Research Article

Attitude of medical students toward serving in rural areas and its determinants: a cross-sectional study from Uttarakhand

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Abstract

Background: As 70% of population of India resides in rural areas, there is need of providing effective health care to people in these areas. Health care system in rural areas faces the challenge of shortage of doctors. Understanding of perceptions and attitudes of medical students toward working in rural areas can help in addressing the problem of shortage of doctors in these areas.

Objective: This study aimed to determine the attitude of medical students toward serving in rural areas and the determinants of such attitude.

Material and Methods: A cross-sectional study was conducted among 115 medical students of final year and internships of a government medical college. A pretested self-administered structured questionnaire was used for data collection. Descriptive statistics such as percentages, mean, and standard deviation were used for data summarization and presentation.

Results: The overall average of the total score of respondents' attitudes toward the working in rural areas was 45.20 and the SD was 7.76, indicating a slightly negative attitude toward the working in rural areas. Students belonging to rural areas had more favorable attitude to working in rural areas in comparison to students from urban background.

Conclusion: Medical students had positive attitude regarding the importance of working in rural areas, but their overall attitude toward working in rural areas was found to be not favorable.

KEY WORDS: Attitude, medical students, rural areas

Introduction

As per Census 2011, approximately 70% of population is in rural areas of India, and in Uttarakhand state also, about similar proportion of population is residing in rural areas.[1] The National Rural Health Mission (2005–12) seeks to provide effective health care to rural population throughout the country with special focus on 18 states that have weak public health indicators and/or weak infrastructure. Uttarakhand is one of these.

The first contact of village community with a medical officer occurs at a primary health center (PHC). The PHCs were envisaged to provide an integrated curative and preventive health care to the rural population with emphasis on preventive and promotive aspects of health care. The PHCs are established and maintained by the state governments under the Minimum Needs Programme/Basic Minimum Services (BMS) program. As per minimum requirement, a PHC is to be manned by a medical officer supported by 14 paramedical and other staff. It acts as a referral unit for six subcenters and has 4–6 beds for patients. The services provided through PHCs are curative, preventive, promotive, and family welfare services.[1] These services cannot be provided in an efficient and effective manner to the rural population without the presence of a medical officer.

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As on March 2012, 20.4% of the sanctioned posts of doctors were vacant at PHCs of India.[1] As per Medical Council of India, the number of medical colleges in India before 2005 was 228. There has been more than 50% increase in number of medical colleges in the country, which has increased to 381 in 2013.[2] More than 70% of doctors prefer to join a private health care setup. Only one-fifth get a chance to do postgraduation. Most specialists avoid practicing in rural areas or urban government health facilities.[3]

Attitude plays an important role in determining people's reactions to situations. Attitude has been defined in many ways. Allport (1935) defined it as "a mental and neural state of readiness, organized through experience, exerting a directive or dynamic influence upon the individual's response to all objects and situations with which it is related." Some researchers have defined attitude as a positive or negative emotional reaction toward a specific situation. Fishbein (1967) defined attitude as "a learned predisposition to respond to an object or class of objects in a consistently favorable or unfavorable way."[4]

Understanding of perceptions and attitudes of medical students toward working in rural areas can help in addressing the problem of shortage of doctors in such areas. This study aimed to evaluate the attitude of medical students toward serving in rural areas and the determinants of such attitude.

Materials and Methods

A cross-sectional study was conducted among interns and final year students of a government medical college of Haldwani block of Nainital district of Uttarakhand state of India. A predesigned, pretested, self-administered questionnaire was prepared and administered to the participants for the collection of data. Participants were explained the purpose of study, and those who gave consent and were willing to participate were included in the study.

The questionnaire consisted of questions to assess sociodemographic characteristics of the respondents. It also included 19 questions to assess the attitude of participants toward working in rural areas. Some questions were negatively phrased and the others positively phrased in a random manner. The participants were asked to respond on a five-point Likert scale, ranging from strongly agree to strongly disagree, to indicate the extent to which they agreed or disagreed to the statements. Numerical scores were assigned to each level of agreement, such as strongly disagree (1), disagree (2), undecided (3), agree (4), and strongly agree (5), for positively framed statements. For the statements framed negatively, scores were reverse coded such as strongly disagree (5), disagree (4), undecided (3), agree (2), and strongly agree (1). The maximum total score that could be obtained for all of the items was 95 and the minimum score was 19; the average score was thus 57. Any score above 57 indicated a positive attitude, whereas any score below 57 indicated a negative attitude.

