

Empathy among Undergraduates in an Academy of Health Sciences in Hetauda, Nepal

Sanyukta Gurung,¹ Neeti Bhat,² Shailesh Shrestha³

¹Department of Clinical Physiology and Yogic Sciences, Madan Bhandari Academy of Health Sciences, Hetauda, Nepal;

²Research Institute for Collaborative Development, Kathmandu, Nepal;

³Department of Clinical Psychology, Tribhuvan University, Kathmandu, Nepal.

ABSTRACT

Introduction: Empathy is the ability to understand one's perspective and experience, and further use this understanding to communicate with the other person. It has been incorporated as one of the learning objectives by the Association of American Medical Colleges. Empathy in a profession may decline with the pressure of a job or the other way may improve with experience.

Objectives: The objective of this study is to measure the empathy score among undergraduate students of an Academy in Hetauda.

Methods: This is a cross sectional analytical study conducted among 96 undergraduate students. Jefferson Scale of Empathy Health Profession Students' version was used to measure the empathy scores among the participants.

Results: The mean empathy score of the students in Madan Bhandari Academy of Health Sciences was 98.71 ± 15.62 . Mean empathy score was significantly higher among the female participants (103.56 ± 14.07 vs 93.43 ± 15.66). The highest mean empathy score was observed among the third semester students 110.18 ± 11.28 . A significant difference was observed among the mean empathy values in accordance with discipline where Bachelors of Public Health had the highest mean empathy value 107.95 ± 12.65 . In accordance with age the relatively younger age group had higher mean empathy value where males had a mean value of 104.03 ± 13.85 and females had a mean value of 95.83 ± 15.73 .

Conclusion: Females had a higher mean empathy score than males. Students in the third semester had the highest mean empathy score. Relatively younger students had a mean higher empathy score.

Keywords: Empathy; health professionals, Jefferson Scale of Empathy Health Profession Students' version.

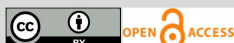
INTRODUCTION

Empatheia is a Greek word which means passion and also affection with suffering.

'Em' means 'into' and 'pathy' which means perception or feeling.¹ Empathy can be understood as an individual's ability to comprehend and appreciate another person's perspective and experiences. Empathetic care goes beyond physical care and involves understanding patients and building an emotional connection

Correspondence

Dr. Shailesh Shrestha
Email: drshaileshshrestha@gmail.com



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with them.² The curriculum of medical schools should emphasize empathy to foster compassionate care even in emotionally challenging situations wherein students can learn to establish rapport with patients, listen actively, and respond sensitively to their needs.³

One of the learning objectives laid down by Association of American Medical Colleges is to be empathetic towards patients.⁴ Various factors like gender, educational background and work place environment have a role in empathy in healthcare setting.⁵ Empathy may either decline by pressure of one's job or be enhanced by one's work experience. However, educational interventions incorporating activities like role-play, observing how health professional's deal with patients, learning about cooperation with patients and consultation practice can enhance one's empathetic ability.⁶ The conceptual ambiguity of empathy makes it challenging to measure, but researchers have employed various assessment tools to gauge the empathy levels.⁷

Measuring empathy levels among students, the institution can assess its current standing and develop strategies and evaluate progress. This study aims to measure the empathy score among undergraduate students of Madan Bhandari Academy of Health Sciences using Jefferson Scale of Empathy Health Profession Students' version (JSEHPS) tool.⁸

METHODS

This quantitative, cross-sectional analytical study was conducted in Madan Bhandari Academy of Health Sciences where 96 undergraduate students of Bachelor of Science in Medical Laboratory Technology (BScMLT), Bachelor of Public Health (BPH) and Bachelor of Pharmacy (B. Pharmacy) of Madan Bhandari Academy of Health Sciences were enrolled. Students who responded to questionnaire which included information sheet, consent form, socio-demographic form and JSE-HPS sent via Google-forms during the study period from January to June 2023 were included. The study participants were recruited by convenience sampling technique using harvest e-mail lists. The inclusion criteria included those students who gave consent to voluntarily participate in the study and age above 18 years.

Sociodemographic form consisted of questions that required students to fill up age, address, stream and semester.

