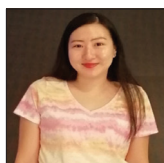


Original Article

Difference in the empathy of undergraduate dental student clinicians

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ABSTRACT

Objectives: Empathy has always been a silent factor in the success of a dental practice, but it is seldom emphasized in classes or in clinics. This study seeks to compare the difference in empathy of the undergraduate dental student clinicians based on clinical level and gender.

Material and Methods: The study was conducted in a Philippine dental school, which produces a significant number of graduates every year and is one of the oldest, thus considered as one of the pioneers of dental education. The Jefferson Scale of Empathy–Health Profession Students Version questionnaire consists of 20 questions that use a 7-point Likert-type scale to measure respondents' answers (1 = strongly disagree to 7 = strongly agree). It was placed in Google Forms and disseminated to the undergraduate student clinicians through the official social group platforms of their respective clinic year levels. The total score of each respondent was interpreted using a scale ranging from 20 to 140, with a higher score denoting a higher level of empathy.

Results: The study included 231 undergraduate student clinicians, 45 of whom were male and 186 of whom were female. Fifty-seven student clinicians represented clinic level one, 94 clinicians represented clinic level two, 41 clinicians represented clinic level three, and 39 clinicians represented clinic level four. The results showed that there is no variation in the empathy scores according to the clinic year level, analysis of variance $F = 1.468, P = 0.22$. Females scored higher ($M = 112.17$, standard deviation [SD] = 11.02) than males ($M = 106.36$, $SD = 12.97$), t -test $F = 1.735, P = 0.04$ (two-tailed).

Conclusion: Empathy based on the clinic year level of the undergraduate dental student clinicians showed no difference. However, it revealed that females scored higher than males.

Keywords: Empathy, Dental, Clinicians, Education, Jefferson scale of empathy–health profession students

INTRODUCTION

One of the essential skills in everyday life is empathy: the power to share and recognize the feelings of others indirectly. It is a sense of connection between one's own sentiments and those that others convey. It may be viewed as a two-person encounter in which one person experiences and shares the feelings of the other. When a healthcare professional empathizes with the patient's circumstances, expectations, and concerns, they act in a way that communicates their understanding of the patient.^[1]

Empathy has been linked to better clinical outcomes, such as lowered patient anxiety and distress.^[2] This is associated with improved patient communication, resulting in a higher compliance rate. This can, further, lead to a more accurate diagnosis, more accurate prognosis, and improved

patient satisfaction.^[3] Healthcare workers could, however, lose their professional autonomy and practical abilities in a task-oriented setting, including the capacity to use clinical judgment and empathy when providing care for patients. Instead of empathically engaging with patients, healthcare personnel are under pressure to process people fast.^[4] In addition, most believe that new graduates are well-versed in the system of diseases but not so much regarding patient care.^[5] This supports the study that there has been a disturbing decline in empathy as health profession students' progress in their academic training.^[6]

Dental education includes theoretical and practical learning for students to gain expertise in clinically treating patients. The practical learning consists of clinical requirements that involve handling live patients. However, the decline of empathy is seen in the dental school setting^[7] most especially in practical learning. The demand-driven environment of many dental schools may encourage students to focus on procedures rather than patients.^[8] This decline can also occur when students approach graduation and focus on their needs over the patient's needs, wherein credit is based on completing the procedure. It was observed that as the clinical level increases, the empathy score decreases. Health and educational policies often emphasize the importance of empathy because this enables stronger dentist and patient relationships, which is the future of the undergraduate dental student clinicians.

In most cases, gender plays an essential role in empathy toward the patients.^[9] Women consistently scored higher than men^[10] due to genetic predisposition, social conditioning, and evolutionary adaptation. Women had stronger neural activations in regions of emotion, including the amygdala, which processes emotions.^[11] Another study with a longitudinal design found that women exhibit a faster increase in empathy compared to men.^[12]

MATERIAL AND METHODS

The Philippine Doctor of Dental Medicine undergraduate program is a 6-year course consisting of basic science, clinical science, and dental public health. General education is for the 1st year, while basic medical and dental sciences are for the 2nd to 4th year, and clinical training is for the 5th and 6th years. The third year onward is considered as the dental proper education where the college gives an examination for aspiring dental proper students. Thus, more often than not, the 3rd year is called clinic year level 1, the 4th year is called clinic year level 2, and so on, with the clinic level denoting proper dental education.

The respondents were undergraduate clinicians from the University of the East College of Dentistry, Manila, Philippines, First Semester School Year 2021–2022, who had experienced or handled live patients in school, including those who had pre-clinical subjects. The College Research

Committee and the College Director for Research of the same institution gave their approval for this study to be conducted.

The Jefferson Scale of Empathy–Health Profession Students Version questionnaire was chosen because the tool is widely used in medical education research and has been translated into 56 languages, with usage in over 80 countries. This consists of 20 questions that use a 7-point Likert-type scale to measure respondents' answers (1 = strongly disagree to 7 = strongly agree). It was placed in Google Forms and disseminated to the student clinicians through the official social group platforms of their respective clinic year levels. Informed consent was included in the first part and the option to withdraw at any time. There was no incentive given. Confidentiality and anonymity of the respondents were emphasized in accordance with the Philippine Data Privacy Act of 2012. The questionnaire was estimated to take about 5 min to complete. The questionnaire link was open for 4 weeks from October 25, 2021, to November 25, 2021.

