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Emotional Intelligence among Undergraduate Physiotherapy Students at Kathmandu University School of Medical Sciences: A Cross-Sectional Study

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ABSTRACT

Background: Emotional intelligence (EI) is the ability to use emotional awareness to guide thoughts and actions. In students, particularly in medicine and physiotherapy, higher EI enhances academic performance, self-awareness, social connectedness, and the ability to form meaningful patient relationships. Higher EI in healthcare professionals is associated with better clinical performance, empathetic patient care, and greater job satisfaction. This study aimed to determine EI in undergraduate physiotherapy students and identify its association with academic performance and year of study.

Methods: A cross-sectional study was conducted at Kathmandu University School of Medical Sciences among undergraduate physiotherapy students. EI was measured using the Schutte Self Report Emotional Intelligence Test. EI scores were categorized as low (33-110), average (111-137), and high (138-165). The Pearson test was used to assess the correlation between EI scores and academic performance, while ANOVA was used to assess the association between EI scores and year of study.

Results: A total of 102 students were included, of which 86% were female. The mean EI score was 125.63 indicating average status. The majority of students (80%) demonstrated average EI, while 15% had high EI, and 5% had low EI. There was no statistically significant relationship of EI with year of study and academic performance.

Conclusions: The findings revealed that most students demonstrated an average level of EI, suggesting that they were reasonably competent in recognizing their own and others' emotions, regulating their emotions, and engaging positively with others. Exploring various factors influencing students' EI presents a promising avenue for future research.

Keywords: Cross-sectional study; emotional intelligence; medical education; physical therapy.

INTRODUCTION

Emotional intelligence (EI) is defined as "the ability to monitor one's own and other's feelings and emotions, to discriminate among them and use this information in order to guide one's thinking and actions".[1]

In healthcare professionals, higher EI is associated with better clinical performance,[2] lower levels of stress,[3] and greater job satisfaction.[4] Emotionally intelligent medical students tend to perform better academically, exhibit greater empathy toward patients,[5] manage stress more effectively, and feel less threatened by examinations;[6] they also demonstrate better overall mental and physical health.[7] In physiotherapy students, greater EI has been shown to help them develop a positive social attitude, and build healthy relationships with patients.[8] A study conducted in Karachi, Pakistan revealed that most physiotherapy students needed assistance to improve EI.[9]

Despite literature suggesting abovementioned benefits of emotional intelligence, no studies have explored emotional intelligence among physiotherapy students in Nepal. This study was therefore undertaken to fill that gap.

METHODS

A cross-sectional study was conducted among undergraduate physiotherapy students at KUSMS.

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The study duration was from June 2021 to March 2022. Ethical clearance was obtained from the KUSMS Institutional Review Committee (IRC approval number: 188/2021). Students were stratified by their year of study and recruited through stratified random sampling. Written informed consent was obtained from all students, and eligible students were then recruited. The inclusion criterion was undergraduate physiotherapy students who were either studying or doing internships at KUSMS. The exclusion criteria were: (i) a diagnosis of any psychiatric condition such as depression, anxiety or stress in the past six months, and (ii) a history of sleep disorders (e.g., chronic insomnia lasting more than one month) in the past six months.

The estimated minimum sample size was 101 while considering a previous prevalence (proportion of students with satisfactory EI) of 0.19[9] for a known population size of 174 students with confidence interval of 95% (z=1.96) and precision (d) of 0.05. The term satisfactory EI indicates EI scores that lie in the average or higher category.

Sociodemographic data included information about age, sex, year of study, and academic performance (assessed through recent academic percentage). The "recent academic percentage" is defined in this study as the academic percentage achieved by a student in their most recent university/board examination. The EI was measured via the SSEIT. The SSEIT is a reliable and valid measure, with a reported Cronbach's alpha of 0.87 and test-retest reliability of 0.78.[10] The SSEIT consists of 33 items and measures various components of EI. The scoring is based on a five-point Likert scale, with responses ranging from 1 (strongly disagree) to 5 (strongly agree) except for items 5, 28, and 33 which are reverse scored. The total score ranges from 33 to 165, with higher scores indicating higher EI. A score below 111 is considered low, a score between 111 and 137 is considered average, and a score above 137 is considered high.

The collected data were entered and analyzed via the Statistical Package for the Social Sciences (SPSS) version 25. The Kolmogorov-Smirnov test revealed that the EI scores were normally distributed. Descriptive statistics were presented as frequencies, percentages, mean scores, and standard deviations. ANOVA was used to assess the association between EI and year of study, whereas the Pearson correlation test was used to examine the correlation between EI and recent academic percentage. A p-value of <0.05 was considered to indicate statistical significance, and <0.01 was considered highly significant for all the above tests, with a 95% confidence interval.

