

Impact of Sociodemographic Factors on Utilization of Oral Health Care Services among People visiting Health Centers of Rural Jaipur

¹Prachi Sharma, ²Jitender Solanki, ³Om P Yadav, ⁴Priyanka Mishra, ⁵Mohsin Khan, ⁶Preyas Joshi

ABSTRACT

Introduction: Inequalities in sociodemographic characteristics produce health disparities in the world, including oral health. Utilization of oral health services is a concept of expressing the extent of interaction between the service provider and the people for whom it is intended.

Objectives: The study was undertaken to find out the rate of utilization of oral health care services and the role of the sociodemographic variables in the utilization of oral health care services.

Materials and methods: A cross-sectional survey was conducted among 200 randomly selected individuals aged 18 to 60 years attending the outpatient wards of the selected primary health centers (PHCs) and community health centers (CHCs) in rural areas of Jaipur. A specially designed and pretested questionnaire of 16 questions was used. Data were analyzed using chi-square test and frequency distribution.

Results: It was observed that nearly 50% of the study population had visited a dentist and 49.50% were found to have undergone treatment from a dental surgeon. The present study also found that the major barriers to utilization of oral health care services were expensive dental treatment (43.0%) and lack of availability of dentists nearby (48.5%).

Conclusion: It can be concluded that education and occupation of participants were significantly associated with sociodemographic factors ($p < 0.05$), whereas age, gender, type of available health care facilities, marital status, type of family, and family income were not significantly associated factors for utilization of dental care. The major barriers are a lack of availability of dentists and expensive dental treatment. Therefore, there is a need to initiate oral health care programs to minimize these barriers.

Keywords: Barriers, Oral Health Services, Sociodemographic, Utilization.

How to cite this article: Sharma P, Solanki J, Yadav OP, Mishra P, Khan M, Joshi P. Impact of Sociodemographic Factors on Utilization of Oral Health Care Services among People visiting Health Centers of Rural Jaipur. *Int J Prev Clin Dent Res* 2016;3(3):178-183.

Source of support: Nil

Conflict of interest: None

INTRODUCTION

Health has been considered as a basic human right and is also a wider social goal.¹ Oral health is interrelated to general health and is essential for well-being.² Even though, during recent years, dramatic changing pattern of oral diseases has been observed at a global level, oral health equality still remains as a dream to achieve.^{2,3} Oral health services in rural areas are limited, and the provision of oral health care is also very limited.

Dental diseases are generally not self-limiting. If left untreated, dental conditions may affect the person's overall quality of life.^{2,3} Regular home oral care and a yearly dental check-up are the best means for maintaining one's oral health. Primary health centers (PHCs) and community health centers (CHCs) serve as a basic health unit. Dental anxiety, demographic factors, attitude toward dentists, dental treatment, and access to dental care are some of the factors that influence the utilization of the oral health care services.⁴ Socioeconomic status can be evaluated by several factors, and most common among them are level of education, income, and occupation.⁵

Even though there have been improvements in the oral health care delivery system in response to the increased demand for oral care, there is a definite lack of valid and reliable information regarding the rate of utilization, sociodemographic variables, and barriers in the utilization of oral health care services in our country.

In rural areas of Jaipur, there is a limited oral health care infrastructure. Little is known about factors affecting oral health service utilization among rural populations of Rajasthan. The factors that contribute to problems with access to oral health care are numerous and complex. These include cultural, socioeconomic, geographic factors and lack of knowledge among the people. Unavailability of oral health care services leads to persistent oral health disparities that exist in the rural areas of India.⁶ This developed a curiosity to assess the factors affecting the utilization of oral health services among the rural population of Jaipur, Rajasthan. So, this study was carried out to evaluate the impact of sociodemographic factors

^{1,4}Postgraduate Student (2nd Year), ²Associate Professor
³Senior Lecturer, ^{5,6}Postgraduate Student (3rd Year)

¹⁻⁶Department of Public Health Dentistry, Rajasthan Dental College and Hospital, Jaipur, Rajasthan, India

Corresponding Author: Prachi Sharma, Postgraduate Student (2nd Year), Department of Public Health Dentistry, Rajasthan Dental College and Hospital, Jaipur, Rajasthan, India, Phone: +919828020831, e-mail: sharmaprachi810@gmail.com

on the utilization of oral health care services, the rate of utilization, and the barriers that prevent the utilization of oral health care among the rural population of Jaipur, Rajasthan.

