



Original Research Article

Perception of medical student regarding factors influencing the decision to serve in rural health services of Uttarakhand

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ABSTRACT

Background: Many countries in the developing world are plagued with challenges of inadequate and inequitable distribution of the health workforce. The Paucity of qualified health workers in rural areas is a critical challenge for India's Health Sector. In view of the continuing challenges of Physician shortage in India, an understanding of our medical students' attitude and perception towards rural medical practices is essential for appropriate planning of human resources.

Objective: To assess the attitude and perception of medical students towards rural medical practices and identified the associated factors in order to fill these information gaps.

Materials and Methods: A descriptive cross-sectional study was conducted among 282 MBBS students of the Government Medical College in Uttarakhand state, India. First, Third and Fifth semesters MBBS students were the study participants. Participants were enrolled by convenient sampling method. Ethical approval was sought and obtained from the Institutional Ethics Committee. Data was entered and analyzed with SPSS Software Version 22.

Result: Among 282 MBBS Students, 68% females showed willingness to work in rural area compared to 57.6% of males. All the reasons for willingness as well as non-willingness to work in rural areas of Uttarakhand had statistically significant difference.

Conclusion: Medical student's attitude and perception to work in rural health services need much improvement towards positive side by intervention and implementation by joint collaborative efforts of Medical Education Department, Health department and State Government.

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1. Introduction

Many countries in the developing world are plagued with challenges of inadequate and inequitable distribution of the health workforce.¹ Manpower for health services has been described as "the heart of the health system in our country".² The Paucity of qualified health workers in rural areas is a critical challenge for India's Health Sector. As on 31st March 2018, 5.9% of the PHCs are without a doctor. For Allopathic doctors at PHC, there is a shortfall

of 14.3% of the total requirement for existing infrastructure as compared to manpower in position.³

Uttarakhand is mainly mountainous (86%) and 65% of its area is covered by forest.⁴ There is a presence of only 31 doctors per 1 lakh population which is very low as compared to WHO standard of 100 per 1 lakh population.⁴ As on 31st March 2018, there was deficiency of 184 Medical officers and 239 specialist doctors in Uttarakhand.³

In view of the continuing challenges of Physician shortage in India, an understanding of our medical students' attitude and perception towards rural medical practices is essential for appropriate planning of human resources.

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The present study was done to assess their attitude and perception towards rural medical practices and identified the associated factors in order to fill these information gaps.

2. Materials and Methods

A descriptive cross-sectional study was conducted among 282 MBBS students of the Government Medical College in Uttarakhand state, India. First, Third and Fifth semesters MBBS students were the study participants. Participants were enrolled by convenient sampling method. Data collection was carried out for a period of 3 months (October to December 2018). Before framing the questions, the need for the study was discussed with the student fraternity and their opinions were considered. Questionnaire items were developed after consulting the experts and validated appropriately. Each question was framed in such a way that the responses were graded from most appropriate to least appropriate. Ethical approval was sought and obtained from the Institutional Ethics Committee.

Data was entered and analyzed with SPSS Software Version 22, International Business Machines (IBM). Individual Component wise analysis was done using tables with Percentages. Proportions were computed for Categorical variables and p value < 0.05 was considered to be significant.

3. Results

Majority of Students (164/282) were in the age group of 20-22 years and out of them 64.0% showed interest to work in rural area. Among Participants, 68% females showed willingness to work in rural area compared to 57.6% of males. 69.3% first Semester Medical Students were inclined towards service in rural area as compared to Fifth Semester Students (55.9%). About four-fifth of study Participants belonging to rural areas showed interest to join rural health services compared to three-fifth belonging to Urban Area. About two-third of medical students who have opted for rural health service bond during admission were willing to work in rural areas as compared to 28.6% of those who have not opted for it. 69.1% participants whose parents working place was rural had inclination for working in rural health as shown in Table 1.

All the reasons for willingness to work in rural areas of Uttarakhand, i.e. will do private practice and earn more, join Government health facility and secure job, own house and settle, contribute for betterment of State health system, compulsory bond service, job satisfaction, build confidence as a clinician and supportive people in rural areas had statistically significant difference (Table 2).

Table 3 shows the reasons and their association for non-willingness to work in rural areas of Uttarakhand had statistically significant difference. The reasons were limited infrastructure in health facilities, delay in post-graduation,

limited professional growth, less salary, lack of recreational facilities, connectivity with cities not good and isolation from family, relatives and medical colleagues.

