

Attitude of Health Science Students Towards Working in Rural Areas from Colleges of Kathmandu

Aakriti Dhakal¹, Devaka Kumari Acharya^{1*}

¹Maharajgunj Nursing Campus, Institute of Medicine, Tribhuvan University, Nepal

*Corresponding Author: devakaacharya11@gmail.com

ABSTRACT

Introduction: The lack of healthcare professionals has been a drawback for the rural health system in Nepal. Students in the final year of health science studies represent the future workforce in the healthcare sector. Understanding final year students' attitudes can help improve rural health workforce planning. This study aimed to assess the attitude towards working in rural areas among undergraduate health science students.

Methods: A descriptive cross-sectional study was conducted among 193 undergraduate final year health science students studying MBBS, BNS, Pharmacy, and BPH in Maharajgunj Medical Campus, Maharajgunj Nursing Campus, and the Central Department of Public Health. A consecutive sampling technique was used to select the sample. Data was collected with a self-administered questionnaire and analyzed with Statistical Package for Social Sciences (SPSS) version 20 using descriptive statistics, frequency, percent, mean, standard deviation, median, quartiles, and range, and inferential statistics, Chi-square and Fisher exact tests for association between attitude and selected variables.

Results: The study found that 83.4% of respondents had a positive attitude and 16.6% respondents had a negative attitude toward working in rural areas. A significant association was found between attitude and birthplace ($p=0.036$), fathers' education ($p=0.006$), mothers' education ($p=0.047$), and motivation from relatives in rural health service ($p=0.010$).

Conclusion: Majority of students had a positive attitude toward rural practice. While most students recognize the importance of working in rural areas, a considerable number of students have a negative attitude towards serving people who live in rural areas. There is a need to motivate students through near to graduation through the provision of facilities and the strong implementation of the scholarship bonding policy by government.

Keywords: Attitude, health science student, rural area

INTRODUCTION

According to the World Health Organization (WHO), human resources for health include individuals involved in actions to promote or improve health outcomes.¹ With the continuously growing and ageing population and the continuously changing epidemiology and new technologies, the need for health workers is expected to grow significantly in the coming decades.² A significant proportion of the global

population resides in rural and remote areas, yet healthcare professionals are predominantly concentrated in urban centers. This uneven distribution contributes to disparities in access to healthcare services.³

Nepal faces challenges with notable imbalances in the distribution of healthcare professionals. The human resources in the health sector of Nepal have 1.2 doctors and 2.5 nurses per 1,000 population.⁴ This distribution is heavily skewed

toward urban areas, leaving rural regions with limited access to healthcare. Addressing this issue requires both effective policy measures and a better understanding of healthcare students' perspectives on working in rural settings.⁵

In developing nations like Nepal, there are various reasons for the lack of attraction and retention of health care professionals, including students, for working in rural areas, such as inadequate infrastructure, restricted career advancement opportunities, and insufficient financial incentives. Most health professionals prefer urban settings due to better working conditions, access to higher education, and enhanced social life.⁶

A survey among final year medical students from five Asian countries shows that approximately 60% students from Thailand and Bangladesh, 50% from India and China, and 33% from Vietnam showed a positive attitude towards working in rural areas.⁷ The Nepal government implemented 2 years mandatory bonding service program for health science students studying on scholarship, following their graduation, to attract them to rural areas.⁸ Studies from Nepal show that 33.3% nurses⁹ and 90% of medical students had the intention to work in rural areas post-graduation.¹⁰ Domestic and international migration further have an impact on the availability of qualified, encouraged, and driven healthcare professionals.¹¹ The lack of effective implementation of rural posting is resulting in continued disparities in healthcare access and outcomes. Health science students are the most crucial component of the future healthcare system, and their present attitude would push them to work in rural areas in the future. Therefore, this study aimed to assess the attitudes of health science students regarding rural practice.