MATERIALS AND METHODS

A cross-sectional study was conducted for over 2 months. Health service in the rural areas of Jaipur district is rendered by the chief medical and health officer (CMHO) under the directorate of medical and health services. There are 13 administrative blocks in Jaipur district and responsibilities of health care services in these blocks are divided between CMHO I and CMHO II zone.

A list of PHCs and CHCs located in Jaipur district was procured from CMHO I and CMHO II office and sampling frame was constituted. One CHC was selected randomly from this sampling frame and from the administrative block of this selected CHC, one PHC was selected randomly.

During the period of 2 months, all the patients visiting the health centers were considered and out of them 200 individuals aged 18 to 60 years were selected as they fulfilled the inclusion and the exclusion criteria.

A sample size of 200 patients was stratified as 100 from CHC and 100 from PHC. Visits to the selected PHC and CHC were made after obtaining permission from the concerned authorities till the desired sample size was reached. Ethical approval was obtained from the institutional ethical committee.

Inclusion Criteria

- Patients aged between 18 and 60 years attending selected PHC/CHC during the study period.
- Patient residing in the catchment area/service area of selected PHCs and CHCs.
- Willing to participate in the study.

Exclusion Criteria

- Uncooperative patients.
- Medically compromised patients.
- Patients using tobacco in any form.

Patients aged 18 to 60 years were taken and age distribution of the participants was dichotomized into 18 to 35 years and 36 to 60 years.

To minimize observer's bias, we collected the data after obtaining valid informed consent of respondents with the help of pretested, self-designed questionnaire framed in English language comprising 16 items. An inquiry was made about the utilization of oral health care services and possible barriers to utilization by using the questionnaire. Data thus generated were entered in Microsoft Excel sheet and subjected to statistical analysis.

Statistical Analysis

Chi-square test and frequency distribution were applied to find out the significant association between the sociodemographic components and $p \leq 0.05$ was taken as significant. Statistical Package for the Social Sciences (SPSS) 21.1.0 version software was used for statistical analysis.

RESULTS

A total sample size of 200 subjects comprising 116 (58.0%) males and 84 (42.0%) females were included in the study; 100 subjects were chosen each from CHC and PHC (Table 1).

Table 1: Distribution of study subjects regarding sociodemographic characteristics

<i>Sociodemographic characteristics</i>	<i>CHC (%)</i>	<i>PHC (%)</i>	<i>Total (%)</i>
<i>Age (in years)</i>			
A (18–35)	66 (33)	74 (37)	140 (70.0)
B (36–60)	34 (17)	26 (13)	60 (30.0)
<i>Gender</i>			
Male	56 (28)	60 (30)	116 (58.0)
Female	44 (22)	40 (20)	84 (42.0)
<i>Marital status</i>			
Married	74 (37)	75 (37.5)	149 (74.5)
Unmarried	26 (13)	25 (12.5)	51 (25.5)
<i>Type of family</i>			
Joint	40 (20)	59 (29.5)	99 (49.5)
Nuclear	60 (30)	41 (20.5)	101 (50.5)
<i>Education</i>			
Illiterate	8 (4)	15 (7.5)	23 (11.5)
Primary school certificate	4 (2)	6 (3)	10 (5)
Middle school certificate	14 (7)	23 (11.5)	37 (18.5)
High school certificate	28 (14)	14 (7)	42 (21.0)
Intermediate	14 (7)	7 (3.5)	21 (10.5)
Post high school diploma	16 (8)	10 (5)	26 (13.0)
Graduate	8 (4)	11 (5.5)	19 (9.5)
Postgraduate	6 (3)	10 (5.0)	16 (8.0)
Professional	2 (1)	4 (2)	6 (3.0)
<i>Occupation</i>			
Unemployed	44 (22)	41 (20.5)	85 (42.5)
Unskilled worker	4 (2)	2 (1)	6 (3)
Semiskilled worker	2 (1)	4 (2)	6 (3)
Skilled worker	8 (4)	15 (7.5)	23 (11.5)
Clerical, shop owner, farmer	26 (13)	24 (12)	50 (25.0)
Semiprofessional	10 (5)	6 (3.0)	16 (8.0)
Professional	6 (3.0)	8 (4)	14 (7.0)
<i>Family income per month (Rs)</i>			
≤1600	18 (9)	8 (4)	26 (13.0)
1601–4809	38 (19)	53 (26.5)	91 (45.5)
4810–8009	22 (11)	24 (12)	46 (23.0)
8010–12019	12 (6)	10 (5)	22 (11.0)
12020–16019	6 (3)	4 (2)	10 (5.0)
16020–32049	4 (2)	1 (0.5)	5 (2.5)