Jefferson scale of empathy (JSE-HPS) is specifically developed for health professions education and patient care, JSE psychometric tool captures empathy. Among these is HPS-version, designed for health professions students excluding the medical students. As our students were from allied health professionals, we employed the JSE- HPS tool. JSE-HPS consists

of 20 questions which record responses from 1 (strongly disagree) to 7 (strongly agree) in a positively phrased item whereas, 1 (strongly agree) to 7 (strongly disagree) in a negatively phrased item. The components assessed in the JSEHPS were perspective taking, compassionate care and walking in patient's shoes. Hence, the plausible score ranged from 20-140. Students who scored more than 50% were considered empathic.⁹

The data was entered in Microsoft Excel version 2010. The data were checked for duplication. Data were analysed in IBM SPSS version 16 where categorical values were expressed in frequency and continuous variables were expressed in mean and standard deviation. T-test was used to compare mean between two groups and ANOVA was used to compare means between more than two groups. Ethical approval was obtained from the Institutional Review Committee of Madan Bhandari Academy of Health Sciences (Approval No. IRC- 022-079).

RESULTS

Out of 110 emails sent out to students, there were a total of 96 (87.27%) complete submissions from students among which 50 were females and 46 were males. The mean age of the participants

were 20.30 ± 1.97 years ranging from 18 years to 31 years. The mean empathy score of the students in Madan Bhandari Academy of Health Sciences was 98.71 ± 15.62 . There were more female (52%) participants than males (48%). Overall the 91 (94.8%) obtained empathy scores of more than 50%. A total of 42 (91.3%) males and 49 (98%) obtained a score of more than 50%. Mean empathy score was significantly higher among the female participants as shown in table 1.

Table 1: Empathy scores in accordance to gender.

Gender	N(%)	Mean \pm SD	t-value	p-value
Female	50 (52%)	103.56 \pm 14.07	3.34	0.001*
Male	46 (48%)	93.43 \pm 15.66		

*p-value<0.05

Among all the disciplines included in the study females had significantly higher mean empathy scores (Table 1). When stratified according to discipline, the females in BScMLT had significantly higher mean when compared to males. However, the highest mean empathy score was observed among the females of BPH (Table 2).

Table 2: Empathy scores in different disciplines in accordance to gender.

Discipline		N (%)	Mean \pm SD	t-value	P-value
B. Pharmacy	Female	20 (41.67%)	99.65 \pm 15.41	0.71	0.48
	Male	28 (58.33%)	96.29 \pm 16.83		
BScMLT	Female	5 (29.41%)	98.4 \pm 9.13	0.77	0.02*
	Male	12 (70.59%)	85 \pm 9.23		
BPH	Female	17 (77.27%)	110.18 \pm 11.28	1.57	0.13
	Male	5 (22.73%)	100.40 \pm 15.45		
BSc. Nursing	Female	9 (100%)	100 \pm 16.08	-	-
	Male	0 (0)	-		

*p-value<0.05

The mean empathy score was significantly higher among BPH students whereas, the least empathy scores were observed among the students of B. Pharmacy. A significant difference was observed between BPH students and students of Bsc MLT and B. Pharmacy students as shown in table 3. A total of 44 (91.7%) B.Pharmacy, 9 (100%) BSc Nursing, 22 (100%) BPH and 16 (94.1%) Bsc MLT students had a mean score higher than 50%.

Table 3: Comparison of empathy scores in accordance to discipline.

Discipline	N (%)	Mean \pm SD	t-value	P-value
B. Pharmacy	48 (50%)	97.69 \pm 16.17	5.74	0.001
BScMLT	17 (17.7%)	106 \pm 10.83		
BPH	22 (22.9%)	107.95 \pm 12.65		
BSc. Nursing	9 (9.4%)	100 \pm 16.08		

Post Hoc Test		P-value
B. Pharmacy	BSc Nursing	0.96
	BPH	0.05
	BSc MLT	0.36
BSc Nursing	B. Pharmacy	0.96
	BPH	0.59
	BMLT	0.41
BPH	B. Pharmacy	0.05
	BSc Nursing	0.59
	BScMLT	0.004
BSc MLT	B. Pharmacy	0.36
	BSc Nursing	0.41
	BPH	0.004

*p-value<0.05

The empathy scores of the students had a declining trend when frequencies of empathy scores more than 50% were measured in accordance to the semester as shown in bar graph 1.