METHODS

A descriptive cross-sectional research design was used to assess the attitude of health science students studying in Maharajgunj Medical Campus, Maharajgunj Nursing Campus, and the Central Department of Public Health, Institute of Medicine, Tribhuvan University. A total of 193

students (MBBS- 77, B.Pharmacy- 29, BPH-42, and BNS-45) were selected through consecutive sampling. Data was collected through a structured, self-administered questionnaire in English version; items were adopted based on relevant^{11,12} including socio- demographic and attitude items.

Attitude questionnaire has 5-point Likert scale: 5 = strongly agree, 4 = Agree, 3 = Neutral, 2 = Disagree, and 1 = strongly Disagree. Among 28 items, 10 negative statements were reversely coded. The total possible score ranged from 28 to 140, with higher scores indicating a positive attitude. Attitude was categorized as positive and negative based on the mean score of the tool.

Ethical approval was obtained from the Institutional Review Committee (Ref. 530-081/082) of Tribhuvan University, Institute of Medicine, and administrative permission was obtained from each campus. Written informed consent was obtained from respondents before data collection. Anonymity was ensured by assigning identification codes instead of names on the questionnaire, and confidentiality was ensured by non-disclosure of identities and using information for study purposes only. Respondents were fully informed of their right to voluntarily participate and withdraw from study at any time. Data was collected at the break time of classes. Approximately 20 minutes were taken to fill out the questionnaire. Data was collected from March 23 to April 5, 2025. Data was entered into SPSS version 20, and descriptive statistics were used to calculate frequency, mean, percentage, standard deviation, median, quartiles, and range. Chi-square and Fisher's exact tests were used to measure the association between the level of attitude and selected variables.

RESULTS

Table 1: Respondents' Socio-demographic Characteristics (n = 193)

Characteristics	Number	Percentage
Age in completed years		
20-24	137	71.0
25-29	45	23.3
30-34	7	3.6
≥35	4	2.1
Mean age ± SD = 24.12 ±2.78 Range 20-38 years		
Sex		
Female	106	54.9
Male	87	45.1
Marital Status		
Unmarried	175	90.7
Married	18	9.3
Birthplace		
Rural	98	51.3
Urban	95	48.7
Years spent in a rural area before enrolment (n=98)		
1-5	23	23.5
6-10	14	14.3
11-15	26	26.5
16-20	28	28.6
21-25	7	7.1
Mean years ± SD = 12.17±6.463 Range 1-25		
Place of schooling		
Urban	135	69.9
Rural	58	30.1
Current family residence		
Urban	138	71.5
Rural	55	28.5
Fathers' education		
Can't read and write	4	2.1
Basic (1-8class)	40	20.7
Secondary (9-12class)	65	33.7
Bachelor's and above	84	43.5
Mothers' education		
Can't read and write	24	12.4
Basic Level	53	27.5
Secondary (9-12 class)	70	36.3
Bachelor and above	46	23.8
Relatives working in rural health sector	83	43.0
Motivation from relatives working in rural health sector (n=83)	62	74.7

Table 1 shows that majority (71%) belonged to the age group of 20–24 years, more than half (54.9%) were female, almost all (90.7%) were unmarried, 51.3% were from rural areas, 61.6% spent more than 10 years in rural areas, and 30.1% had completed their schooling in rural areas. A majority (71.5%) reported that their current family residence is in urban areas;43.5% respondents’ fathers and 23.8% mothers had bachelor and above. About half of the respondents’ relatives (43%) have worked in the rural health sector, and among those, 74.7% of respondents’ relatives motivated them to work in rural areas.

Table 2: Respondents’ Study-Related Information (n=193)

Variables	Number	Percentage
Educational stream		
MBBS	77	39.9
BNS	45	23.3
BPH	42	21.8
B. Pharmacy	29	15.0
Finance		
Scholarship	134	69.4
Self	59	30.6
Exposure to the community during the study		
≤3 months	143	74.1
>3 months	50	25.9
Range 1-6 (months)		

Table 2 depicts that 39.9% were from the MBBS, followed by 23.3%, BNS, 21.8%, BPH, and 15% were from Pharmacy stream, and majority (69.4%) of respondents had government scholarships, while 30.6% of the respondents were studying under self-finance. During their academic program, 74.1% of the respondents had ≤3 months of community exposure.