Among the total study subjects, 140 patients (70.0%) were in the age group I (18–35 years) and 60 patients (30.0%) belonged to the age group II (36–60 years). Married respondents were 74.5 and 50.0% were living in nuclear families. When the education status was assessed, only 21.0% of the respondents were educated till high school, 11.5% were illiterate, 9.5% were graduate, and 3.0% were professionally qualified (Table 1).

On assessing the occupation status, besides 42.5% unemployed respondents, 25% were engaged in clerical work/shop owner/farming. On assessing the income level, around 45.5% of respondents were in class II category (₹ 1601–4809 family income per month). In this study, it was found that the most common dental problems were pain (44.0%) and tooth decay (43.0%) (Table 1).

Table 2: Rate of utilization of oral health care services among people of rural Jaipur

<i>Have you ever visited a dentist</i>	<i>No.</i>	<i>%</i>
Yes	101	50.50
No	81	40.50
Do not know	18	9.00
Total	200	100.00
<i>Dental treatment is taken from</i>	<i>No.</i>	<i>%</i>
Home/local remedies	6	3.00
General practitioner	17	8.50
Dental surgeon	99	49.50
Do not take any treatment	78	39.00
Total	200	100.00

The rate of utilization was found on the basis of visits to a dentist and dental treatment preference of the people. In the present study, it was found that 50.0% of the respondents ever utilized the available dental services in that area and 49.5% preferred to take treatment from dental surgeon for their dental problems and the rest of the people thought there was no need of taking treatment for dental problems, whereas some took treatment from general practitioner and local remedies (Table 2).

Education and occupation of the respondents were found significantly associated ($p < 0.05$) with the utilization of oral health care services and dental treatment preferences. Available health care facilities, i.e., either CHCs or PHCs, were also a significantly determining factor along with education and occupation ($p < 0.05$) (Tables 3 and 4), while other factors, such as age, gender, type of family, marital status, and family income do not show any significant association with utilization of oral health care services.

In the present study, unavailability of the dentist nearby and lack of money were found as the most common barriers (48.5 and 43.0% respectively). Some people think that fear (29.5%), lack of time (28.5%), and lack of transport (24.0%) were main barriers for utilization of oral health care services, while a few people feel that earlier unpleasant experience with the dentist (8.5%) and appointment (4.5%) are the factors that affect the utilization of oral health care (Table 5).

