*
Q20 Pearson correlation p value	-.025 .804	-.021 .835	-.014 .884	-.002 .988	.161 .101