The sample size was calculated by using $(1.96)^2pq/d^2$, where proportion of students with favorable attitude was considered to be 50%, q = 100, p = 50%, and d (relative error) = 15% with 10% level of significance. The sample size came out to be 120. A systematic random sampling procedure was used for the selection of participants and every second student was included in the study. Questionnaires filled by five students were found to be incomplete and hence rejected from the final analysis. So, the final analysis was carried out on 115 students.

Data were entered in MS Excel and were analyzed using SPSS, version 21. Data were summarized and presented using frequency, percentages, means, and standard deviations. Independent samples *t*-test was used to compare means of total score between groups. Cronbach's α was used to assess internal consistency of scale items, which was found to be 0.71. *p*-Values <0.05 were considered statistically significant.

Results

A total of 115 medical students of final-year MBBS and interns were included in the study. Age of the participants ranged from 20 to 31 years with mean age of 23.65 years, and standard deviation was 2.40. Majority (60%) of the participants were male.

As illustrated in Table 1, medical students responded to 19 items related to their level of attitudes toward working in rural areas. The most frequent positive attitudes toward working in rural areas were "People in rural areas are more supportive" (72.2% of the participants answered that they "agree or strongly agree" with that statement), with mean score 3.98 and SD 0.95; "Provides an good exposure of general practice" (80.0% of the participants answered that they "agree or strongly agree" with that statement), with mean score of 3.93 and SD 0.81; "Provides an opportunity for independent working" (76.5% of the participants answered that they "agree or strongly agree" with that statement) with mean score of 3.87 and SD 0.98; and "Helps to build confidence as a clinician" (71.3% of the participants answered that they "agree or strongly agree" with that statement), with mean score of 3.81 and SD of 0.90.

However, the most frequent negative attitudes toward working in rural areas were "Hospital infrastructure is adequate" (95.6% of the participants answered that they "strongly disagree or disagree" with that statement), with mean score of 1.40 and SD 0.60; "It is frustrating if unable to pursue postgraduation" (92.2% of the participants answered that they "agree or strongly agree" with that statement) with mean score of 1.59 and SD 0.74; "Connectivity with cities is not good" (83.5% of the participants answered that they "agree or strongly agree" with that statement) with mean score of 1.75 and SD 0.75; and "Working in rural area helps in earning more money" (81.7% of the participants answered that they "disagree or strongly disagree" with that statement) with mean score of 1.78 and SD 0.86.

The overall average for the score of respondents' attitudes toward the working in rural areas was 45.20 and the SD

Table 1: Distribution of item responses showing medical students' attitude

Scale items	Strongly agree (%)	Agree (%)	Undecided (%)	Disagree (%)	Strongly disagree (%)	Mean score	SD
1. Must be compulsory after MBBS	12.2	31.3	11.3	29.6	15.7	3.05	1.31
2. Provides an opportunity for independent working	25.2	51.3	11.3	9.6	2.6	3.87	0.98
3. Provides an good exposure of general practice	20.9	59.1	13.0	6.1	0.9	3.93	0.81
4. Helps to build confidence as a clinician	20.9	50.4	18.3	9.6	0.9	3.81	0.90
5. Working in rural area gives more job satisfaction	2.6	13.9	19.1	29.6	34.8	2.20	1.14
6. Professional growth is limited	27.0	42.6	9.6	19.1	1.7	2.26	1.11
7. Provides lesser opportunities to upgrade knowledge and skills	47.8	28.7	15.7	6.1	1.7	1.85	1.01
8. Difficulty in pursuing postgraduation after working in rural areas for a considerable time	39.1	43.5	11.3	5.2	0.9	1.85	0.88
9. It is frustrating if unable to pursue postgraduation	52.2	40.0	4.3	3.5	0.0	1.59	0.74
10. Working in rural area helps in earning more money	0.9	2.6	14.8	37.4	44.3	1.78	0.86
11. Working in rural area helps in better recognition among medical fraternity	2.6	6.1	19.1	47.0	25.2	2.14	0.95
12. Hospital infrastructure is adequate	0.0	0.9	3.5	30.4	65.2	1.40	0.60
13. Residential facilities are good	1.7	3.5	11.3	50.4	33.0	1.90	0.86
14. Connectivity with cities is not good	42.6	40.9	15.7	0.9	0.0	1.75	0.75
15. Isolation from family and relatives	34.8	47.8	7.0	7.8	2.6	1.96	0.99
16. Provides lesser opportunities for interaction with colleagues of medical field	42.6	38.3	8.7	7.0	3.5	1.90	1.05
17. Recreation facilities are limited	25.2	48.7	16.5	9.6	0.0	2.10	0.89
18. Schooling for children is problem	34.8	47.0	15.7	2.6	0.0	1.86	0.77
19. People in rural areas are more supportive	33.9	38.3	21.7	4.3	1.7	3.98	0.45

was 7.76, indicating that the medical students have slightly negative attitudes toward the working in rural areas.