Table 3: Visit to dentist according to sociodemographic variables

		Ever visited a dentist				
Sociodemographic variables		Yes		No		
Age (Years)	n	No.	%	No.	%	p-value*
A (18–35)	124	66	53.23	58	46.77	0.459
B (36–60)	58	35	60.34	23	39.66	
Gender						
Male	106	60	56.60	46	43.40	0.838
Female	76	41	53.95	35	46.05	
Health care facility						
CHC	86	46	53.49	40	46.51	0.714
PHC	96	55	57.29	41	42.71	
Marital status						
Married	139	76	54.68	63	45.32	0.823
Unmarried	43	25	58.14	18	41.86	
Type of family						
Joint	88	55	62.50	33	37.50	0.091
Nuclear	94	46	48.94	48	51.06	
Education						
Illiterate	20	14	70.00	6	30.00	0.043*
Primary school certificate	9	5	55.56	4	44.44	
Middle school certificate	31	17	54.84	14	45.16	
High school certificate	40	15	37.50	25	62.50	
Post high school diploma	26	11	42.31	15	57.69	
Intermediate	15	8	53.33	7	46.67	
Graduate	19	14	73.68	5	26.32	
Postgraduate	16	13	81.25	3	18.75	
Professional	6	4	66.67	2	33.33	

Cont...

Impact of Sociodemographic Factors on Utilization of Oral Health Care Services among People visiting Health Centers

Cont...

Sociodemographic variables		Ever visited a dentist				p-value*
		Yes		No		
Age (Years)	n	No.	%	No.	%	
Occupation						
Unemployed	75	39	52.00	36	48.00	0.049*
Unskilled worker	2	1	50.00	1	50.00	
Semiskilled worker	6	4	66.67	2	33.33	
Skilled worker	22	7	31.82	15	68.18	
Clerical, shop owner, farmer	47	32	68.09	15	31.91	
Semiprofessional	16	7	43.75	9	56.25	
Professional	14	11	78.57	3	21.43	
Family income per month (Rs)						
≤1600	23	11	47.83	12	52.17	0.287
1601–4809	77	41	53.25	36	46.75	
4810–8009	45	28	62.22	17	37.78	
8010–12019	22	12	54.55	10	45.45	
12020–16019	10	4	40.00	6	60.00	
16020–32049	5	5	100.00	0	0.00	

*Chi-square test; *p ≤ 0.05 is significant

Table 4: Preference of dental surgeon according to sociodemographic variables

		Dental treatment is taken from								
<i>Sociodemographic variables</i>		<i>Home/local remedies</i>		<i>General practitioner</i>		<i>Dental surgeon</i>		<i>None</i>		
<i>Age (years)</i>	<i>n</i>	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>	<i>p-value*</i>
A	140	5	3.57	13	9.29	65	46.43	57	40.71	0.758
B	60	1	1.67	4	6.67	34	56.67	21	35.00	
<i>Gender</i>										
Male	116	4	3.45	10	8.62	60	51.72	42	36.21	1.000
Female	84	2	2.38	7	8.33	39	46.43	36	42.86	
<i>Health care facility</i>										
CHC	100	0	0.00	14	14.00	46	46.00	40	40.00	0.004*
PHC	100	6	6.00	3	3.00	53	53.00	38	38.00	
<i>Marital status</i>										
Married	149	5	3.36	17	11.41	74	49.66	53	35.57	0.064
Unmarried	51	1	1.96		0.00	25	49.02	25	49.02	
<i>Type of family</i>										
Joint	99	1	1.01	7	7.07	53	53.54	38	38.38	0.395
Nuclear	101	5	4.95	10	9.90	46	45.54	40	39.60	
<i>Education</i>										
Illiterate	23	0	0.00	1	4.35	11	47.83	11	47.83	0.004*
Primary school certificate	10	1	10.00	2	20.00	5	50.00	2	20.00	
Middle school certificate	37	2	5.41	1	2.70	17	45.95	17	45.95	
High school certificate	42	0	0.00	9	21.43	16	38.10	17	40.48	
Intermediate	21	0	0.00	0	0.00	8	38.10	13	61.90	
Post high school diploma	26	0	0.00	4	15.38	11	42.31	11	42.31	
Graduate	19	1	5.26	0	0.00	14	73.68	4	21.05	
Postgraduate	16	1	6.25	0	0.00	13	81.25	2	12.50	
Professional	6	1	16.67	0	0.00	4	66.67	1	16.67	
<i>Occupation</i>										
Unemployed	85	3	3.53	2	2.35	37	43.53	43	50.59	0.001*
Unskilled worker	6	0	0.00	0	0.00	1	16.67	5	83.33	
Semiskilled worker	6	0	0.00	0	0.00	4	66.67	2	33.33	
Skilled worker	23	1	4.35	6	26.09	7	30.43	9	39.13	
Clerical, shop owner, farmer	50	1	2.00	5	10.00	32	64.00	12	24.00	
Semiprofessional	16	0	0.00	4	25.00	7	43.75	5	31.25	
Professional	14	1	7.14	0	0.00	11	78.57	2	14.29	
<i>Family income per month (Rs)</i>										
≤1600	26	0	0.00	5	19.23	10	38.46	11	42.31	0.090
1601–4809	91	4	4.40	8	8.79	41	45.05	38	41.76	
4810–8009	46	2	4.35	0	0.00	27	58.70	17	36.96	
8010–12019	22	0	0.00	4	18.18	12	54.55	6	27.27	
12020–16019	10	0	0.00	0	0.00	4	40.00	6	60.00	
16020–32049	5	0	0.00	0	0.00	5	100.0	0	0.00	