Table 3: Respondents’ Attitudes towards Working in Rural Areas after Graduation (n=193)

Statements	Responses				
	5 No. (%)	4 No. (%)	3 No. (%)	2 No. (%)	1 No. (%)
I feel motivated to work in rural areas due to the community posting.	45(23.3)	99(51.3)	24(12.4)	23(11.9)	2(1.0)
Working in rural areas is essential for addressing healthcare inequalities.	110(57.0)	79(40.9)	2(1.0)	1(0.5)	1(0.5)
Provides more opportunity to practice a variety of skills.	55(28.5)	73(37.8)	31(16.1)	28(14.5)	6(3.1)
Rural areas enhance my clinical skills.	49(20.2)	64(33.2)	33(17.1)	43(22.3)	14(7.3)
The health science college prepared me well to work in rural areas.	30(15.5)	99(51.3)	32(16.6)	24(12.4)	8(4.1)
Provides greater autonomy in the workplace.	48(24.9)	96(49.7)	31(16.1)	18(9.3)	-
I feel confident in my ability to handle healthcare challenges in a resource-limited setting.	42(21.8)	97(50.3)	40(20.7)	13(6.7)	1(0.5)

Financial incentives offered by the government would encourage me to work in rural areas.	69(35.8)	74(38.3)	21(10.9)	22(21.4)	7(3.6)
Scholarships offered by the government would encourage me to work in rural areas.	57(29.5)	99(51.3)	21(10.9)	14(7.3)	2(1.0)
Provides extra points for a job promotion in the future.	60(31.1)	70(36.3)	43(22.3)	17(8.8)	3(1.6)
Good opportunities for employment in my profession.	34(17.6)	81(42.0)	30(15.5)	41(21.2)	7(3.6)
More opportunities for career advancement	14(7.3)	46(23.8)	45(23.3)	75(38.9)	13(6.7)
The quality of life in rural areas is good in terms of the environment.	63(32.6)	90(46.6)	16(8.3)	20(10.4)	4(2.1)
Staff are more supportive in rural areas.	53(27.5)	86(44.6)	43(22.3)	10(5.2)	1(0.5)
New people are welcomed into the community.	59(30.6)	104(53.9)	25(13.0)	2(1.0)	3(1.6)
Living in rural areas provides an enjoyable lifestyle	31(16.1)	88(45.6)	44(22.8)	25(13.0)	5(2.6)
I feel safe working as a health care professional in rural areas.	26(13.5)	74(38.3)	55(28.5)	27(14.0)	11(5.7)
Provide me with a sense of community belongingness.	48(24.9)	123(63.7)	18(9.3)	4(2.1)	-
Provides fewer opportunities to upgrade new knowledge and skills. *	36(18.7)	77(39.9)	32(16.6)	39(20.2)	9(4.7)
Difficulty in pursuing post-graduation after working in rural areas for a considerable time. *	15(7.8)	57(29.5)	46(23.8)	66(34.2)	9(4.7)
Limited resources and infrastructures discourage me from working in rural areas. *	38(19.7)	95(49.2)	18(9.3)	39(20.2)	3(1.6)
Working in rural areas makes life challenging. *	38(19.7)	95(49.2)	23(11.9)	33(17.1)	4(2.1)
Limited places to go to socialize in rural areas. *	20(10.4)	57(29.5)	30(15.5)	72(37.3)	14(7.3)
Poor recreational facilities in rural areas. *	23(11.9)	83(43.0)	24(12.4)	48(24.9)	15(7.8)
Cultural and linguistic differences in rural areas make it challenging to work effectively. *	44(22.8)	106(54.9)	18(9.3)	22(11.4)	3(1.6)
Isolation from family*	23(11.9)	75(38.9)	26(13.5)	57(29.5)	12(6.2)
Isolation from friends. *	21(10.9)	82(42.5)	26(13.5)	51(26.4)	13(6.7)
Schooling for children is a problem in rural areas. *	61(31.6)	87(45.1)	19(9.8)	13(6.7)	13(6.7)

