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Original Research

Attitude of Dental Students Towards Rural Practice: A Cross-Sectional Survey

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ABSTRACT

Context: India is known as country of villages. These villagers are impoverished of good oral health care due to the lack of qualified doctors. This survey was conducted to analyse attitude of dental students towards rural dental practice and factors ceasing them from doing so.

Aim: To assess the attitude of dental students towards rural practice.

Materials and Methods: A cross-sectional study was conducted among the interns and postgraduate of dental colleges of Madhya Pradesh. The questionaire comprised of 21 questions. Statistical analysis was carried out using descriptive statistics in SPSS software, version 20.0. Chi-square test and unpaired t-test was used.

Result: In this survey total 722 students participated. Out of which 82% students would like to work in rural areas after completion of their graduation, 87% agreed that rural dental practice has a high level of autonomy associated with responsibility & multitasking. 84.8% people will choose rural practice because they want to serve the community. No statistically significant difference was observed in the attitude of undergraduates and postgraduates.

Conclusion: Three conclusions can be drawn from this cross-sectional study. Firstly, the students showed positive attitude in providing oral health care to deprived rural patients. Secondly, the students have shown reluctance to work in the rural areas because of lack of clinical and infrastructural facilities, no social life, lack of good schools for their wards. Third, the government should offer jobs to the dental students in rural areas with good incentive packages and should provide clinical and infrastructural facilities.

INTRODUCTION

Every living person has a right for a quality healthy life. Growing population of India creates an utmost burden in serving up a quality health care. Larger number of India's population lives in rural areas. Among many inaccessible parts of our country ingress to good health care is still a dream. In building a healthy nation, a barrier is created because of multiple factors such as penury, social factors, illiteracy, multi-culturism and lack of health care providers [1]. In India, 54% of community health centres and 18% of primary health centres (PHCs), are unaccompanied by any doctor[2]. Around 60% of professionals are at secondary and tertiary levels [3]. This has resulted in acute shortage of qualified doctors serving the rural India.

Underserved allude to a group of people who are provided with scanty service [4]. This category has bad oral health status and, in most instances, they lack the ability to afford basic and emergency health-care services [5]. These people are at high risk for losing their teeth by developing caries and periodontal problems [6]. According to the WHO, the dentist-population ratio should be 1:7,500. Despite of the fact that the ratio in India is 1:10,000 which is verifiable just for the urban population, the reality is that more than 70% of the population of India lives in the rural areas, where the

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proportion is 1:2,500,000 [7]. For this reason, virtually three-quarters of the whole number of dentists are agglomerated in the urban areas, which house only one quarter of the country's population [8]. This fearful growth in population-to-dentist ratio in rural areas is an unwieldy issue for the governments. Poor standard of life for the family, dearth of financial progress, chances for skill up gradation, social, and professional development are different reasons which leads to the shortage of well qualified health workers in rural areas [9].In many rural areas, the unqualified quacks, who are a greater threat to the lives of the patients have taken advantage of this shortage of the professional doctors [10].

Due to the emerging resistance from the students' side, it has become a salient task to study the knowledge and attitudes of the dental students towards the rural health services. This study will help in recognizing the approaches to motivate these students from the earlier days itself for their welfare and also to enhance the quality and quantity of healthcare resources obtainable to the impoverished rural areas of our country.

Therefore, this survey was done to analyse the attitude and differences in the perception of dental students in providing dental health services to the deprived rural population attending the dental colleges of Madhya Pradesh stae, India.

MATERIALS AND METHODS

To estimate the attitude of dental students towards rural practice a cross sectional survey was performed among the interns and postgraduates of different dental colleges in Bhopal city, Madhya Pradesh in month of May 2020.It is a questionnaire-based study.

Data was collected using a online self-administered Questionnaire containing demographic details and 21 questions for assessing the attitude and knowledge of dental students towards the rural practice. A close ended questionnaire was used. Most of the questions were pre-test taken from previous studies and used with minor modification. All the participants who were willing to participate were included in the survey and link of questionnaire were shared with them, all the remaining students were excluded. The responses are unnamed and procedure of form filling was elucidated to the participants. There were total 722 responses.

The final questionnaire involves the demographic profile of study participants- gender and education. Attitudes of dental students in providing oral health care to underserved rural patients were addressed with 17 questions and responses were marked with YES or NO. Knowledge of dental students in providing oral health care to underserved rural patients were addressed with 4 questions and responses were YES, NO or LIMITED. Ethical clearance was obtained from the institutional ethical committee. Sampling method used was convenience sampling technique. Statistical analysis was carried out using descriptive statistics in the Statistical Package for the Social Sciences (SPSS) software, version 20.0, (IBM SPSS, Inc. Chicago, Illinois). Attitudes and knowledge of final year and intern were compared using Chi-square test and unpaired t-test. A $P < 0.05$ was considered to be statistically significant.