*Chi-square test; *p ≤ 0.05 is significant

Table 5: Barriers in utilization of oral health care services among people of rural Jaipur

Main barriers	CHC (No.)	PHC (No.)	Total		p-value*
			No.	%	
Earlier unpleasant experience	14	3	17	8.5	0.006*
Lack of availability of dentist nearby	52	45	97	48.5	0.069
Transport	28	20	48	24.0	0.103
Money	38	48	86	43.0	0.752
Appointment	6	3	9	4.5	0.336
Fear/anxiety	24	35	59	29.5	0.268
Lack of time	34	22	56	28.0	0.057

*Chi-square test; * $p \leq 0.05$ is significant

DISCUSSION

Health care is a universal human need and it has been found that optimal health cannot be attained or mentioned independently of oral health. Utilization of oral health services is a concept of expressing the extent of interaction between the service provider and the people, for whom it is indented. The rate of oral health services utilization is multifactorial, and it depends on several factors, such as socioeconomic conditions, attitude of people, and dental conditions.⁷ Socioeconomic status of a person plays an important role in his/her willingness toward attaining oral health care services.⁸

In the present study, various sociodemographic factors were found, which affect the utilization of oral health care services among the rural population of Jaipur. The study also reveals that the levels of education, occupation, as well as health centers are some of the important factors that were significantly associated with utilization of dental services.

In the present study, it was observed that most of the participants visiting the health centers were males (58.0%), and most of the respondents were married (74.5%). Socioeconomic status was assessed using modified Kuppuswamy scale.⁹ The data obtained from sociodemographic factors revealed that a total of 11.5% patients attending the health centers were illiterate; 18.5% and 21.0% had middle and high school education respectively. Only 3.0% hold professional qualification. On assessing occupational status, around 42.5% were unemployed and 25.5% belonged to clerical work and only 7.0% hold a professional job. A study done by Pewa et al¹⁰ shows 9.5% were in lower class and 21.0% belonged to government services. Some of the other studies are not in agreement with this and showed that the patients were illiterate (70%) and belonged to low-income group (50%) and worker class (66.33%), explaining the nonutilization of the services.⁴

In our study, it was found that the most common dental problems were pain (44.0%) and tooth decay

(43.0%) followed by sensitivity and bleeding gums, which is similar to the study done by Poudyal et al.¹¹

In the present study, we found that 50.0% of the respondents ever utilized the available dental services in that area and 49.5% preferred to take treatment from dental surgeon for their dental problems and rest of the people thought there was no need of taking treatment for dental problems, whereas some people took treatment from general practitioners or through local remedies. The reason for this may be the lack of information, education, and communication among rural people of Jaipur, Rajasthan. A study conducted by Poudyal et al¹¹ showed 44.0% never visited a dentist for their dental problems. Another study conducted by Varene et al¹² showed only 27.7% used oral health services, while 47.7% reported self-medication.