Statistically significant difference was found between participants response for improvement in rural health services by regular salary and incentives, reservation in PG seat for doctors serving in rural area, improvement in hospital and residential facilities, posting in rural health services to 2 years and compulsory after MBBS completion for every Indian Medical Graduate. No difference was observed for compulsory posting in rural health services for MBBS Graduates who are bonded (Table 4).

4. Discussion

At present, our Government is facing an uphill task of providing adequate, trained health workforce, especially trained doctors for rural health care delivery system.

In this study, the maximum number of participants were in the age group of 20-22 years and out of them 64% showed their willingness to work in rural area which is more than the study done by Bartwal et al⁴ where 51.8% of same age group showed their willingness to work in rural area.

More females (68%) were inclined to work in rural areas as compared to males (57.6%) in the present study while Bartwal et al.⁴ and Choudhary et al.⁵ reported opposite findings in their respective studies.

Among study participants, 69.3% first semester medical students and 55.9% fifth semester medical students were willing to work in rural area which is comparable to finding by Bartwal et al.⁴ in which 72.1% first semester and 51.6% fifth semester medical students showed their willingness.

In the present study, 78.9% students belonging to rural areas showed interest to join rural health services compared to 57.8% belonging to urban area. This finding is similar to findings by Bartwal et al.,⁴ Choudhary et al.⁵ and Saini et al.⁶ which showed that rural background students were more likely to practice in rural areas.

This study observed that 69.1% of students whose parents were working in rural areas had inclination towards working in rural health while 60.7% of students whose parents were working in urban areas had interest in joining rural health which is similar to findings of study by Bartwal et al⁴ on medical students of Uttarakhand.

Factors which promotes students to work in rural health of Uttarakhand had statistically significant association which is similar to findings by other studies.⁴⁻⁸

In our study, reasons for non-willingness to work in rural Uttarakhand were limited infrastructure in health facilities, delay in post-graduation, limited professional growth, less salary, lack of recreational facilities, connectivity with cities not good and isolation from family, relatives and medical colleagues. All these reasons had statistically significant difference which had also been reported by studies of Saini et al.⁶ in NCR region, Jain et al.² in Chhattisgarh, Bartwal

Table 1: Characteristics of Study Participants in relation to their willingness to work in Rural Area

S. No	Variables	Categories	Willingness to work in Rural Area (n=282)	
			Yes N (%)	No N (%)
1	Age	17-19 Years	65(60)	43(40)
		20-22 Years	105(64)	59(36)
		≥23 Years	8(80)	2(20)
2	Gender	Male	76(57.6)	56(42.4)
		Female	102(68)	48(32)
3	Semester	First	86(69.3)	38(30.7)
		Third	35(62.5)	21(37.5)
		Fifth	57(55.9)	45(44.1)
4	Residence	Rural	56(78.9)	15(21.1)
		Urban	122(57.8)	89(42.2)
5	Opted Bond to Serve in Rural Area during Admission	Yes	170(66.9)	84(33.1)
		No	8(28.6)	20(71.4)
6	Parents Working Place	Urban	122(60.7)	79(39.3)
		Rural	56(69.1)	25(30.9)

Table 2: Reasons and their association for willingness to work in Rural Health of Uttarakhand

S. No	Variables	Agree N(%)	Disagree N(%)	Z test (p value)
1	I will do private practice and earn more money in rural area (n=182)	29 (15.9)	153 (84.1)	12.99 (0.000)
2	To join government health facility and secure my job (n=216)	193 (89.3)	23 (10.7)	16.358 (0.000)
3	Own residence in rural areas so will settle there (n=210)	30 (14.3)	180 (85.7)	14.63 (0.000)
4	To contribute for betterment of health system of state (n=259)	256 (98.8)	03 (1.2)	22.23 (0.000)
5	I have opted for Compulsory government service/bond (n=251)	220 (87.6)	31 (12.4)	16.87 (0.000)
6	It will Provides an opportunity for independent working (n=192)	136 (70.8)	56 (29.2)	8.16 (0.000)
7	It will Provides an good exposure of general practice (n=232)	162 (69.8)	70 (30.2)	8.54 (0.000)
8	It will helps to build confidence as a clinician (n=224)	190 (84.8)	34 (15.2)	14.74 (0.000)
9	Working in rural area gives more job satisfaction (n=188)	81 (43.1)	107 (56.9)	2.68 (0.007)
10	Working in rural area helps in earning more money (n=220)	14 (6.4)	206 (93.6)	18.30 (0.000)
11	People in rural areas are more supportive (n=200)	168 (84)	32 (16)	13.6 (0.000)

et al.⁴ in Uttarakhand region and other similar studies conducted in various regions of the world.