Table 2 illustrates the association between sociodemographic variables and medical students' attitude toward

Table 2: Association between sociodemographic variables and medical student' attitude

Variables	No.	Total score		*p*-Value
		Mean	SD	
Sex				
Male	69	46.70	6.9	0.11
Female	46	42.96	8.5	
Final MBBS	69	46.80	7.7	
Study period				
Intern	46	42.80	7.2	0.006
Urban	94	44.71	7.9	
Schooling				
Rural	21	47.38	6.3	0.155
Urban	92	44.32	7.8	
Residence				
Rural	23	48.74	6.5	0.014
Less than graduation	33	47.32	4.94	
Education of father				
Graduate and above	82	44.42	8.46	0.045
less than graduation	50	47.30	7.39	
Education of mother				
Graduate and above	65	43.58	7.70	0.010
Family member practicing in rural area				
Yes	18	48.44	8.1	0.053
No	96	44.57	7.6	

working in rural areas. Attitude of male students was more favorable (mean score 46.7) in comparison to female students (mean score 42.96), and this difference was not found to be statistically significant. Final-year students had more favorable attitude (mean score 46.80) in comparison to interns (mean score 42.80), which is statistically significant. Students belonging to rural areas had more favorable attitude (mean score 48.74) to working in rural areas in comparison to students from urban background (mean score 44.32), which was found to be statistically significant. Students who had some family member practicing in rural area (mean score 48.44) had more favorable response in comparison to students who did not have family member practicing in rural area (mean score 44.57), and this difference was not statistically significant. Medical students whose parents were educationally well qualified had less favorable attitude to work in rural areas, and this difference was found to be statistically significant.

Discussion

Provision of quality health care in rural areas where majority of Indian population resides represents a major challenge in today's scenario. Attitude of medical students toward working in rural areas can play an important role in their joining of health services in rural areas. The present study revealed a slightly negative attitude of medical students toward working in rural areas, which is similar to the findings of Gaikwad et al.[5] where attitude of interns toward working in rural areas was not favorable.

Perceptions that hospital infrastructure is inadequate, schooling problem for children, less job satisfaction, poor residential facilities, poor connectivity with cities were found to be responsible for most unfavorable attitude of students in the present study. Saini et al.[6] in their study found that 61.2% students perceived "lack of infrastructural facilities" and 6.5% perceived "lack of education opportunities for children" as the drawbacks of working in rural areas. Gaikwad et al.[5] found that 28% interns did not prefer to work in rural areas because of no clinical infrastructure and no living facilities whereas 23% considered no connectivity as the reason. Hayes and Shakya[8] had observation that most of medical students affirmed the need for a good salary, infrastructure and facilities, and career development opportunities to work in rural areas. The current study also found that difficulty in pursuing postgraduation is responsible for unfavorable attitude toward working in rural areas. The study by Singh and Singh[9] also had similar observation where 94% students were found to be inclined toward doing postgraduation.

This study found that students from rural background had more favorable attitude toward working in rural areas, which is similar to observations of Saini et al.[6] where 56% students from rural background were willing to practice in rural areas. Deressa and Azazh[7] in their study found that students with rural backgrounds showed more intention to practice medicine in rural areas than those with urban backgrounds.

In the present study, medical students whose parents were educationally well qualified had less favorable attitude to work in rural areas, which is similar to that reported in a study by Saini et al.[6] where students whose parents were educationally well qualified showed less willingness to practice in rural areas.

Limitation

The study results cannot be generalized to the population of medical students as the study was conducted in one medical college and there was no representation of students from private medical colleges.

Conclusion

Medical students realized the importance of working in rural areas in their professional growth. Better infrastructural and residential facilities, opportunities for pursuing postgraduation, professional growth, and additional allowances for rural service can help in conditioning a more favorable attitude of medical students toward working in rural areas.

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