Self-Esteem and Associated Factors among Medical Students of a Private Medical College in Koshi Province

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ABSTRACT

Background

Self-esteem defined as an individual's perception of self-worth, self-acceptance, and confidence, plays a crucial role in mental well-being. Medical students are particularly vulnerable to diminished self-esteem due to persistent academic demands, financial burdens and social stressors. World Health Organization has identified self-esteem as a significant public health concern among students. This study aims to assess the level of self-esteem among medical students at a private medical college in Koshi Province, Nepal, and its associated factors.

Methods

A descriptive cross-sectional study was carried out among medical students of a private medical college in Koshi Province from August 2024 to January 2025. Using a census method, 230 students were included in the study. The Rosenberg Self-Esteem Scale was utilized to evaluate the level of self-esteem. Data were collected through a structured questionnaire distributed via Google Forms through email. To assess the association between self-esteem and various factors, Chi-square test was applied, with statistical significance set at a p-value of less than 0.05.

Results

This study included a total of 230 participants, among which 27% students showed low self-esteem. 66% had normal self-esteem and 7% had high self-esteem. Female participants had significantly low self-esteem, whereas Age, gender, schooling, and level of education were not significant.

Conclusions

Most medical students had normal self-esteem, though a considerable number exhibited low self-esteem. Programs aimed at enhancing self-esteem should be implemented to support medical students in developing confidence and effectiveness in their future medical practice.

Keywords: medical students; Rosenberg self-esteem scale; self-esteem.

INTRODUCTION

Self-esteem refers to a person's sense of self-worth, self-acceptance, and the confidence they have in themselves.[1] Elevated stress levels can lead to a decrease in self-esteem, while strong self-esteem promotes more active and effective coping strategies.[2] Erikson viewed self-esteem as a result of identity formation, which emerges from successfully navigating the tasks at each stage of life's development,[3] which either remains steady or increases with age, while others argue that it declines.[4] Self-esteem supports goal-setting, gives purpose to actions, and enhances a sense of security.[5–7] Low self-esteem is often recognized as a key factor in diagnosing depression.[8] Factors, including age, gender, socioeconomic status, and ethnicity, can influence a person's self-esteem.[9–11] However, there is a lack of relevant research regarding self-esteem in Nepal. Therefore, this study aims to explore the level of self-esteem among medical students in Koshi Province with a validated self-esteem questionnaire Rosenberg Self-esteem scale (RSE).[12]

METHODS

A descriptive cross-sectional study was conducted from August 2024 to January 2025. Data was collected using a census sampling technique where medical students (MBBS) of all four years at Birat Medical College Teaching Hospital situated in Biratnagar, Koshi, Morang. Based on study done by Shrestha B et al.,[1] where the proportion of low self-esteem was 18.9% for the infinite population. Using the formulae $N = z^2 * p(1-P)/d^2$. The calculated sample size for infinite population is 236. It was adjusted with the finite population of students of Birat medical college teaching hospital, where the total students are 558. So, the adjusted sample size is $n = N/(1+(N-1/P))$, N=236 and P=558. Hence the sample size is 166. Adjusting the sample size taking non response rate at 20%, the final sample size becomes 199. Though sample size was 199, all the student were included for study using census method.

We employed census method and included all the four-year students of MBBS in Birat medical

college teaching hospital. The list of all students and their email address was collected from academic administration of the institution. To measure self-esteem, we used a questionnaire based on the Rosenberg Self Esteem Scale (RSES).[13,14] The questionnaire had two parts; demographic details and the Rosenberg Self Esteem Scale. Demographic details covered general information including: age, sex, province of permanent address, year of study and type of institution they had attended for primary level education. The RSES was developed by sociologist Morris Rosenberg.[15] It is a 10-item Likert-type scale with items answered one to four-point scale from strongly agree to strongly disagree. For questions 1, 3, 4, 7, and 10, responses were scored as follows: Strongly Agree was assigned 3 points, agree 2 points, disagree 1 point, and Strongly Disagree 0 points. For items 2, 5, 6, 8, 9 (which are negative statements; hence reversed in score): Strongly Agree =0, Agree =1, Disagree =2, and Strongly Disagree =3.[1,15] A total is obtained by adding these markings which ranges from 0–30. A score less than 16 indicates low self-esteem, more than 25 indicated high self-esteem and scores from 16 to 25 shows normal self-esteem in the respondents.[1,13] The RSES has high reliability: test-retest correlations are in the range of 0.82 to 0.88 and Cronbach's alpha for various samples are in the range of 0.77 to 0.88.[14] and Cronbach alpha for Nepali population was 0.811.[1] which showed good internal consistency and reliability of the instrument for this population as well. The questionnaire was sent to all the student students through Google forms via email. Among which 230 responded replied rest refused to give consent. Hence, we obtained complete data from 230 students which was then entered into a Google spreadsheet and later analyzed using Microsoft Excel and SPSS version 23. Chi Square Test of Association was used to compare between and among different categorical variables of RSES score. p-value of <0.05 was considered statistically significant.