RESULTS

Total participants were 722, the mean age of study population was 22.61±5.51 years. Majority of the students were female 502(69.53%) and 220(30.47%) were male. Among 722 students, 402(55.67%) were undergraduate students and 320(44.33%) were postgraduate students.

Table 1: Demographic Profile of study participants

Variables	N (%)
Age **(Mean ± SD)**	22.61± 5.51
Gender	
Male	220 (30.47%)
Female	502 (69.53%)
Education	
Undergraduate	402 (55.67%)
Postgraduate	320 (44.33%)
Total	722 (100%)

Table 2. Total 592(82%) students would like to work in rural areas after completion of their graduation. Majority of 628 people (87%) agreed that dental practice has a high level of autonomy associated with responsibility & multitasking, mostly people 456(63.2%) denied that they are willing for rural practice because of lack of competition. 532(73.7%) think they have better reputation as dentist in rural setup, inflation of doctors in city is not the reason for 362(50.1%) of participants to work in rural practice , 478(66.2%) refuse to get any financial support or accommodation in rural areas. 616(85.3%) will choose a place which is well connected to higher city, 494(68.4%) would choose a place with no dental facilities .182(25.2%) people would serve rural areas because they have to look family business along with their profession. 670 participants will go to rural practice if offered a government job.

Table 2: Attitudes of dental students in providing oral health care to underserved rural patients

Questions	Yes N (%)	No N (%)	p-value
Would you like to work in rural areas after completion of your graduation?	592(82%)	130(18%)	0.294
Do you think rural dental practice has a high level of autonomy associated with responsibility & multitasking?	628(87%)	94(13%)	0.940
Are you willing for rural practice because of lack of competition?	266(36.8%)	456(63.2%)	0.769
Do you think you have better reputation as a dentist in rural setup?	532(73.7%)	190(26.3%)	0.635
You are willing to work in rural area because of inflation of doctors in city?	360(49.9%)	362(50.1%)	0.594
Is it because you got financial support or accommodation there?	244(33.8%)	478(66.2%)	0.982
Will you choose a place which is well connected to higher city?	616(85.3%)	106(14.7%)	0.836
Would you choose a place where there is no dental facilities?	494(68.4%)	228(31.6%)	0.425
You want to serve rural area, is it because you have to look after your family business along with your profession?	182(25.2%)	540(74.8%)	0.527
You will go to rural practice if offered a government job	670(92.8%)	52(7.2%)	0.762

% = percentage of study subjects, N = number of study subjects

Table 3 shows 47.5% people have perception that there is limited working hours in rural practice. 43.2% students believe lack of specialist will give them more chances of doing treatment. 65.7% participant think reasons which are stopping them from rural practice are they don't want to leave the friends and family, there is no internet and

no good lifestyle in rural areas and lastly lack of good schools for their wards. Majority of people will choose medium population town for practice in rural areas. 84.8% people will choose rural practice because they want to serve the community. Majority of people associate rural practice with supportive social interactions. **Fig1**

According to 56% students the main reason for choosing the rural area for practice is lack of career development and job opportunity in the city, while 30% of people think lack of support in city is the reason for rural practice and only 14% of people believe financial related issues are the reason.

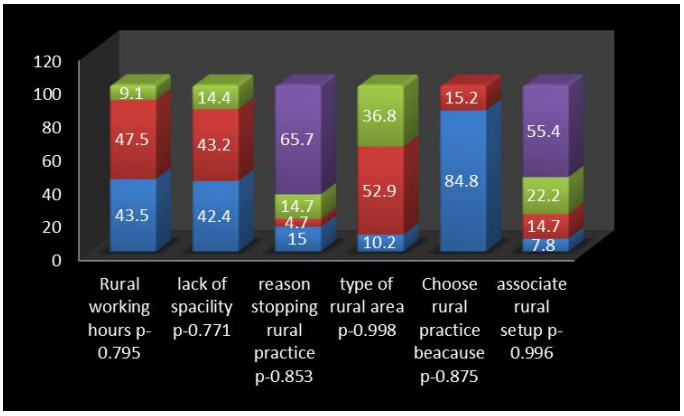

Fig. 1: Attitudes of dental students in providing oral health care to underserved rural patients

