

Original Research Article

Readiness of the Interns to work at rural area: a cross-sectional survey in a backward district of West Bengal

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ABSTRACT

Background: The scarcity of qualified doctors in rural areas remains a critical challenge for the health sector in India. Aim was to analyze the perception of medical students regarding upcoming compulsory rural posting for 1 year as a part of their rotatory internship.

Methods: A cross-sectional survey was conducted in a medical college of West Bengal among the interns during March 2019 to February 2020. By doing complete enumeration of the interns present at the end of their Community Medicine posting, the sample size became 125. Predesigned, semi structured questionnaire was used for data collection. At the end of community medicine posting, when the interns came to department for completion, the printed questionnaire were given to them for filled up by their own. Collected data were entered in MS excel spreadsheet and analyzed with the help of SPSS 22.0 version.

Results: About 74% interns thought it was difficult to serve the rural areas however 52% felt it will enrich their professional skills and about 65% thought it would be beneficial to the rural community. Only 22.4% were in favour of rural posting during their internship and 46% thought paying bond money is a good way out. Lengthening of MBBS course, inadequate clinical exposure, poor connectivity, no job satisfaction, obstructed career growth, no quality of life, insecure working environment for women, excessive workload, inadequate monetary compensation were the major reasons identified by interns for noncompliance of compulsory rural service during internship.

Conclusions: The policymakers and medical educators need to design newer strategies for the improvement of rural healthcare facility keeping in mind the perception of students regarding rural service in the present scenario.

Keywords: Internship, Rural health, Rural posting bond, Students' perception

INTRODUCTION

Inequitable distribution of trained doctors in rural hospitals and their poor retention is the key constraints in achieving the objective of universal health coverage (UHC).¹ While UHC aims to achieve the ideal 1:1000 doctor patient ratio, approximately 74% of the doctors serve 28% of the national population living in urban areas^[2], this difference

is even more striking for female doctors.² The primary health centres (PHCs) are the first government unit where a rural resident can get access to a trained allopathic doctor recruited by the health ministry of the respective state government.³ The state governments on regular basis puts out the vacancy advertisements calling the doctors to join and provide their services in the PHCs, but due to numerous reasons they fail to attract the young trained doctors to the rural PHCs leading to disruption in health

care facility dispensin.⁴ To reduce the gap in availability of doctors in rural areas, the government proposed to make it compulsory for all MBBS graduates, who have completed their internship, to do one year of rural service if they wish to pursue post-graduation, although no definite decision has taken yet.⁵ The compulsory rural posting comes with a myriad of implications. At the very beginning, it will increase the duration of the MBBS course from 5.5 to 6.5 years. The lack of permanent registration will bar them from dispensing any medico-legal services of their own. Though it is said that they will learn under the senior medical officers about the health requirements of the rural areas. At this critical juncture, it is imperative to learn about the thought process of the young minds who will have to embrace, adjust, and adapt to the paradigm shift of the working environment from a well-equipped tertiary care centre to a minimal facility PHC. With this backdrop, the present study had been conducted in a medical college located in a backward district of West Bengal to analyse the perspective of the budding doctors regarding the implications of the compulsory rural service as a part of their two years rotational internship even if they were doing their under graduation in a rural environment.

METHODS

An institute based observational study was conducted in Bankura Sammilani medical college (BSMC) of West Bengal during March 2019 to February 2020. This medical college was situated in a backward district (Bankura) of West Bengal. Each batch of the institute comprised of 150 students and 2019-20 internship batch were selected as the present study participants due to convenience. Among the 150 students, 125 students participated in the study as groups after completing their community medicine posting in compulsory rotational internship. All the interns who completed Community Medicine posting as a part of their rotational internship during March 2019 to February 2020 were included in the survey. Whereas, those who failed to complete the Community Medicine posting during March 2019- Feb 2020 and who had not given consent to take part in the survey were excluded from the study. A predesigned, pretested, semi-structured questionnaire was used to obtain data as per objectives of the study, which had been derived from previous such studies and from deliberations with other authors. Printed questionnaires had been given to the interns when they came to the department for completion during March 2019 to February 2020 and anonymous response had been recorded. There were three parts in the questionnaire. The first part comprised of baseline characteristics of the interns which included age, gender, caste, religion, permanent address, present residence, type of the family, education of both parents, occupation of both parents, socio-economic status according to modified BG Prasad scale 2020 and subject wise career preferences. The second part had 16 questions regarding perception of the participants about the upcoming compulsory rural posting for 1 year as a part of rotatory internship, and the third part pursued their

suggestion to combat the situation of shortage of doctors in rural parts of India.