Statistically significant difference was found between participants response for improvement in rural health services by regular salary and incentives, reservation in PG seat for doctors serving in rural area, improvement in hospital and residential facilities, posting in rural health services to 2 years and compulsory after MBBS completion for every Indian Medical Graduate. These findings were comparable to various studies which suggested that these factors can address doctors shortage in rural areas.^{6,9,10}

5. Conclusion

The current government strategies to address the shortfall of health workers in rural settings may be ineffective without the infusion of some inducements, and unless these jobs are made lucrative for the physicians. With the present state of affairs, recruitment and retention of physicians in rural areas appear to remain a perpetual challenge for the government. Medical student's attitude and perception to work in rural health services need much improvement towards positive side by intervention and implementation by joint collaborative efforts of Medical Education Department, Health department and State Government.

Table 3: Reasons and their association for Non-willingness to work in Rural Health of Uttarakhand

S. No	Variables	Agree N(%)	Disagree N(%)	Z test (p value)
1	Limited infrastructures in health facilities(n=269)	261 (98.1)	03 (1.1)	22.45 (0.000)
2	Delay in PG (n=255)	242 (94.9)	13 (5.1)	20.28 (0.000)
3	Limited Professional growth (n=255)	240 (94.1)	15 (5.9)	19.92 (0.000)
4	Own residence in urban area so will not go in rural area (n=193)	119 (61.7)	74 (38.3)	4.58 (0.000)
5	Lack of educational opportunities of children and family amenities (n=252)	238 (94.4)	14 (5.6)	19.95 (0.000)
6	Less salary (n=185)	146 (78.9)	39 (21.1)	11.12 (0.000)
7	Provides lesser opportunities to upgrade knowledge and skills (n=252)	231 (91.7)	21 (8.3)	18.70 (0.000)
8	Difficulty in pursuing post-graduation after working in rural areas for a considerable time (n=250)	225 (90)	25 (10)	17.88 (0.000)
9	Lack of recreational facilities (n=235)	202 (85.9)	33 (14.1)	15.59 (0.000)
10	Remote geographical location of health posts (n=233)	219 (93.9)	14 (6.1)	18.99 (0.000)
11	It is frustrating if unable to pursue post-graduation (n=244)	224 (91.8)	20 (8.2)	18.46 (0.000)
12	Connectivity with cities is not good (n=241)	218 (90.4)	23 (9.6)	17.76 (0.000)
13	Isolation from family and relatives (n=227)	197 (86.8)	30 (13.2)	15.67 (0.000)
14	Provides lesser opportunities for interaction with colleagues of medical field (n=218)	195 (89.4)	23 (10.6)	16.47 (0.000)

Table 4: Factors and their association which can increase willingness to work in rural health of Uttarakhand

S. No	Variables	Agree N (%)	Disagree N(%)	Z test (p value)
1	Salary and incentives should be regular and 1.5 times of current salary (n=257)	253 (98.4)	04 (1.6)	21.9 (0.000)
2	Reservation in PG seat for services in rural area (n=255)	231 (90.6)	24 (9.4)	18.3 (0.000)
3	Improvement in Hospital infrastructure (n=276)	274 (98.5)	02 (1.5)	22.8 (0.000)
4	Improvement in Residential facilities (n=271)	268 (98.9)	03 (1.1)	22.8 (0.000)
5	Decrease duration of posting in Rural Health services to 2 years (n=249)	235 (94.4)	14 (5.6)	19.8 (0.000)
6	Must be compulsory after MBBS for every Indian Medical Graduate (n=235)	184 (78.3)	51 (21.7)	12.26 (0.000)
7	Must be compulsory after MBBS only for Indian Medical Graduate who are bonded (n=224)	106 (47.3)	118 (52.7)	1.13 (0.25)

6. Limitations of the Study

The study was restricted to only one medical college and not representative of pan Uttarakhand. Another limitation being a cross-sectional study, the future change of behavior or behavior persistence cannot be elicited now. Most of the medical students in the study had little exposure to rural areas, which limited their ability to perceive rural health services and its characteristics.

7. Source of Funding

None.

8. Conflict of Interest

None.

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