

Assessment of Empathy among Dental Students Using the Jefferson Scale of Empathy

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ABSTRACT

Introduction: Empathy is the ability to understand patients' ability and experiences and capability to communicate this understanding. Empathy plays important role in maintaining the relationship between patient and clinician. The aim of the study is assessment of empathy among dental students at a tertiary hospital in Nepal using Jefferson scale of physician empathy questionnaire.

Materials and Methods: This questionnaire based study was conducted among undergraduate students at Universal college of Medical Sciences (UCMS), College of Dental Surgery, Bhairahawa, Nepal. Data was collected from third year, fourth year students and interns who were exposed to clinical postings. Empathy was assessed by the Jefferson Scale of Empathy, a 20 item self-reporting questionnaire.

Results: Empathy scale scores for subjects of different years of education showed statistically significant difference.

Conclusion: Jefferson scale questionnaire is a self-administered and self-perceived inventory which reports empathy level among the interns was higher than other dental undergraduates.

Keywords: Dental, Dentist, Education, Empathy, questionnaire

INTRODUCTION

Communication skills and understanding between health care practitioner and patient has a great significance in clinical field, which applies to dental society as well. The effective way to recognize patient's concerns, feelings and experiences depends upon one's empathy. Empathy is the ability to share, understand and respond with care to the experiences of others.¹ Empathy was derived from two Greek terms, "em" and "pathos," meaning "feeling into" and has its origin from the German word "Einführung." Empathy is generally viewed as a relatively stable constitutional trait.²⁻⁴

Empathy involves cognitive as well as emotional

domains.⁵ The cognitive domain of empathy involves the ability to understand another person's inner experiences and feelings and a capability to view the outside world from the other person's perspective.⁶ The emotional domain involves the capacity to enter into or join the experiences and feelings of another.^{6,7}

There is general consensus that empathy is crucial for the dentist-patient relationship and thus an important issue in dental education. But less attention has been paid to it.⁸ The American Dental



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Education Association has always emphasized on including empathy as a part of the dental curriculum as it plays an important role in dentist and patient relationship.⁹ Demonstrations of caring interpersonal skills and empathy can decrease fear, improve treatment outcome in patients with myo-fascial pain, increase adherence to orthodontic treatment and increase patient satisfaction with emergency dental care, extractions, restorations, and endodontic treatments. So far, there are no studies reported about the empathy levels among dental students in Nepal. The present study aims to understand empathy levels among dental students at Universal College of Medical Sciences.

MATERIALS AND METHODS

The study was conducted among undergraduate students in Universal College of Medical Sciences (UCMS), College of Dental Surgery, Bhairahawa, Nepal. Data collection was performed for 3 months from March to May 2022. An online Jefferson Scale of Empathy⁶, a 20 item self-reporting questionnaire was prepared using google forms and link was created. Link to the questionnaire and a cover letter along with informed consent form were distributed to the students enrolled in Bachelor of Dental Surgery Programme of UCMS via mail. Participants were third year, final year students (phase I and phase II students) and interns who were exposed to clinical postings. All students who were exposed to clinical dental postings were included in the present study. The first and second year students were excluded from the study. Students who were not exposed to clinical dental postings were not included. The final sample used in this study was 198. Data was analyzed with the statistical significance as 5%. Sample size was taken by enumeration technique. Complete enumeration was done as all the interns and students of 3rd year, final year were included in the study. This scale was developed by researchers at the Center for Research in Medical Education and Health Care at Jefferson Medical College to measure empathy in physicians and health care providers.⁶ A 7-point Likert scale seems to be most accurate among all. The 20 item test uses a 7-point Likert scale for each item (1=strongly disagree, 2= Disagree, 3= Somewhat Disagree, 4=Neither agree nor disagree, 5= Somewhat agree, 6= Agree and 7= strongly agree). High scores were interpreted as having more empathic behavioral orientation than lower scores in our results. The present study was cleared by the Ethical Committee (UCMS/

IRC/069/17) of UCMS Dental College. Jefferson scale of physician empathy – health profession version questionnaire with validity was provided to the undergraduates.

The data was entered manually on Microsoft excel (MS Office Excel 2000; Microsoft Corporation, Redmond, WA, USA) and checked for possible data entry errors. Frequencies and percentages were presented for categorical variables. The data was analyzed using SPSS version 21.0 (IBM Corp. Armonk, NY: IBM Corp) for generation of descriptive, as well as inferential statistics. The statistical significant difference among groups was determined by the T test and ANOVA including post hoc tests.

RESULTS

Table 1 shows descriptive statistics for the total subjects and gender comparison within the respective year of study for Jefferson Empathy scale scores. The highest mean±SD score was observed for female third year students i.e 90.62±8.60. The lowest mean empathy score 83.63±7.68 was observed for male final year phase II students. Overall, among all years, females had a slightly higher score than males. But the gender wise difference of mean empathy score was statistically non-significant ($p>0.05$).

Table 2 shows gender wise comparison of Jefferson Empathy scale scores overall among subjects. The female subjects reported 89.28±10.54 whereas among male subjects, it was found to be 86.47±9.77. The observed difference was found to be statistically significant ($p=0.05$).

