

**A Study on Career Preferences, Perception and Attitude towards Working in Rural Area among Medical Undergraduates in Maharashtra****Kunde Pallavi B.<sup>1</sup>, Surve Rahul R.<sup>2</sup>, Dase Rajesh K.<sup>3</sup>, Shah Vedant G.<sup>4</sup>, Singh Reecha<sup>5</sup>**<sup>1</sup>Asst. Professor, Department of Community Medicine, MGM Medical College, Chhatrapati Sambhajnagar, Maharashtra, India<sup>2</sup>Assoc. Professor, Department of Community Medicine, MGM Medical College, Chhatrapati Sambhajnagar, Maharashtra, India<sup>3</sup>Asst. Professor, Department of Statistics, SBES College of Science, Chhatrapati Sambhajnagar, Maharashtra, India<sup>4,5</sup>Intern, Department of Community Medicine, MGM Medical College, Chhatrapati Sambhajnagar, Maharashtra, India

Received: 25-11-2023 / Revised: 23-12-2023 / Accepted: 26-01-2024

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Conflict of interest: Nil

**Abstract:****Background:** India is facing the problem of unequal doctor: patient ratio among urban & rural area. Rural area suffers from inadequate health resources.**Aim & Objectives:** This study aims to study the career preferences, factors for acceptance or rejection to work in rural area & factors that can motivate medical undergraduates in Maharashtra to work in rural area.**Materials & Methods:** An online cross-sectional study was conducted among 330 undergraduate medical students in medical colleges across Maharashtra during July -September 2021. Final year part I & part II students & interns were the study participants. Data were analyzed using the Statistical Package for the Social Sciences (SPSS) version 25.0. Chi Square test was used to check statistical significance.**Results:** The total number of respondents was 330 comprising of 177(53.6%) from third year Part I, 104(31.5%) interns & remaining 49(14.8%) from third year Part II. Majority (69.4%) respondents were in the 20-22 years age group. There were 168 (50.9%) female & 162(49.1%) male respondents. About 79(23.9%) students will prefer to work in rural area. 61(18.5%) students will not prefer while 190(57.6%) students will prefer to work in rural area only under some conditions. Male students, students with rural origin & those with educated parents are more likely to work in rural area (P<0.05). The most common reason for preferring to work in rural area was that rural areas need more medical attention.**Conclusion:** Poor basic needs, no career growth, lack of guidance or poor infrastructure & heavy workload emerged as potential barriers for students to work in rural area.**Keywords:** Attitude, Perception, Medical Undergraduates, Rural Service.

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**Introduction**

India is signatory to the Alma Ata declaration of 1978 & had committed to attain "Health for All" by 2000 A.D. through primary health care approach. Primary health centre is the first point of contact between the rural community & the health system. [1]

According to 2011 census, 68.84% Indian population lives in rural area. While 54.77% of Maharashtra's population live in rural area. Rural people do not have same access to health care services as in urban area. According to Rural health statistics report 2021; for allopathic doctors at PHC, there is shortfall of 4.3% of the total required at national level. [2] Despite the population being tripled, the overall Doctor: Patient ratio in India is

still 1:1800. [3] This shortage exists despite India having one of the largest medical education systems in the world with more than 610 medical colleges having an annual intake of more than 90,000 students for MBBS course. In Maharashtra, there are more than 55 medical colleges with annual intake of 9000 students for MBBS course [4].

To increase availability of doctors in rural area government has made one year UG & PG bond in rural area compulsory for medical students. But after one year, they return back to urban area. [5] Therefore it is important to understand the perception & attitude of medical undergraduates about working in rural area. Instead of forcing

medical students to serve rural area through compulsory bond, there is need to identify the perceived hurdles in choosing to serve in rural area.

This study aims to identify the factors for non-acceptance to work in rural area among medical students with objectives:

1. To study the socio demographic profile of medical undergraduates in Maharashtra
2. To study their Career preference, perception & attitude towards working in rural area
3. To study the relationship between the socio demographic profile of medical undergraduates & their attitude about working in rural area

**Materials & Methods**

An online cross-sectional study was conducted among 330 undergraduate medical students in medical colleges across Maharashtra during July 2021 to September 2021 after obtaining ethical clearance from Institutional Ethical Committee. Final year part I & part II students & interns were the study participants. First year & second year students were not included as they were in early phase of their course & didn't have much rural exposure.