Statistics

The total score of each respondent was interpreted using a scale ranging from 20 to 140, with a higher score denoting a higher level of empathy. Comparisons of the empathy scores of clinicians were conducted using a *t*-test for the gender and one-way analysis of variance (ANOVA) for the clinic year levels. The data were tabulated in Microsoft Excel, and the analysis was conducted using the Statistical Package for the Social Sciences version 22.0.

RESULTS

The study had a response rate of 38.6% (231 out of 598 undergraduate student clinicians). Forty-five were male and 186 were female. The number of students who took part in the study, categorized by clinic year level, was as follows: Clinic 1 ($n = 57$), clinic 2 ($n = 94$), clinic 3 ($n = 41$), and clinic 4 ($n = 39$).

Clinic level 2 had the highest levels of empathy recorded ($M = 111.54$, standard deviation [SD] = 12.03), while the lowest mean empathy level was by clinic level 4 ($M = 107.90$,

Table 1: Comparison of empathy of the clinicians according to clinic year level

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	636.79	3	212.26	1.47	0.22	2.64
Within Groups	32825.92	227	144.61			
Total	33462.71	230				

SS: Sum of squares, df: Degrees of freedom, MS: Mean squares, F: Variation between samples, P-value: Probability value concept, F crit: F critical value

Table 2: Comparison of empathy of the clinicians according to gender

Demographic Profile	Test Statistics	F	df	p - value	Decision	Interpretation
Gender	t - test	1.74	229	0.04	Reject	Significant

F: Variation between samples, df: Degrees of freedom, P-value: Probability value concept

SD = 11.36). Female respondents had a higher mean, with a value of 112.17 (SD = 11.02), compared to the male respondents, with a mean value of 106.36 (SD = 12.97). The value of the combined mean of females and males is 109.61 (SD = 12.04).

The results showed that there is no variation in the empathy scores according to the clinic year level, ANOVA $F = 1.468$, $P = 0.22$ [Table 1]. Females scored higher ($M = 112.17$, $SD = 11.02$) than males ($M = 106.36$, $SD = 12.97$), t -test $F = 1.735$, $P = 0.04$ (two-tailed) [Table 2].

DISCUSSION

The present study reported no notable disparity in the empathy of the undergraduate dental student clinicians in relation to their clinic year level. One possible reason is that in the classroom setting, the professors use class discussions, role-playing exercises, and/or videos to make sure that students are exposed to different occurrences that relate to empathy and patient management.^[13] This may be carried on to the practical setting when students handle their own patients. If this is the case, it will be good to note also that the faculty's empathy has a favorable impact on students' attitudes.^[14,15] This may be the reason why there is no difference in empathy for the different clinic year levels. One of the faculty's roles is to bridge the gap between theory and practice by helping students apply what they learned in the academic program to real-world clinical scenarios.^[16] Teacher mentoring and standardized patient contact with feedback have been demonstrated to promote student empathy and reduce patient dehumanization.^[17] Furthermore, student clinicians who participated in educational programs related to clinical practice and/or research ethics were able to maintain their empathy.^[18] On the other hand, this cannot be deduced from this study alone; thus, it is recommended to have open-ended questions or interviews to probe on this. It will be noteworthy also to know the empathy levels of the faculty.

In relation to gender, the results revealed a difference in the clinicians' empathy, with females scoring higher than males. It is consistent with the previous literature that women, on average, have higher empathy than men.^[19-21] Literature states that women have better social relationships than men.^[22] Their emotional sensitivity and exposure to caring qualities and emotional support at an early age can improve their ability to communicate effectively with their patients.^[23] However, studies in the literature have revealed

that Malaysian and Indian male dental students had a higher average level of empathy than female students.^[24] This difference may be brought about by the labels of gender roles. Women caregivers may shed light on the difference in empathy scores between females and males. Males take a rational approach while females are more emotional than males.^[25] This difference may be due to the reluctance of men to describe their empathic experiences due to social assumptions.

CONCLUSION

From the present study, the authors concluded that empathy based on the clinic year level of the undergraduate student clinicians showed no difference. However, it revealed that females scored higher than males. Similar research on age, socioeconomic position, mental health, and other external influences can be done to produce a more comprehensive assessment of empathy. It may be noteworthy to identify areas where dental student clinicians perceive less empathy and provide them with additional training for improvement. This can be accomplished through education in behavioral sciences, management and treatment of fearful patients, and seminars on patient management and empathy.

Ethical approval

The College Research Committee and the College Director for Research of the same institution gave their approval for this study to be conducted.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent.

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Nil.

Conflicts of interest

There are no conflicts of interest.

Use of artificial intelligence (AI)-assisted technology for manuscript preparation

The authors confirm that there was no use of artificial intelligence (AI)-assisted technology for assisting in the

writing or editing of the manuscript and no images were manipulated using AI.

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