5= Strongly Agree, 4= Agree, 3= Undecided, 2= Disagree, 1= Strongly Disagree

* reverse scoring

Table 3 shows that 57.0% of respondents strongly agreed that working in rural areas is essential for addressing healthcare inequalities. About 37.8% agreed, and 28.5% strongly agreed, that rural posting provides opportunities to practice a variety of skills, while 33.2% agreed that working in rural areas enhances clinical skills. More than half (51.3%) agreed that scholarships, and 38.3%

agreed that financial incentives provided by the government would encourage rural service. About 50.3% felt confident in their ability to handle healthcare challenges in resource-limited settings. The majority (63.7%) of the respondents agreed that working in rural areas provides a sense of community belonging, and 53.9% believed new people are welcomed into rural

communities. Additionally, 45.6% perceived that the quality of life in rural areas is good in terms of environment and lifestyle.

In contrast, 49.2% of respondents agreed that limited resources and infrastructure in rural areas discourage them from working in rural areas, and the same percentage believed that rural life is challenging. Likewise, 54.9% showed concern that cultural and linguistic differences in rural areas pose challenges, and 45.1% felt that schooling for children is a problem in rural

settings. Additionally, 39.9% agreed that rural postings provide fewer opportunities to upgrade new knowledge and skills, and 29.5% perceived difficulty in pursuing post-graduation. Regarding social and recreational aspects, 37.3% disagreed on limited places to socialize in rural areas, whereas 43.0% noted poor recreational facilities, and 42.5% indicated isolation from friends as a challenge of rural work.

Table 4: Respondents’ Level of Attitude towards Working in Rural Areas

Level of attitude	Number	Percentage
Positive (≥84)	161	83.4
Negative (<84)	32	16.6
Observed mean = 84±11.766		
Obtained score range = 53-129		
Possible score range = 28-140		
Total	193	100

Table 4 shows the respondents’ attitudes towards working in rural areas. Most of the respondents (83.4%) have a positive attitude towards working in rural areas, whereas only 16.6% have a negative attitude.

Table 5: Association between Respondents’ Level of Attitude and Selected Variables (n=193)

Variables	Positive No. (%)	Negative No. (%)	χ^2 p-value*
Age in completed years			
≤24	113(82.5)	24(17.5)	0.584
>24	48(85.7)	8(14.3)	
Sex			
Male	74(85.1)	13(14.9)	0.579
Female	87(82.1)	19(17.9)	
Birthplace			
Urban	73(77.7)	21(22.3)	0.036
Rural	88(88.9)	11(11.1)	
Years spent in rural area (n=99)			
<12.17	37(82.2)	8(17.8)	0.105
>12.17	50(94.3)	3(5.7)	
Place of schooling			
Urban	108(80.0)	27(20.0)	0.050
Rural	53(91.4)	5(8.6)	
Educational stream			
MBBS	62(80.5)	15(19.5)	0.347

BNS	40(88.9)	5(11.1)	
BPH	37(88.1)	5(11.9)	
B. Pharmacy	22(83.4)	7(24.1)	
Finance			
Scholarship	110(82.1)	24(17.9)	0.454
Self	51(86.4)	8(13.6)	
Exposure to the community during the study			
≤3months	115(80.4)	28(19.6)	0.076**
>3months	46(92.0)	4(8.0)	
Current family residence			
Urban	111(80.4)	27(19.6)	0.077**
Rural	50(90.9)	5(9.1)	
Fathers' education			
Secondary and below	98(89.9)	11(10.1)	0.006
Bachelor's and above	63(75.0)	21(25.0)	
Mothers' Education			
Secondary and below	127(86.4)	20(13.6)	0.047
Bachelor's and above	34(73.9)	12(26.1)	
Relatives work in the rural health sector			
Yes	70(84.3)	13(15.7)	0.766
No	91(82.7)	19(17.3)	
Relatives motivated to work in rural areas (n=83)			
Yes	56(90.3)	6(9.7)	0.010
No	14(66.7)	7(33.3)	

*p-value significant at 0.05, **Fisher exact test

A significant association was observed with birthplace (p= 0.036), fathers’ education (p= 0.006), mothers’ education (p= 0.047), and motivation by relatives working in the rural health sector (p = 0.01).