The pretested & prevalidated Google form questionnaire was used for data collection. The Google form link to the questionnaire was sent to the students via the WhatsApp groups. Informed consent of the participant was taken at the beginning of the online questionnaire in Google form. The online questionnaire consisted of

questions on Socio demographic profile of the participant, career preferences after graduation, attitude of the participants toward rural service, reasons for acceptance or rejection to work in rural area, factors that can motivate them to work in rural area.

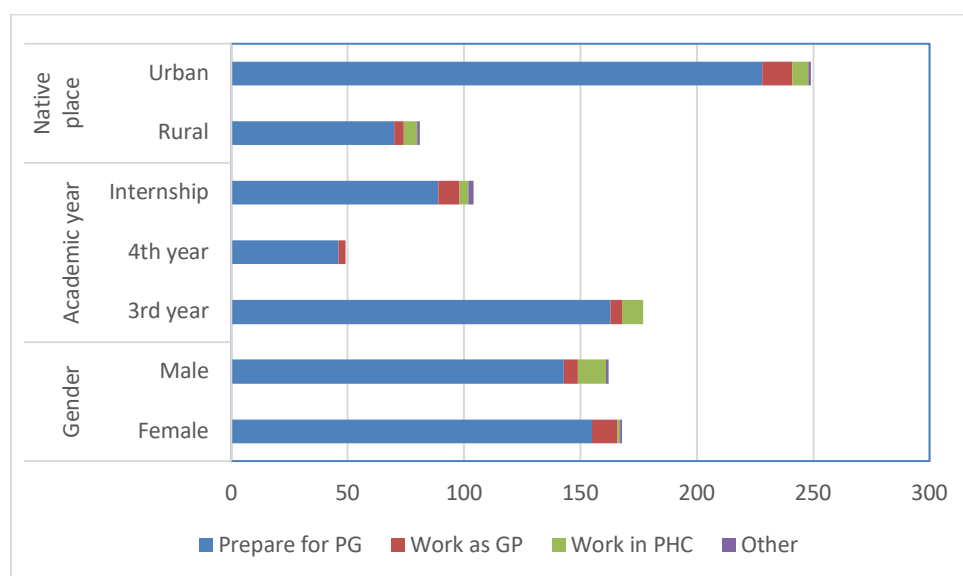
Data were transferred to Microsoft Excel from Google form. The cleaned data was analysed in SPSS 25. Chi Square test was used to check statistical significance. P<0.05 was considered to be significant.

**Results**

The total number of respondents was 330 comprising of 177(53.6%) from third year Part I, 104(31.5%) interns & remaining 49(14.8%) from third year Part II.

Majority (69.4%) respondents were in the 20-22 years age group. There were 168 (50.9%) female & 162(49.1%) male respondents. More than 75% respondents were hailing from urban area. More than 3/4<sup>th</sup> respondents were having their parents completed their graduation or higher education. (Table 1)

Regarding career option after graduation, 298(90.3%) respondents responded that they will prepare for PG entrance exam. 17(5.2%) respondents said that they will do general practice. While only 13(3.9%) respondents said that they will do rural practice in PHC. The results were statistically significant irrespective of gender or academic year. (Fig. 1)