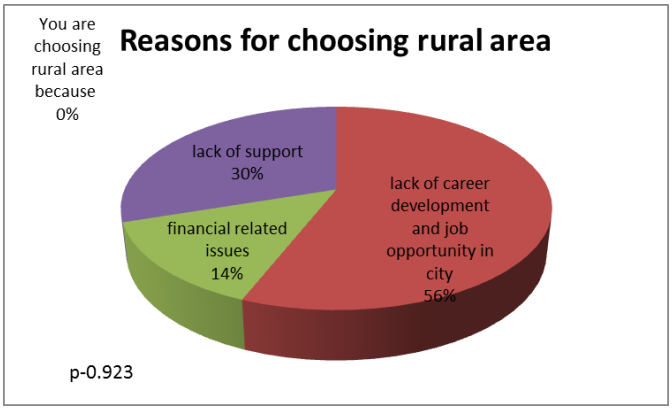

Fig. 2: Reasons for choosing rural area

Table 3 shows the knowledge of dental students in providing oral health care to underserved rural patients. 87.0% of students are aware of the disparity between rural and urban regions with regards to availability of dental services like lab. 51.5% are aware of the clientele and their paying capacity. 48.5% have limited knowledge of health care policies that can improve rural health care services.

Table 3: Knowledge of dental students in providing oral health care to underserved rural patients

Questions	Yes N (%)	No N (%)	Limited N (%)	p-value
Are you aware of disparity between rural and urban regions with regards to availability of dental services like lab etc	628(87.0%)	94(13%)	-	0.883
Are you aware of clientele and their paying capacity?	372(51.5%)	350(48.5%)	-	0.985
Are you aware of health care policies that can improve rural health care services? *	298(41.3%)	74(10.2%)	350(48.5%)	0.774

% = percentage of study subjects, N = number of study subjects

50% of the people believe role of local language for practicing in rural area depends on the people and place, 45% of people think language play an important role for practicing in rural areas and 5% participants don't think language plays an important role in practicing in rural areas.

Table 4 shows the Participants Mean Attitude score & its association with their demographic details (year of study). The mean attitude score of undergraduate and postgraduate is 10.60±2.04 and 9.97±2.09, respectively. No statistically significant difference was observed in the attitude of undergraduates and postgraduates (P value= 0.559).

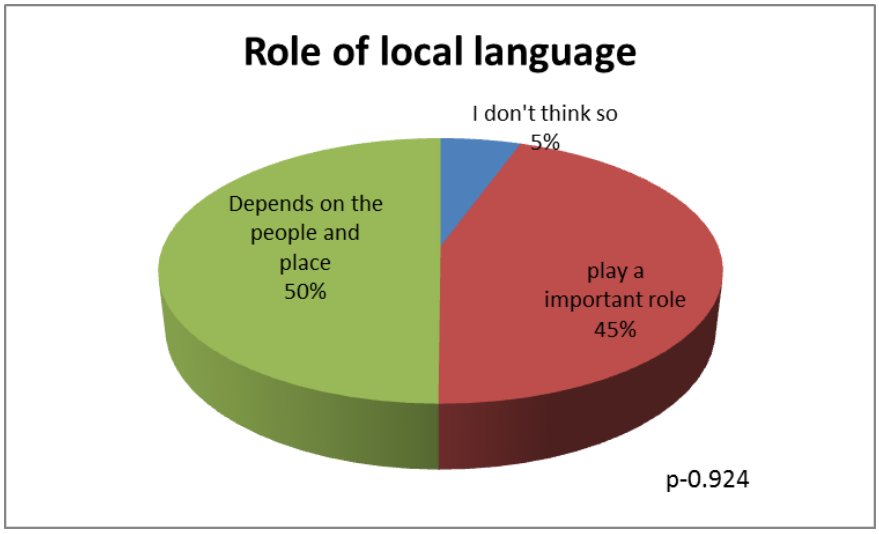

Fig. 3: knowledge regarding role of local languages for practice in rural area

Table 4: Participants Mean Attitude score & its association with their demographic details (year of study)

Study groups	N	Mean ± SD	P value	t	df	95% confidence interval	
Undergraduate	402	10.06±2.04	0.559	0.0584	702	Lower	Upper
Postgraduate	320	9.97±2.09				-.21730	.40128

N = number of students, t = t-test statistic, SD = standard deviation, df = degree of freedom

Table 5 shows the participants Mean Attitude score & its association with their demographic details (Gender). The mean attitude score of Female and Male is 10.12±2.02 and 9.77±2.15, respectively. Statistically significant difference was observed in the attitude of Female and Male (P value=0.046).