The questionnaire was designed as an anonymous form to hide the identity of the participant. Before distributing the questionnaire, verbal consent was taken from the participants after explaining them the objectives and purpose of the study. Finally, the collected data were entered into Microsoft excel spreadsheet. Mean, standard deviation (SD), and proportions were estimated as descriptive statistics. Tables and charts were used for displaying data. Chai square test and Binary logistic regression were performed in Statistical Package for Social Sciences (SPSS) 22.0 version to obtain inferential statistics p value of <0.05 has been considered significant in all statistical tests.

RESULTS

There gender differentiation of the participants was as 78 males and 47 females. Average age of the participants was 22.41 ± 0.81 (mean SD), minimum was 21 years and maximum 25 years. Among the participants, 91.2% were Hindu by religion and 64.8% were general by caste. Nearly 75% of the participants are from urban background and about 23% belonged to joint family. Majority (81.6%) of the participants were hostel residents, while and 18.4% of them resided in either own home or in a rented house. Regarding the parents' education, we observed that the mothers of 60% participants were either graduate or had higher qualifications, which was similar to the fathers of 82% of them. Majority of the participant's mothers were home-maker (70%) and fathers were government service holder (58%). According to Updated and Modified BG Prasad scale 2020, 82% of the participants belonged to social class I and almost 35% students were the single child in the family. About 70% students preferred clinical subjects as their future career option.

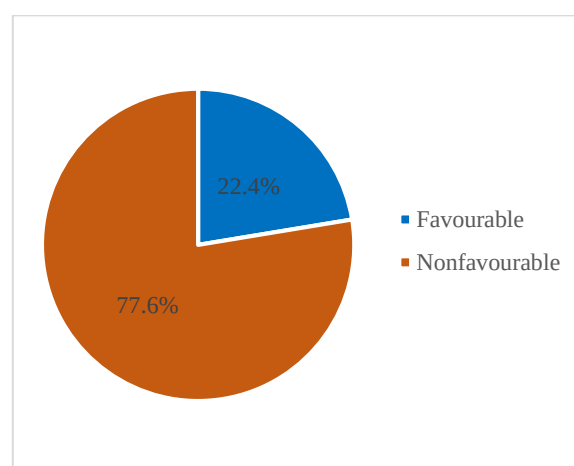


Figure 1: Perception of the interns regarding compulsory rural posting bond (n=125).

The present study showed 79.2% were aware of the rural posting bond, and had this information at the time of their

admission in MBBS course. But only 56.8% of the participants were willing their siblings to pursue MBBS. Nearly 74% thought it was difficult to serve in the rural areas, however 52% agreed on the matter that it will enrich their professional skills.

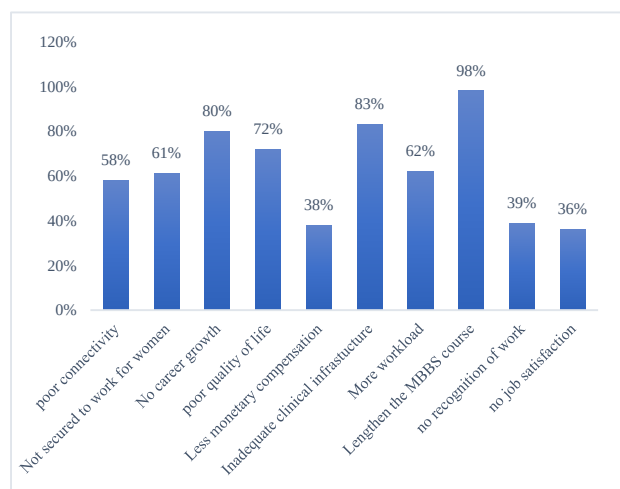


Figure 2: Reasons for not in favour of Compulsory rural service during Internship (multiple response).

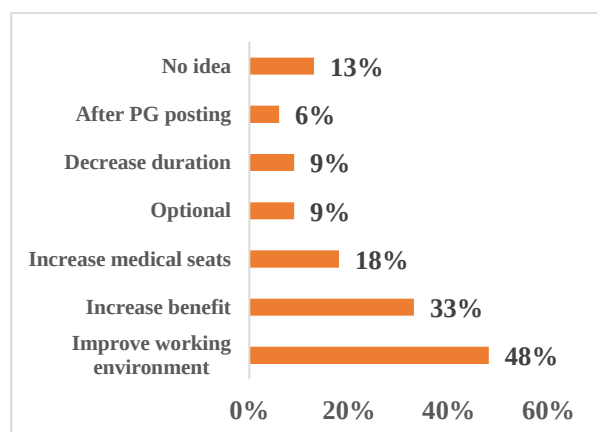


Figure 3: Solution provided by the study participants to combat the situation of shortage of doctors in rural areas (Multiple response).