RESULTS

A total of 102 students were included in this survey through a stratified sampling method. The sociodemographic characteristics of the participants are presented in Table 1. The age range of the students was 18-24 years.

Table 1.Sociodemographic characteristics of participants.

Variable	N (%)	Mean ± SD
Age (years)		20.96 ± 1.56
Sex		
Female	88 (86.3)	
Male	14 (13.7)	
Year of study		
First	36 (35.3)	
Second	16 (15.7)	
Third	17 (16.7)	
Fourth	16 (15.7)	
Internship	17 (16.7)	
Recent academic percentage (%)		75.90 ± 7.77

N: number; SD: standard deviation

The mean EI score in this study was 125.63 ± 9.44 and the EI scores ranged between 106 and 149 (maximum possible 165). As shown in Table 2, the majority of the students (80%) demonstrated average EI, while 15% had high EI, and 5% had low EI.

Table 2. EI level.

EI	N (%)	Mean ± SD	Range
Overall		125.63 ± 9.44	106-149
Low EI	5 (4.9)		
Average EI	82 (80.4)		
High EI	15 (14.7)		

No significant relationship was found between EI and year of study (p>0.05) or between EI and academic performance (p>0.05). The details are illustrated in Table 3.

Table 3. Relationship of EI with recent year of study and academic performance.

Variables	EI (Mean ± SD)	Pearson correlation coefficient (r)	P value
Year of study			
First	125 ± 9.12		0.56[a]
Second	128 ± 9.79		
Third	124 ± 9.30		
Fourth	126 ± 10.74		
Internship	123 ± 9.44		
Recent academic percentage		0.005	0.95[b]

[a]ANOVA test; [b]Pearson correlation test

DISCUSSION

This cross-sectional study explored EI among undergraduate physiotherapy students and examined its association with year of study and academic performance. The mean EI score of the students was 125.63 ± 9.44. Compared with a 2017 study conducted among nursing students in Nepal, which revealed that 46% had normal EI, 15% had high EI, and 39% had low EI, our study reported a higher percentage of students with average EI (80%), and a smaller proportion with low EI (5%).[11] This contrast could reflect differences in student populations, and the nature of the course and curriculum. Our results indicate that 95% had satisfactory EI, which is higher than that reported in a study conducted among physiotherapy students in Pakistan where 70% had satisfactory EI, and 30% had poor EI.[9] This difference may be attributed to variations in educational systems, cultural context or measurement tools used.

A comparison of the mean EI scores of the students across the academic years of study revealed no significant differences. A cross-sectional study conducted among medical students in Palestine revealed that EI was significantly lower in clinical medical students than in preclinical students, indicating that students react empathetically during their initial years, rely more on facts, and become more objective in later years.[12] However, a prospective study revealed that the EI score of medical students improved significantly over the year.[13] Exposure to clinical settings and physiotherapy subjects from the first year of study at this university might have led to a better understanding of medical psychology, patient characteristics and role of physiotherapy, hence, leading to insignificant differences in EI over the years of study in current study.

No significant correlation was found between EI and academic performance in this study. Multiple studies have illustrated a positive relationship between EI and academic performance.[14,15] Maria-Jose explored the role of probable mediators of this relationship; university students with higher EI had better conscientiousness, satisfaction with the course undertaken and absorption, and a lower tendency toward procrastination which in turn had a significant effect on academic performance.[16]

This study is the first of its kind in Nepal among undergraduate physiotherapy students. The use of an outcome tool with strong psychometric properties makes the data valid and reliable. This study has several limitations. First, the data were collected from only one institute, hence, the findings might not be generalizable to physiotherapy students from all over Nepal. Second, self-report questionnaires inherently carry the risk of social-desirability bias; however, the data were anonymized to minimize this risk.

Further research could explore the factors influencing students' emotional intelligence. In addition, studies involving students from other disciplines within KUSMS or other medical universities could provide a broader understanding of EI among aspiring healthcare professionals. Moreover, future research could examine the effectiveness of EI-focused interventions in enhancing academic performance, emotional well-being, and clinical skills among healthcare students.

CONCLUSIONS

This study provides insights into the EI levels of undergraduate physiotherapy students at KUSMS. The findings revealed that most students demonstrated an average level of EI, suggesting that they were

reasonably competent in recognizing their own and others' emotions, regulating their emotions, and engaging positively with others. However, EI was not significantly related to either academic performance or year of study.

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CONFLICT OF INTEREST

Authors declare there are no any conflicts of Interest.

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