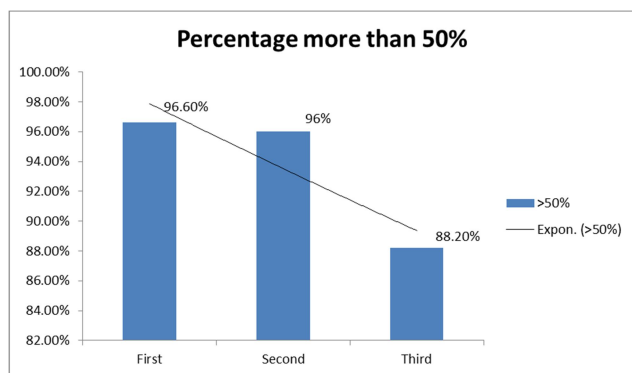


Figure 1. Empathy score of students obtaining more than 50%

The students of the second semester showed least empathy score whereas the highest mean empathy score was observed among the students of third semester but the difference was not statistically significant. (Table 4).

Table 4. Comparison of mean scores of students in accordance with semester

Semester	N (%)	Mean ± SD	f-value	p-value
First	29 (30.2%)	101.03 ± 14.7	1.74	0.18
Second	50 (52.1%)	95.94 ± 14.86		
Third	17 (17.7%)	102.88 ± 18.50		

The highest mean empathy score was observed in the first semester for the male participants. The empathy score was significantly higher among female students of third semester as shown in table 5.

Table 5: Comparison of empathy scores in accordance to semester and gender

Semester		N (%)	Mean ± SD	t-value	p-value
First	Female	14	103.79±16.02	0.97	0.34
	Male	15	98.47 ± 13.39		
Second	Female	27	101.18 ± 11.84	2.9	0.006
	Male	23	89.78 ± 15.91		
Third	Female	10	107.3 ± 18.18	1.19	0.25
	Male	7	96.57 ± 18.38		

The higher mean was observed among the younger age group male 95.83 ± 15.73 and female 104.03 ± 13.85 groups. The comparison in the younger male and female group showed a significant difference as shown in table 6.

Table 6. Comparison of mean empathy scores in accordance to age.

Age		N (%)	Mean ± SD	t-value	p-value
Less than 20 years	Female	36	104.03 ± 13.85	2.10	0.04
	Male	23	95.83 ± 15.73		
More than 20 years	Female	15	100.87 ± 15.63	1.77	0.09
	Male	22	91.55 ± 15.75		

DISCUSSION

MBAHS introduced professional development classes for first and second semester students to address this traumatic dehumanization. Altruism, respect, and confidentiality are just a few of the topics covered in this course. Among the 96 participants the mean empathy score was 98.71±15.62. Empathy scores were higher among the females. The students below 20 years had higher empathy scores than those over 20 years of age.

The ability of a person to understand and see from another person's perspective and experiences can be understood as empathy. Thus, empathetic care goes beyond physical care and involves understanding patients and building an emotional connection with them. The curriculum of medical schools should emphasize empathy to foster compassionate care even in emotionally challenging situations wherein students can learn to establish rapport with patients, listen actively, and respond sensitively to their needs.³ The conceptual ambiguity of empathy makes it challenging to measure, but researchers have employed various assessment tools to gauge the empathy levels. Positive association of healthcare worker empathy with patient’s satisfaction has been observed.¹⁰

Hence, it becomes important to intervene through targeted learning experiences to rehumanize the students for delivering compassionate and patient centric care.⁴ By measuring empathy levels

among its students, the institution can assess its current standing and develop strategies and evaluation progress.