Regarding their perceived job responsibilities in the rural posting, we found that 88.8% thought it was difficult to manage rural patients, 21.6% thought it was difficult to manage the PHC staff and 37.6% thought it was difficult to work around the administrative issues. About 76.8% felt that they had only theoretical knowledge to work in the rural hospitals. Around 46% thought bond money was a good way-out though 64.8% thought it would be beneficial to the rural community. In spite of the compulsory rural posting, 62.4% were willing to enter in the government health services. Only 22.4% were in favour of the rural posting bond (Figure 1), regarding the compliance to the completion of the bond we found 48.8% were non-compliant and 39.2% were conditionally compliant (conditions were if the posting was for 1 year and adequate

clinical training was provided during the MBBS training). Interns had identified various reasons for being not in favour of compulsory rural posting during their internship like insecure working environment for women, inadequate clinical infrastructure, poor connectivity, no recognition of work, no job satisfaction, obstructed career growth, poor quality of life, inadequate monetary compensation, excessive workload, above all it would lengthen the MBBS course duration (Figure 2). As many incidents of violence on doctors were getting reported, 61% interns felt that rural areas were insecure for the female doctors to work. It was well known to all that basic amenities of life were readily available at city areas; this might be the reason that 72% of the interns were agreed on the fact that quality of life would be poor during rural services. As there were scarcity of doctors in rural areas, workload would be more and 80 % interns thought that there would be no career growth. About 83% interns felt that even if they wanted to give quality service to the rural people, the poor clinical infrastructure might hamper that. Almost all (98%) were concerned that one-year compulsory rural posting would lengthen the MBBS course.

They suggested some remedies to overcome the shortage of doctors in rural health facilities like improvement of good working environment, provision of some benefit, increase of medical seats, decrease the duration of posting, compulsory rural posting after completing post-graduation and optional posting (Figure 3). Nearly half of the interns (48%) thought that improvement of working environment (adequate clinical infrastructure, skilled manpower, safety, availability of transport facility etc. would be helpful to retain doctors at rural areas. About 33% felt that some extra benefit would be helpful to combat the shortage of doctors at rural areas like some rural allowance or designated PG seats for those who served the rural areas. Few (18%) thought more medical seats required to full fill the gap in the rural healthcare system.

Bivariate analysis revealed that there was significant difference in perception about compulsory rural posting among different gender, caste, permanent address, family type, number of siblings, occupation of mother, education of the father, socio-economic status and career preferences (Table 1). Female interns, other than the general caste (Other Backward Cast, Scheduled Cast, Scheduled Tribe), interns having urban background, nuclear family, having father's education graduation or above, being a single child in the family, upper socio-economic class, pre and paraclinical subject preference in their career were the determinants of the interns' choice of not in favour of compulsory rural posting. But in multivariate analysis, considering the confounding effect of various determinants significant difference in perception about compulsory rural posting were found in caste, permanent address, and occupation of mother (Table 2). Rural background, students belonging to SC, ST & OBC category had positive perception whereas students having working mother had negative perception towards compulsory rural health service as a part of MBBS course.

Table 1: Distribution of students according to the perception regarding rural posting and different attributes (n=125).

Attributes		In favour of compulsory rural posting		χ^2 at df, p value
		Yes (n=28) Frequency (%)	No (n=97) Frequency (%)	
Residence	Rural	15 (48.4)	16 (51.6)	16.01 at 1, 0.00
	Urban	13 (13.8%)	81 (86.2)	
Present address	Hostel	23 (20.9)	87 (79.1)	1.17 at 1, 0.323
	Other (own home, rented house)	5 (33.3)	10 (66.7)	
Gender	Female	6 (12.8)	41 (87.2)	4.02 at 1, 0.045
	Male	22 (28.2)	56 (71.8)	
Religion	Hindu	24 (21.1)	90 (78.9)	1.35 at 1, 0.263
	Others (Muslims, Christians)	4 (36.4)	7 (63.6)	
Caste	General	12 (14.8)	69 (85.2)	7.61 at 1, 0.006
	Others	16 (36.4)	28 (63.6)	
Type of family	Joint	11 (37.9)	18 (62.1)	5.24 at 1, 0.022
	Nuclear	17 (17.7)	79 (82.3)	
Father's education	$\geq$ Graduate	19 (18.6)	83 (81.4)	4.53 at 1, 0.033
	<Graduate	9 (39.1)	14 (60.9)	
Father's occupation	Government service	14 (19.4)	58 (80.6)	0.85 at 1, 0.356
	Not in Govt service	14 (26.4)	39 (73.6)	
Career preference	Clinical subject	24 (27.6)	63 (72.4)	4.42 at 1, 0.035
	Pre & Paraclinical subject	4 (10.5)	34 (89.5)	
Siblings	Multiple	23 (28.4)	58 (71.6)	4.75 at 1, 0.029
	Single	5 (11.4)	39 (88.6)	
SES	Upper	19 (18.6)	83 (81.4)	4.53 at 1, 0.033
	Lower	9 (39.1)	14 (60.)	
Mother's education	$\geq$ Graduation	13 (17.3)	62 (82.7)	2.76 at 1, 0.096
	<Graduation	15 (30)	42 (70)	
Mother's occupation	Home maker	25 (28.4)	63 (71.6)	6.17 at 1, 0.013
	Working	3 (8.1)	34 (91.9)	