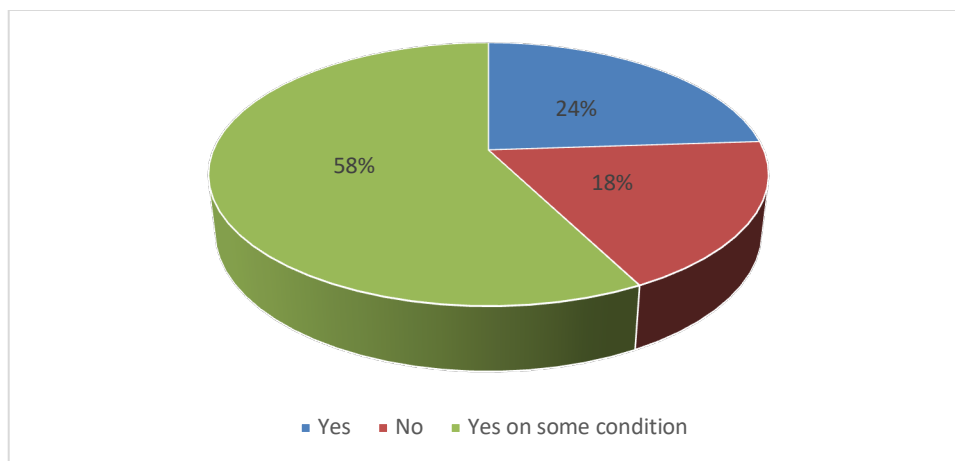


**Figure 1: Career preference after graduation**

**Table 1: Sociodemographic profile of study participants (n=330)**

Sr. No.	Variable	Categories	Frequency	Percentage
1	Age(years)	20-22	229	69.4
		23-25	97	29.4
		>25	4	1.2
2	Gender	Female	168	50.9
		Male	162	49.1
3	Academic year	3 <sup>rd</sup> year	177	53.6
		4 <sup>th</sup> year	49	14.8
		Internship	104	31.5
4	Native place	Rural	81	24.5
		Urban	249	75.5
5	Father's education	Graduate	156	47.3
		Postgraduate	131	39.7
		Primary	7	2.1
		Secondary	36	10.9
6	Mother's education	Graduate	138	41.8
		Postgraduate	95	28.8
		Primary	30	9.1
		Secondary	67	20.3

Overall 79(23.9%) students said that they will prefer to work in rural area. About 61(18.5%) students said no while 190(57.6%) students would prefer to work in rural area only for few years (39.1%) or if some incentives (18.5%) are provided (Fig.2).



**Figure 2: Willingness to work in rural area**

Male students 47(29%) were more likely to work in rural area as compared to female students 32(19%) & the result was statistically significant. About 35(20%) third year part I, 8(16.3%) third year part II students & 18(17.3%) interns were not willing to work in rural area. Students from rural origin 25(30.8%) were more inclined to work in rural area 54(21.6%) than students from urban area. Students with well-educated parents were not willing to work in rural area (Table 2).

**Table 2: Characteristics of study participants in relation to their willingness to work in rural area(n=330)**

Sr. No.	Variable	Categories	Willingness to work in Rural area(n=330)			P value
			Yes N (%)	No N (%)	Yes, on some condition N (%)	
1	Gender	Female	32(19.05)	40(23.81)	96(57.14)	P=0.01*
		Male	47(29.01)	21(12.96)	94(58.03)	
2	Academic year	3 <sup>rd</sup> year	37(20.90)	35(19.77)	105(59.33)	P=0.30
		4 <sup>th</sup> year	10(20.41)	8(16.32)	31(63.27)	
		Internship	32(30.77)	18(17.31)	54(51.92)	
3	Native place	Rural	25(30.87)	9(11.11)	47(58.02)	P=0.07
		Urban	54(21.69)	52(20.88)	143(57.43)	
4	Father's education	Graduate	39(25)	23(14.74)	94(60.26)	P=0.06
		Postgraduate	30(22.90)	30(22.90)	71(54.20)	
		Primary	0	4(57.14)	3(42.86)	
		Secondary	10(27.78)	4(11.11)	22(61.11)	
5	Mother's education	Graduate	31(22.46)	23(16.67)	84(60.87)	P=0.08
		Postgraduate	17(17.89)	26(27.37)	52(54.74)	
		Primary	9(30)	4(13.33)	17(56.67)	
		Secondary	22(32.84)	8(11.94)	37(55.22)	

\* Significant at P&lt;0.05.