Table 3 shows comparison of mean Jefferson Empathy scale scores for subjects of different years of education. The interns reported highest mean empathy score of 90.53±7.51 whereas among final year phase II subjects, the minimum mean empathy score was reported i.e. 85.09±9.16. The difference in the mean empathy score year of education wise was found to be statistically significant difference ($p=0.041$).

Table 4 shows pair wise comparison of mean Jefferson Empathy scale scores for subjects of different years of education using Post Hoc Tukey test. Pair wise comparison revealed that the difference in mean empathy score was statistically significant among the third year vs final year phase II and interns vs final year phase II ($p<0.05$).

Table1: Descriptive statistics for the total subjects and gender comparison within the respective year of study

YEAR		N	Minimum	Maximum	Mean	Std. Deviation	t value	p value
Third year	Female	47	72	116	90.62	8.60	-1.083	0.287
	Male	21	71	110	87.52	11.75		
Final year Phase I	Female	27	53	111	89.15	14.89	-0.915	0.365
	Male	22	65	100	85.91	9.76		
Final year Phase II	Female	31	65	108	86.52	10.65	-1.11	0.273
	Male	19	69	94	83.63	7.68		
Interns	Female	20	77	98	90.6	6.72	-0.05	0.961
	Male	11	80	105	90.45	8.30		

Table2: Comparison of Jefferson Empathy scale scores among gender in over all subjects

Gender	N	Mean	Std. Deviation	Std. Error Mean	t value	p value
Male	73	86.47	9.77	1.143	-1.899	0.05*
Female	125	89.28	10.54	0.943		

*Statistically significant

Table3: Comparison of mean Jefferson Empathy scale scores for subjects of different years of education using one way ANOVA test

Year	Mean	Std. Deviation
Third year	89.07	10.18
Final year Phase I	87.53	12.33
Final year Phase II	85.08	9.16
Interns	90.53	7.51
F value	2.28	
p value	0.041*	

*Statistically significant

Table4: Pair wise comparison of mean Jefferson Empathy scale scores for subjects of different years of education using Post Hoc Tukey test

Year		Mean Difference	Std. Error	p value
Third year	Final year Phase I	1.968	1.917	0.306
	Final year Phase II	4.242	1.906	0.027*
	Interns	-0.887	2.217	0.69
Final year Phase I	Final year Phase II	2.274	2.056	0.27
	Third year	-1.968	1.917	0.306
	Interns	-2.855	2.347	0.225
Final year Phase II	Final year Phase I	-2.274	2.056	0.27
	Third year	-4.242	1.906	0.027*
	Interns	-5.128	2.338	0.029*
Interns	Final year Phase I	2.855	2.347	0.225
	Final year Phase II	5.128	2.338	0.029*
	Third year	0.887	2.217	0.69

*Statistically significant

DISCUSSION

The present study reported that empathy score among all years group (third year, final year and interns) was statistically not significant. This may be due to the fact that all the dental students that have been included in the study have been exposed to clinical posting and started treating the patient.¹⁰ Once the students started interacting with patients, they developed communication skills and began to share the feelings of patients. However, the mean empathy score of present study is less than average scores of 103-117 reported by previous studies among medical¹¹⁻¹⁴ and dental students.¹⁵ In present study, empathy level among the interns was higher than other dental undergraduates which was in similar to findings of study conducted by Sherman et al where the mean empathy score of dental third year and interns was higher compared to other years of students.¹⁵ The probable reason for the same could be that initially when students join dental school, they are not aware of their responsibilities. Gradually when they come in contact with the patients, they develop empathy.

Furthermore, the rise in third-year students was attributed to lectures, role-playing, or communication skills completed recently in their classes. Third year students get feedback on their behavior as they have been just exposed to patients behavior¹⁶ whereas interns are most experienced group and so they can understand patients' feelings better. But the empathy score of final year first phase and second phase students was decreased in comparison to third year and interns. They experience higher level of distress during dental training as they need to learn large volume of material which is present in their curriculum. Students may become emotionally hardened and may care less for patients. This undermines the idealism and empathy.

In the present study, females have higher mean empathy score than that of males. Females showed higher empathy level than males which is similar with the other studies^{17,18,19} but this was against the studies done by Rose et al²⁰ and Babar et al.²¹ This might be due to the fact that women are more empathic than men. Females remain more attached with patients and have care giving attitudes than men. Studies have argued that empathy is a feminine trait and that females are more receptive to emotional signal.^{17,18}

Our study is limited to only one dental college. It

would have been better if study had been applied to several dental colleges of Nepal. Other limitation is that evaluation of empathy was done on subjective way of a validated questionnaire. Observational method such as the History- taking Rating Scale (HRS) was not used to measure empathy level in dental students. This study was cross-sectional in design that makes it difficult to understand the process of changes in empathy level through each year of dental course.

CONCLUSION

Empathy score among various groups (third year, final year and interns) was not found to be statistically significant. Empathy level among the interns was higher than other dental undergraduates. Females were found to have higher mean empathy score than that of males. Students should aim to increase empathy level by considering emotional and behavioral factors. Empathy related cultural awareness, discussions and role-playing activities should be done to endorse the growth of empathy.

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