DISCUSSION

The present study showed about 78% students were not willing to serve the rural areas during the internship which is higher than the studies conducted by Jayashree et al. in Mysore (58%) and Gaikwad et al. in Bangalore (66%), where as it was in accordance with the studies conducted on doctors of Goa.⁶⁻⁸ Though our study revealed that about 65% students opined that it would be beneficial to the rural population, but they are not in favour of mandatory rural service as a part of MBBS which was similar with the findings of Boviskar et al in Mumbai (80%) but was in contrast with the study conducted by Wiwanitkit in Thailand where rural health service system largely solved the problem of an inadequate number of physicians and other health-care workers in rural areas.^{9,10} Many other Indian states such as Karnataka, Odisha, Kerala, Maharashtra, Goa, and Chhattisgarh tried to introduce the compulsory rural service but failed as most of the students were willing to pay fine instead of joining compulsory rural services, the picture was not very different in West Bengal, where 46% thought bond money is a good way-out.¹¹ Our study observed multiple reasons cited by the participants for not being in favour of the compulsory rural

posting, such as increase in duration of MBBS course, inadequate clinical infrastructure at the rural health centres, a depreciated quality of life, and a curb in career growth, these rationales were similar to the study conducted by Gaikwad et al in Bangalore.⁷

Present study revealed students from rural back ground were more willing to give service in rural areas than the students from urban background, this result is consistent with the editorial written by Kalantri.¹² The participants put forth some of their views which could help in attracting the young trained doctors to the rural setting to give their services. They suggested that instead of making the rural posting compulsory it should be for those who were willing to serve the rural population (9%), and there should be an improvement of working condition e.g., improvement of infrastructure, quality of life, transportation, safety etc. (48%), further a bump in economic benefits (33%) could help in grabbing the attention of those who are willing to serve in rural settings but the meagre and inconsistent pay demoralises them to do the same. These results were more or less consistent with that reported by Reddy et al in Hyderabad medicos.¹³ Jayashree et al from Karnataka mentions that more than

half of the interns were ready to serve through the compulsory rural posting bond if they get benefit for a

post-graduation seat, higher pay, whereas the present study observed 33% participants to have similar views.⁶

Table 2: Binary logistic regression showing association between different attributes related to the medical students and their perception of not in favour of compulsory rural posting.

Input Variables	Category	Sample size	Not in favour of rural posting (%)	β	Sig.	AOR	95% CI for AOR	
							Lower	Upper
Gender	Male	78	56 (71.8)	0.12	0.84	1		
	Female	47	41 (87.2)			1.13	0.33	3.85
Caste	Other	44	28 (63.6)	1.14	0.03	1		
	General	81	69 (85.2)			0.31	0.11	0.89
Residence	Rural	31	16 (51.6)	1.26	0.03	1		
	Urban	94	81 (86.2)			3.53	1.10	11.26
Type of family	Joint	29	18 (62.1)	0.64	0.26	1		
	Nuclear	96	79 (82.3)			1.91	0.61	5.94
Father's education	< Graduate	23	14 (60.9)	0.23	0.77	1		
	$\geq$ Graduate	102	83 (81.4)			1.26	0.24	6.62
Siblings	Present	81	58 (71.6)	0.94	0.14	1		
	Absent	44	39 (88.6)			2.57	0.72	9.18
Occupation of mother	Home-maker	88	63 (71.6)	1.49	0.04	1		
	Working	37	34 (91.1)			4.45	1.04	19.00
SES	Middle+lower	23	14 (60)	0.34	0.66	1		
	Upper	102	83 (81.4)			1.40	0.03	6.44
Career preference	Clinics	87	63 (72.4)	0.99	0.13	1		
	Pre + Para clinical	38	34 (89.5)			2.70	0.74	9.83

Majority of our students (70%) had chosen to pursue the clinical specialities which is consistent with the study conducted by Bhat et al.¹⁴ In spite of compulsory rural posting bond during internship, present study revealed that 62.4% were willing to join government health services which was higher than the studies conducted by Reddy et al. in Hyderabad (22%).¹³

Our study also revealed that other than the general caste (OBC/SC/ST) were more in favour of rural services, that might be the fact that they were more from rural background. We also found that working mothers had negative influence on agreeing the rural service during internship, that might be the effect of financial stability of the family because many of the participants thought bond money was a good way out.