The most common reason told by the students for preferring to work in rural area was that rural areas need more medical attention & it was quoted by about 75(58.59%) female & 75(53.19%) male students. About 31(36.04%) interns & 12(29.27%) third year part II students thought to work in rural

area to gain experience. Other reasons for working in rural area mentioned by students were to gain clinical exposure for PG & for monetary benefits. The results were statistically significant for the gender & academic year. (Table 3)

**Table 3: Reasons for working in Rural area (n=269)**

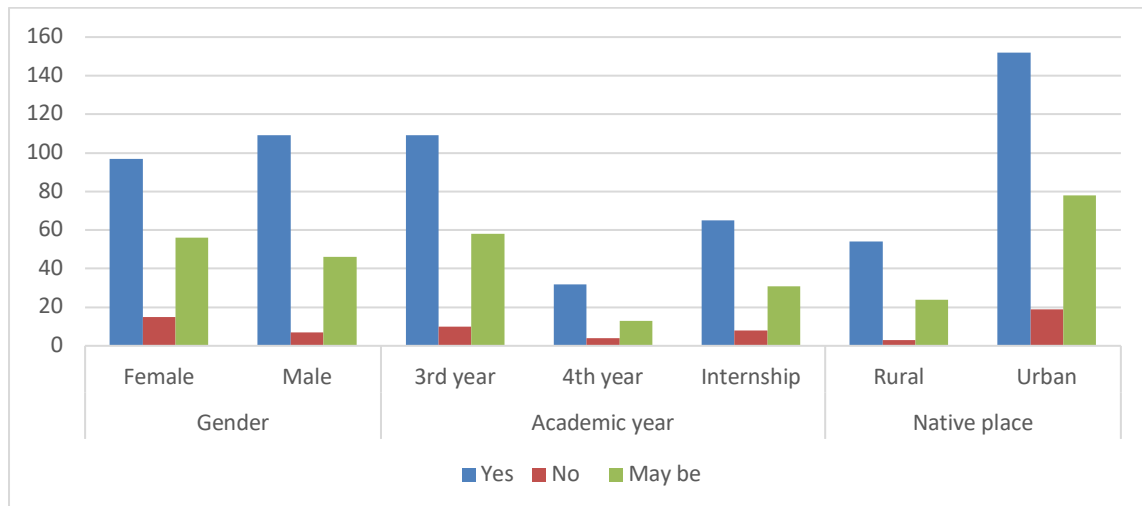
Sr. No.	Variable	Categories	Reasons for working in Rural area				P value
			To gain experience (n=73)	Rural area need more facilities (n=150)	To gain clinical exposure for PG (n=38)	For Monetary benefits (n=8)	
1	Gender	Female	36(28.13)	75(58.59)	17(13.28)	0	P=0.007*
		Male	37(26.24)	75(53.19)	21(14.89)	8(5.68)	
2	Academic year	3 <sup>rd</sup> year	30(21.13)	89(62.68)	21(14.79)	2(1.40)	P=0.04*
		4 <sup>th</sup> year	12(29.27)	22(53.66)	7(17.07)	0	
		Internship	31(36.04)	39(45.35)	10(11.63)	6(6.98)	
3	Native place	Rural	13(18.05)	46(63.89)	11(15.28)	2(2.78)	P=0.07
		Urban	60(30.45)	104(52.80)	27(13.70)	6(3.05)	

\* Significant at P&lt;0.05.

The reasons for not working in rural area as told by the students were poor basic needs, no career growth, lack of guidance or poor infrastructure & heavy workload. The results were not statistically significant for the gender, academic year & native place. (Table 4)