The mean empathy score of the undergraduate health professional students were higher than B.P Koirala Institute of Health Sciences (BPKIHS) 93.76 ± 11.98 and Mainpal 93.73 ± 15.67 but lower than Universal College and Medical Sciences and Teaching Hospital (UCMS) 99 ± 15.03 and Nepal Medical College (NMC) 104.11 ± 12.01 .¹¹ The empathy scores could have varied due to the different sample sizes, different curricula and type of Jefferson scales. Most importantly, these studies were conducted on medical students who get more opportunities to interact with people than students enrolled in allied health science programs like ours. In contrast to this study mean empathy scores were higher in studies conducted in Bangladesh, Iran, Japan and the United States of America.^{7,9,12-14}

As this study is confined to the three batches of MBAHS students, it is not possible to definitively assert that empathy is decreasing among students in health professions. With increasing semesters, however, we observed a decline in the number of empathic students. Tools have consistently identified a downward trend in empathy levels among health professional students.⁷ Similar to this study, Chatterjee et al. in 2017, observed higher mean empathy scores in first semester students.¹⁵ A study conducted by Shashikumar et

al. in 2014 also observed higher mean empathy scores in the first semester students.⁹ Further, similar to this study Fashami et al in 2023, Iran also observed higher empathy scores among the younger age group.¹⁶ In contrast to this study Fields et. al in the United States of America observed the mean empathy scores were higher among the more elderly age group, however the study comprised a wider range of age.¹⁷ The observation that young and newcomers have better empathy scores and that this declines over time is consistent throughout literature. Factors that may have contributed to this decline are demanding curriculum, an exhausting workload, and time constraints that may have fatigued students, thereby hindering their ability to empathize with others. Also, lack of empathetic role modeling could have influenced the students, as they learn from their seniors who lack empathetic skills. The educational system emphasizes the acquisition of technical skills over the development of soft skills, which results in students focusing on mastering technical skills above soft skills. Behavioral changes like these have been labeled "Traumatic dehumanization".⁷

Possibly the incorporation of professional development for first and second semester students is one of the reasons why students had more empathy in these semesters. It may have been observed that the decline occurred as a result of the lack of such courses available for the third

semester. In the first semester, MBAHS offers students a professional development course worth one credit. However, the course's effectiveness could potentially be enhanced by integrating it more closely with other courses and increasing credit hours. Additional hours on the topic facilitated by a well trained professional could improve the empathy scores among the undergraduate students. Students can develop empathy and related soft skills in a continuous and integrated manner if a more interconnected and complementary curriculum is considered.

We observed that gender is associated with being empathetic. Similar to this study, mean empathy scores in various parts of the world, United States, Singapore, Iran and Nepal were also higher among female students.^{11,16,18,19} There was no evidence of greater empathy in males than in females. Studies have also reported females spend longer time with their patients suggesting that females are more receptive to emotional signals which allow a better understanding leading to a better empathetic response. In accordance with the evolutionary theory of gender roles in parenting, females have more caregiving nature towards their children.⁷ It could also be possibly because of different upbringings, cultural influences, or stereotypical roles. It might be shaped by expectations placed on females in a society that is strongly patriarchal as seen with other studies conducted in Pakistan and India. To

develop better skills for male students, curriculum strategies should address the specific needs and potential fluctuations in empathy levels.^{20,21}

Professional development at MBAHS includes empathy, but only one credit is allocated to the course. Heart, hand, and mind play a critical role in patient care, and we recommend a greater emphasis on the "heart" aspect to ensure patients feel heard and understood. Health professionals and patients could communicate more effectively if this emphasis was placed on patient care, ultimately improving patient care. This empathetic approach should, therefore, be integrated into healthcare education and practice.

A limited sample of undergraduate health professional students was used for this single-center study, raising concerns about its generalizability. Multi-centric studies with enhanced methodologies could produce a more robust understanding. It is imperative to conduct a larger, multi-center study that aims to find out what the normative values of empathy scores are among health professional students, and track how these scores change through education. Developing curriculum that targets specific interventions would benefit greatly from such insights. We also propose conducting comparable studies across different health professions to identify any gaps that could be addressed through continuous professional development.

CONCLUSION

Mean empathy score was higher among females in comparison to their male counterparts. Third semester students had higher mean empathy scores. Students with relatively younger age had

higher mean empathy scores. The authors recommend introduction of professional development courses in medical institutions which may help better the mean empathy scores.

Conflict of interest: None

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