Limitations

The present survey had been conducted among one batch of interns in a single medical college (speciality of that college was it was situated in a rural area itself), for getting a generalised response larger study on several batches and in various medical colleges of different states need to be conducted.

CONCLUSION

The present study showed majority of the medical students were not in favour of compulsory rural posting during

internship though they felt it would be beneficial to the rural community. As many of the students told they had only theoretical knowledge to work in rural areas, so time has come to change the medical curriculum. Community-based medical education and longer clinical training in rural healthcare facilities will make the students confident about their work in rural areas. National Medical Commission (NMC) has implemented the new medical curriculum recently but how much students will be competent to work in the rural healthcare setting is yet to be evaluated. The selection of students from rural areas in medical studies followed by their placements (preferably in their native villages) may also be useful. Better clinical infrastructure, resolving administrative issues, improvement of quality of life, better connectivity, opportunities for pursuing post-graduation, professional growth and additional allowances for rural service can be helpful to attract and retain the doctors in rural areas. These findings will help the policy makers and medical educators to design and implement newer strategies to overcome the shortage of qualified doctors in the rural areas.

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REFERENCES

1. Sangale S, Sankhe L, Rajguru C, Zodpey S. Compulsory Rural Service: A Step Towards Achieving Universal Health Coverage?. *South East Asian J Med Educ*. 2014;8(2):2-7.
2. Kadam S, Pati S, Hussain MA, Nallala S, Chakravarty N, Panda B, et al. Assessment of factors influencing retention of health workforce in rural and remote areas of Odisha, India. *BMC Proc*. 2012;6(5):4.
3. Das J, Daniels B, Ashok M, Shim EY, Muralidharan, K. Two Indias: The structure of primary health care markets in rural Indian villages with implications for policy. *Social Sci Med*. 2020;23:32.
4. Jaysawal N. Rural Health System in India: A Review. *Int J Social Work Human Services Pract*. 2015;3(1):29-37.
5. Gupta M, Kishore J, Kohli C. Rural posting for medical graduates: perception, acceptance and plausibility. *Int J Health Care Edu Med Inform*. 2017;4(1):3-8.
6. Jayashree S, Manjunatha SN. Interns' willingness to serve in rural area: a cross sectional survey in a government medical college, Mysore. *Int J Community Med Public Health*. 2018;5:3496-500.
7. Gaikwad V, Sudeepa D, Madhukumar S. A study on career preferences and attitude towards the rural health services among the graduating interns of a medical college in Bangalore rural. *Int J Biological Med Res*. 2012;2(3):1577-80.
8. Cacodcar J, Colaco S, Oliveira A. A cross sectional study of attitudes among Goan doctors towards rural service. *J Evol Med Dental Sci*. 2015;4(66):1146873.
9. Boviskar MP, Shinde RR. Compulsory Rural Service to be or not to be: Students' Perspective. *Indain J Applied Res*. 2014;4(7):382-83.
10. Wiwanitkit V. Mandatory rural service for health care workers in Thailand. *Rural Remote Health*. 2011;11:1583
11. The Hindu. Rules in place for compulsory rural service. Available at: <http://www.thehindu.com/news/cities/bangalore/rules-inplace-for-compulsory-rural-service/article7475881.ece>. Accessed on 20 February 2022.
12. Kalantri SP. Getting doctors to the villages; will compulsion work?. *Indian J Med*. 2007;4(4):152-3.
13. Reddy PP, Anjum MS, Monica M, Rao KY, Hameed IA, Reddy JR. Compulsory 1 year rural Service - Stance of interns and postgraduates of medicine and dentistry in Hyderabad City, Telangana: A cross-sectional survey. *J Indian Assoc Public Health Dent* 2017;15:383-7.
14. Bhat S, Angadi MM. A study on attitude towards compulsory rural health services among interns who have completed RHTC postings of Shri B.M. Patil medical college. *Int J Health Sci Res*. 2015;5(2):65-9.

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