DISCUSSION

This study showed that the majority of the respondents had a positive attitude towards working in rural areas. This finding is consistent with the study conducted in North-west Ethiopia¹³ where 78.4% of health science students indicated willingness to serve in rural areas after graduation. Such consistency may reflect a shared recognition among health science students in developing countries regarding the importance of rural healthcare services. However, the findings of the study is contrast with the study conducted among medical students in Chhattisgarh¹⁴ and among final-year medical and nursing students

of Nepal,¹⁵ where lower proportions of positive attitudes (44% and 55.6%, respectively) were reported. These disparities may be attributed to differences in socio-cultural contexts, educational environments, and the proportion of students from rural backgrounds. The differences seen in the study could be because many of the students were from different socio-demographic backgrounds.

In the present study, 90.3% respondents were motivated to serve in rural areas by their relatives who are working in the rural health sector, which is consistent with the study which emphasized the role of the “rural pipeline” and social influence in shaping career intentions.¹⁶ Contrast finding in a study where negative attitudes were found among 92.8% interns despite having relatives in the rural area of Odisha.¹⁷ These attitude differences suggest not only the presence of role models

but also the experience shared by the family members and relatives may influence students' perceptions.

In the present study, 49.7% respondents agreed that working in rural areas provides greater autonomy in the workplace, which is supported by the study¹⁸ 49.1% agreed that rural areas have opportunities for independent work. About 51.3% agreed that scholarships, and 74.2% strongly agreed and agreed that financial incentives provided by the government would encourage rural service.

In the present study, 68.9% of respondents said limited resources and infrastructure in rural areas discourage them from working in rural areas, and the same percentage believed that rural life is challenging, which is consistent with study¹², which reported 57.45 % felt limited infrastructure in health facilities as a reason for no interest in working in rural areas.

In the present study, 76.7% of the respondents felt that schooling for children is a problem in rural settings, which is consistent with¹¹ 72.2% strongly agreed that schooling for children is a problem in rural areas. Only 7.3% of students felt there were more opportunities for career advancement in rural areas. The same findings were found in another study, where 7.3% felt there were more opportunities for career advancement in rural areas.⁸

In the present study, fathers' education ($p=0.006$) and mothers' education ($p=0.047$) had a significant association with the attitude to work in rural areas after their graduation, which is consistent with the studies conducted in different settings.^{11, 12,19, 20} Similarly, motivation by relatives working in the rural health sector ($p=0.01$) was associated with attitude to work in rural areas. Birthplace ($p=0.036$) also showed an association with attitude. The findings of a study were similar to those of other studies.^{7,20,21,22} Early life exposure to rural living fosters comfort and empathy toward rural service.

Other variables such as age, sex, marital status, exposure to the community during the school period, and mode of admission did not show a

statistically significant relationship with attitude. This finding is supported by different studies.^{15, 23,24}

CONCLUSION

The study concludes that the majority of health science students have a positive attitude toward working in rural areas after graduation. Birthplace, fathers' education, mothers' education, and motivation by relatives to work in rural areas has association with the attitude to work in rural areas after their graduation. Though the majority of students have a positive attitude towards working in rural areas after graduation, a considerable number of students have a negative attitude towards serving people who live in rural areas. The government needs to motivate them through the provision of facilities and the strong implementation of the scholarship bonding policy. A similar study can be conducted among private colleges and other health science streams for broader generalization.

CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

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