The study was conducted after receiving ethical approval from the institutional review committee, Birat Medical College Teaching Hospital (Ref: IRC-PA-406/2024). The initial section of our

Google Forms survey included an information sheet describing the study, followed by an informed consent section where participants indicated their agreement or refusal through a tick-box. Access to the questionnaire was restricted to participants who provided informed consent. Participants were assured that their identities would remain anonymous and that only the research team would have access to their de-identified data. We maintained confidentiality and anonymity throughout the study. Control, privacy and storage of the data was strictly maintained. Only the researcher had access to the data.

RESULTS

The study has total 230 participants. The majority (85%) of participants belongs to age group 19 to 24 years of age followed by13 % of students to 25 to 29 years of age, while only 2.2% were between 15-18 years. More than half of the participants were male (55.2%), and the remaining 44.8% were female. Regarding their schooling, most of the students (89.6%) had completed their education in private schools, whereas 10.4% had studied in government

Table 1. Distribution of demographic variables. (n=230)

Particulars	Frequency (%)
Age group (years)	
15-18	5(2.2)
19-24	195(84.8)
25-29	30(13.0)
Gender	
Male	127(55.2)
Female	103(44.8)
Schooling	
Private	206(89.6)
Government	24(10.4)
Year of medical college	
First year	71(30.9)
Second year	31(13.5)
Third year	56(24.3)
Fourth year	72(31.3)
Level of education	
Basic sciences	102(44.3)
Clinical sciences	128(55.7)

schools. In terms of academic level, 44.3% of the students were from the basic sciences, while 55.7% were from the clinical sciences (Table 1).

Regarding the level of self-esteem among the participants, more than two-thirds (66.0%) had normal self-esteem, while 27.0% reported low self-esteem. Only a small proportion of students (7.0%) were found to have high self-esteem (Table 2).

Table 2. Level of self esteem. (n=230)

Particulars	Frequency (%)
Low self esteem	62(27.0)
Normal self esteem	152(66.0)
High self esteem	16(7.0)

In bivariate analysis, we analyzed self- esteem with sociodemographic variables, no significant association was observed between age and self-esteem levels (p-value=0.638). Similarly, the type of schooling (private vs. government) and level of education (basic sciences vs. clinical sciences) did not show statistically significant differences in self-esteem (p-value=0.241 and p-value=0.753, respectively). However, gender was significantly associated with self-esteem (p-value=0.001). A higher proportion of females (17.0%) reported low self-esteem compared to males (10.0%). Conversely, males were more likely to have normal (39.6%) and high self-esteem (5.7%) than females (26.5% and 1.3%, respectively) (Table 3).

DISCUSSION

Self-esteem is an individual overall perception of their own value or worth.[14] A healthy level of self-esteem is widely recognized as an important component of good mental well-being.[16] Various studies have been conducted on self-esteem, but there have been limited studies conducted among medical students. This study showed the prevalence of low self-esteem (27%), which is higher than the study conducted by Shrestha B(19%) in 2021 in Kathmandu[1] and Rajesh S.S (21%) in Karnataka in 2023[17]. The finding is also consistent with the study conducted by Paudel S in Pokhara, Nepal in 2020[18] which showed level of low self-

| Variables | RSES Score | | | Total | p-value |
	≤16 n(%)	16-25 n(%)	≥25 n(%)	n(%)	
Age					
≤ 24 years	56(24.3)	130(56.5)	14(6.1)	200(87.0)	0.638
≥25 years	6(2.6)	22(9.6)	2(0.9)	30(13.0)	
Gender					
Male	23 (10)	91(39.6)	13(5.7)	127(55.2)	0.001
Female	39(17.0)	61(26.5)	3(1.3)	103(44.8)	
Schooling					
Private	59(25.7)	133(25.7)	14(6.1)	206(89.6)	0.241
Government	3(1.3)	19(8.3)	2(0.9)	24(10.4)	
Level of education					
Basic sciences	30(13.0)	65(28.3)	7(3.0)	102(44.3)	0.753
Clinical	32(13.9)	87(37.8)	9(3.9)	128(55.7)	

Table 3. Level of self-esteem and associated factors among the participants under study. (n=230)

esteem (21.4%). This prevalence of low self-esteem may be due to academic stress, family expectations, poor family support and socio-economic stress.