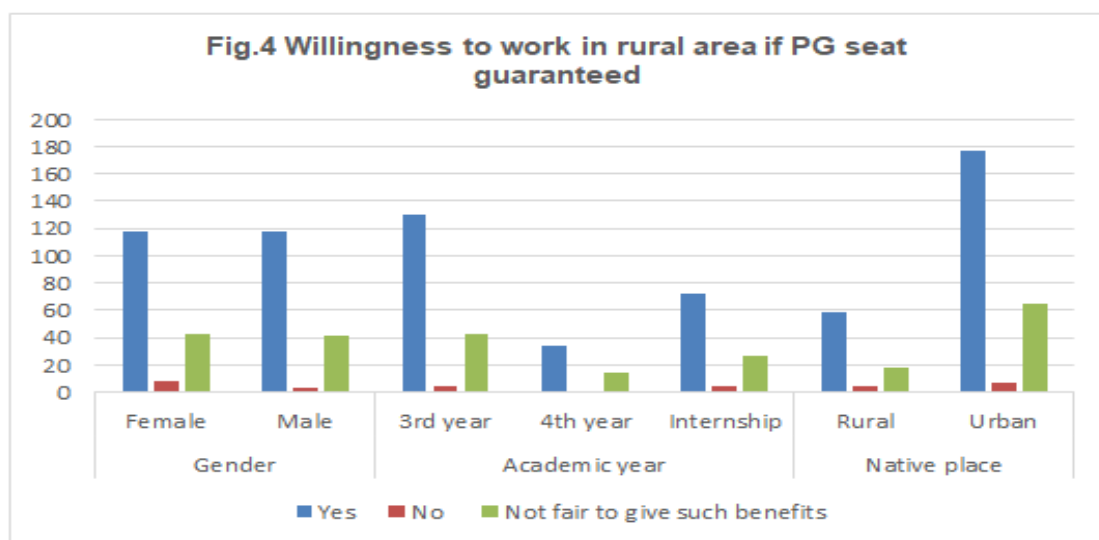
**Table 4: Reasons for not working in Rural area (n=61)**

Sr. No.	Variable	Categories	Reasons for not working in Rural area				P Value
			Lack of guidance or poor infra-Structure (n=16)	Poor basic needs(n=25)	No career growth (n=19)	Heavy workload (n=1)	
1	Gender	Female	11(27.5)	16(40)	12(30)	1(2.5)	P=0.2
		Male	5(23.81)	9(42.85)	7(33.34)	0	
2	Academic year	3 <sup>rd</sup> year	10(27.04)	13(35.13)	13(35.13)	1(2.7)	P=0.8
		4 <sup>th</sup> year	2(25)	4(50)	2(25)	0	
		Internship	4(25)	8(50)	4(25)	0	
3	Native place	Rural	2(22.22)	3(33.33)	4(44.45)	0	P=0.4
		Urban	14(26.93)	22(42.30)	15(28.84)	1(1.93)	



**Figure 3: Willingness to work in rural area if proper facilities provided**

About 62.4% students were willing to work in rural area if proper facilities are provided. 71.5% students were willing if benefits are provided in PG seat while 63.9% were willing if monetary benefits are provided. About 109(67.2%) male & 97(57.7%) female students were ready to work in rural area if proper facilities are provided.



**Figure 4: Willingness to work in rural area if PG seat guaranteed**

About 130(73.45%) third year part I students, 34(69.38%) third year Part II students & 72(69.23%) interns thought to work in rural area if post graduate seat is guaranteed. About 25% students thought that it is not fair to provide such benefits. About 25% students were not sure to work in rural area even if monetary benefits are provided. (Fig.3,4,5)