Table 5: Participants Mean Attitude score & its association with their demographic details (Gender)

Study groups	N	Mean ± SD	P value	t value	df	95% confidence interval	
Female	502	10.12±2.02	0.046	0.329	702	Lower	Upper
Male	220	9.77±2.15				.0067	.68182

N = number of students, t = t-test statistic, SD = standard deviation, df = degree of freedom

Table 6 shows Participants Mean knowledge score & its association with their demographic details (year of study). The mean knowledge score of Undergraduate and Postgraduate is 3.01±0.841 and 3.02±0.856, respectively. No statistically significant difference was observed in knowledge of Undergraduate and Postgraduate (P value=0.874).

Table 6: Participants Mean knowledge score & its association with their demographic details (year of study)

Study groups	N	Mean ± SD	P value	t value	df	95% confidence interval	
Undergraduate	402	3.01±0.841	0.874	0.159	720	Lower	Upper
Postgraduate	320	3.02±0.856				-.13479	.11465

N = number of students, t = t-test statistic, SD = standard deviation, df = degree of freedom

Table 7 shows Participants Mean knowledge score & its association with their demographic details (Gender). The mean knowledge score of Female and Male is 3.03±0.83 and 2.98±0.88 respectively. No statistically significant difference was observed in knowledge of Female and Male (P value=0.431).

Table 7: Participants Mean knowledge score & its association with their demographic details (Gender)

Study groups	N	Mean ± SD	P value	t value	df	95% confidence interval	
Female	502	3.03±0.83				Lower	Upper
	220	2.98±0.88	0.431	0.78	720	-.08051	.18859

N = number of students, t = t-test statistic, SD = standard deviation, df = degree of freedom

DISCUSSION

Underprivileged patients from low socioeconomic background or deprived areas are more presumably to have difficulty in obtaining oral health care services. These people face a lot of barriers in accessing oral health care and have bad or poor dental health as compared to the urban population [11, 12]. It is important to understand the attitude of dental students towards the profession to improve the oral health of the society and the individual [13].

This study was done to assess the perception and willingness of the undergraduate and postgraduate students of dental colleges towards the rural areas. The findings were the following: a) Large number (82%) of dental students showed positive attitude in providing oral health care to deprived rural patients, b) majority of dental students (87%) agreed that dental practice has a high level of autonomy associated with responsibility and multitasking, c) (73.7%) think they have better reputation as dentist in rural setup, inflation of doctors in city is not the reason for (50.1%) of participants to work in rural practice, (66.2%) refuse to get any financial support or accommodation in rural areas. d) (85.3%) will choose a place which is well connected to higher city, (68.4%) would choose a place with no dental facilities, e) (92.8%) participants will go to rural practice if offered a government job.

When attitudes and willingness of these undergraduate and postgraduate dental students was assessed, primary outcome showed positive attitude towards the rural population. The rationale for the reluctance to work in the rural areas included; poor living facilities, lack of clinical and infrastructural facilities, no vacancies offered by government, low pay scale, lack of good schools for their wards and poor basic needs. Shankar has mentioned a similar list of common factors in a study in Nepal which revealed the role of government in improving working conditions in rural areas [14,15]. Currently dental students would like serving in deprived areas if standard of living is improved. The study group also thinks that if policy makers look into the matter and try to improve the condition.

Another study conducted by Shankar etal on the undergraduate students divulges that 72% of students were ready to work in rural areas if provided with better living provisions, infrastructure in hospitals, better salary and amenities for professional growth [16].From all these studies, it has been observed that by hiking the salaries, providing better inducements for their work and upgrading the hospital facilities can motivate these doctors to serve rural population [17, 18].

Dande et al reported in their study that around 38.3% of the dental students felt underserved population are the patients on whom they can practise and prowess. The attitude shown by these students can lead to discouragement in the way dental care is delivered. Identifying the perceptions of the dental students towards the underserved and guiding them at an initial phase of their dental career can help in providing more desirable oral health care [19].

Our study shows no significant difference in attitude towards rural practice between undergraduate and postgraduate students and no statistically significant difference was observed between female and male.

The limitations for rural practice observed in the study were as following. Though students were willing for the rural practice but were afraid due to a smaller number of opportunities and support from government. Solid steps should be taken by organizations and the government to help the students to pursue this, by introducing well planned rural incentive packages with clear back up by government, and appropriate changes in present dental education system should be done to benefit the health workers.

CONCLUSION

Finally, following conclusions can be drawn from this cross-sectional study. Firstly, the students showed positive attitude in providing oral health care to deprived rural patients. Secondly, the students had shown reluctance to work in the rural areas because of poor lifestyle, lack of clinical and infrastructural facilities, no vacancies offered by government, low pay scale, lack of good schools for their wards and poor basic needs. Thirdly organizations should conduct various informative programs for the dental students for spreading awareness among them regarding the rural practice and appurtenant changes should be done in the education system to benefit the health workers.

Conflict of interest

The authors declared no conflict of interest.

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