In this study the level of low self-esteem in higher in females (17%) than males which is similar to the study conducted by Rajesh SS in Karnataka (2023)[17] which showed higher percentage of low self-esteem in females (26.04%) than males. This finding is also consistent with the study done among medical students in Kathmandu by Shrestha B[1] where female had higher percentage (21.05%) of low self-esteem. But in contrast with the study conducted by Virk A in Rural Haryana, India[19] where male had higher percentage of low self-esteem (9.6%) as compared to female (7.2%). In this study significant difference were not found between self-esteem and age. However, age less than or equal to 24 years had higher low self-esteem (24.3%). A similar study conducted in Karnataka by Rajesh SS[17] showed significant difference with self-esteem and age group where level of low self-esteem among 21-25 age students was 19%. But dissimilar to the study conducted Virk A in Haryana[19] where students age greater or equal to 20 years showed low self-esteem (10.4%). In this study, those who had attended private school showed higher low self-esteem (25.7%) than who attended government school (1.3%), however the difference was not significant. Findings are consistent with the study done by Shrestha B[1] among medical students in

Kathmandu (2021) where higher number of students who had acquired primary levels of education through private schools had low self-esteem (20%) with no significant difference. This high prevalence in private schooling may be due to very few respondents are from government school background and high expectation of parents of private schooling students. Significant difference between self-esteem were not found among basic science and clinical students. However clinical students (13.96%) and basic science students (13%) showed almost similar level of low self-esteem. Contradictory to the study done by Syed at al. in India[20] showed that first year non-medical males had the highest prevalence of low self-esteem. This prevalence of low self-esteem could be due to heavy academic workload, performance pressure and social responsibilities.

Regular psychological counselling services should be made available to all students, with particular attention to those having low self-esteem. Students should be encouraged to participate in extracurricular activities, as such involvement promotes personal identity development, enhances a sense of self-worth, and ca help ultimately contribute to improving their overall self-esteem. Considering, the impact of family expectations and socioeconomic stress, awareness sessions for parents can help reduce unrealistic expectations and improve emotional support for students. Medical schools should encourage healthy

peer interactions to reduce overly competitive academic practices.

Limitations

The cross-sectional nature of the study prevents the establishment of causal relationships. It remains unclear whether being female causes lower self-esteem, whether lower self-esteem leads to more negative outcomes for female students, or whether both are influenced by other factors like societal expectations, gender roles, or institutional culture. Future prospective or longitudinal studies could help clarify these directions. Since the study was limited to medical students from a single medical college, the findings may not be representative of students from other medical colleges in Nepal or of the general population. Hence, multicenter studies on self-esteem are recommended to enhance the generalizability of the results. Moreover, qualitative research might elucidate the underlying mechanisms: what experiences female medical students face that contribute to lower self-esteem (e.g. stereotype threat, implicit bias, gendered expectations in clinical or academic settings). Similar studies from other Nepali medical colleges and from rural/urban settings would help generalize the findings.

Implication

The study highlights an important need for mental health support within medical colleges in Nepal. With over one-fourth of students experiencing low self-esteem, particularly females, institutions should integrate structured interventions such as counseling services, mentorship programs, stress-management sessions, and peer-support activities. These measures can help create a positive learning environment and address gender-specific vulnerabilities. Improving self-esteem is vital for students' academic success, emotional resilience, and future professional competence.

CONCLUSIONS

This study found that most medical students had normal self-esteem, yet a considerable proportion (27%) experienced low self-esteem. Female students were significantly more affected, indicating the need for gender-sensitive support measures. No significant associations were observed with age, schooling, or level of education. The presence of low self-esteem among many students suggests an urgent need for institutional strategies to enhance psychological well-being. Addressing self-esteem early can improve students' confidence, academic performance, and future professional effectiveness. Developing supportive academic environments and accessible mental health services is essential to ensure medical students grow into capable and resilient healthcare providers.

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