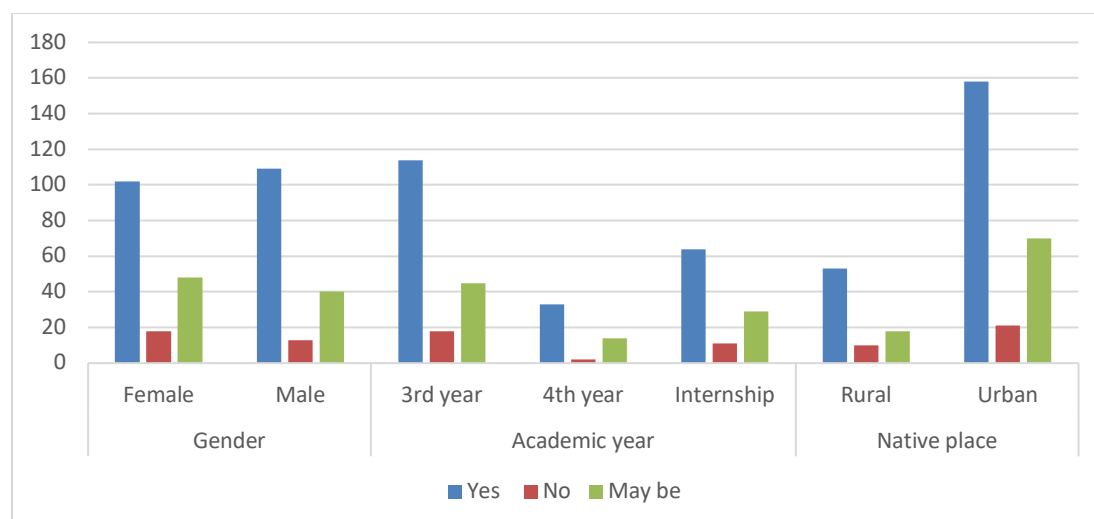


Figure 5: Willingness to work in rural area if monetary benefits provided

### Discussion

India is facing the problem of unequal doctor: patient ratio among urban & rural area. Majority of health professionals prefer to stay in urban area. Therefore rural people suffer from inadequate health resources. In this study we have studied the reasons behind these inequalities in health resources. Regarding career option after graduation, 298(90.3%) respondents responded that they will prepare for PG entrance exam. More than 85% interns were thinking to prepare for PG entrance examination. This was comparable to the findings of study done by Gaikwad et al [6] among interns in which all the interns preferred to prepare for PG entrance.

In our study, more than three fourth students showed their willingness to work in rural area which is more than the study done by Yadav et al [7] & Bartwal et al [8] where 64% & 51.8% students respectively showed their willingness to work in rural area. This was in contrast to the findings of study done by Sahu et al [9] & Choudhary et al [5] in which only one third students were in favour of working in rural area. This may be contributed to the difference in sample among these studies. In our study, 57.6% students will prefer to work in rural area only for few years or if some incentives are provided. This was similar to the findings of study done by Jayashree et al [10] & Reddy et al [11]. where 60% & 50.8% students respectively were willing to work in rural area under such conditions. Male students (29%) were more inclined to work in rural area than female students (19%) & the result was statistically significant. This was similar to Bartwal et al [8] & Choudhary et al [5] & in contrast to Yadav et al [7].

More than 30% interns in our study were ready to work in rural area. In addition to this 52% interns were willing to work in rural area under some conditions. This was contradictory to the findings

of Choudhary et al [5] where only 18% interns preferred rural area for service. About 30.8% students hailing from rural area were ready to work in rural area similar to the findings of Bartwal et al [8] & Choudhary et al [5] & Saini et al. [12] Those students with their parent's education upto post-graduation & higher were less likely to practice in rural area similar to findings of Saini et al. [12]

The most common reason told by the students for preferring to work in rural area was that rural areas need more medical attention similar to the findings of Saini et al [12]. It was followed by to gain experience. Other reasons mentioned were to gain clinical exposure for PG & for monetary benefits. Similar findings were quoted by Dutt et al [13]. Factors which promote students to work in rural area had statistically significant association which is similar to the findings by other studies. [8,12]

The reasons for not preferring to work in rural area as told by the students were poor basic needs, no career growth, lack of guidance or poor infrastructure & heavy workload. Many studies had mentioned similar reasons which revealed that government should improve working conditions in rural area. [6,12,13] Some other reasons quoted by other studies were isolation from family, poor connectivity with cities. [14]

Factors that can motivate students to work in rural area as quoted by them were 'if proper facilities are provided', 'if post graduate seat is guaranteed' & 'if monetary benefits are provided'. These were similar to the findings of Dutt et al [13] & Yadav et al [7].

### Conclusions

About 90.3% respondents have set their preference of getting into post-graduation as their career option. Overall 23.9% students will prefer to work

in rural area. About 18.5% students will not prefer while 57.6% students will prefer to work in rural area only under some conditions. Poor basic needs, no career growth, lack of guidance or poor infrastructure & heavy workload emerged as potential barriers for students to work in rural area.

**Recommendations:** Increasing salary, improved infrastructure, providing basic amenities can encourage students to join & retain in rural health service willingly. It can be achieved with joint collaborative efforts of Medical education, Public health department & State government.

**Limitations:** Due to online nature of data collection, the study suffered from low response rate. As it was a cross sectional study, future change in behaviour or persistence of behaviour is not captured. Most of the students had little exposure to rural areas which limited their ability to perceive rural health services. The study was limited to medical colleges in Maharashtra only, so the results cannot be generalized.

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