Higher education group and higher occupation group showed higher dental visits compared with lower education and occupation group ($p < 0.05$). The reason for this may be that occupational status, income, and education are interrelated and serve as a measure for each other. People with low education and high poverty suffer from worst oral health. Higher income enables people to afford better socioeconomic status and permits increased access to oral health care services, which is similar to the study done by Vargas et al,¹³ Kakatkar et al,¹⁴ and Bhushan et al.¹⁵

In the present study, unavailability of the dentist nearby and lack of money were found as major barriers (48.5 and 43.0%, respectively) followed by lack of time and fear for utilization of oral health care services. It may be due to the lack of transport facilities, social culture, and beliefs and misperceptions toward dental treatment. A study done by van der Hoeven et al¹⁶ showed similar results, while the study conducted by Kadaluru et al¹⁷ is in disagreement to this by showing that lack of time and fear were major barriers to utilization of oral health care services.

CONCLUSION

In the present study, it can be concluded that the utilization of dental services in the rural area is quite low, and rural people usually do not prefer to take treatment from dental surgeons. Lack of money and nonavailability of oral health care services nearby are the major constraints for utilization. However, education and occupation are the main determining sociodemographic factors in the mindset of rural people. Health policies for the rural area should extend oral health care services and the problem of unavailability of dental surgeons should be addressed. The plan should be developed to increase formal education and employment to improve the overall socioeconomic status of rural people.

ACKNOWLEDGMENT

The authors thank all the medical officers of respective CHCs and PHCs for giving permission and all the patients who participated in this study for their cooperation.

REFERENCES

1. Tandon S. Challenges to the oral health workforce in India. *J Dent Educ* 2004 Jul;68(Suppl 7):28-33.
2. Mhagama M, Mwangosi I. Awareness and utilization of dental services among secondary school students in Moshi municipality. *Tanzan Dent J* 2010;16(2):44-47.
3. Pine, C.; Harris, R. Community oral health. New Delhi: Quintessence Publishing Co. Ltd; 2007.
4. Jain VKA, Sequeira P, Jain J, Chancy U, Maliyil MJ, Bhagwandas SC. Barriers in utilization of oral health care services among patients attending primary and community health centres in Virajpet, South Karnataka. *Nat J Med Dent Res* 2013 Apr-Jun;1(3):39-47.
5. Timiş T, Dănilă I. Socioeconomic status and oral health. *J Prev Med* 2005;13(1-2):116-121.
6. Gupta S, Ranjan V, Rai S, Mathur H, Solanki J, Koppula SK. Oral health services utilization among the rural population of western Rajasthan, India. *J Indian Acad Oral Med Radiol* 2014;26(4):410-413.
7. Bagewitz IC, Soderfeldt B, Palmqvist S, Nilner K. Dental care utilization: a study of 50-70 years old in southern Sweden. *Acta Odontol Scand* 2002;60:20-24.
8. Yadav P, Kaur B, Srivastava R, Srivastava S. Oral health disparities. *IOSR J Dent Med Sci* 2014;13(9):69-72.
9. Kumar BPR, Dudala SR, Rao AR. Kuppuswamy's socioeconomic status scale – A revision of economic parameter for 2012. *Int J Res Dev Health* 2013 Jan;1(1):2-4.
10. Pewa P, Garla B, Dagli R, Bhatia G, Solanki J. Utilization of dental services in public health center: dental awareness, attendance and felt needs. *J Contemp Dent Pract* 2015 Oct;16(10):829-833.
11. Poudyal S, Rao A, Shenoy R, Priya H. Utilization of dental services in a field practice area in Mangalore, Karnataka. *Indian J Community Med* 2010 Jul;35(3):424-425.
12. Varene B, Peterson P, Fournet F, Msellati P, Gray J, Ouattara S, Harang M, Salem G. Illness related behavior and utilization of oral health services among adult city-dwellers in Burkina Faso: evidence from a household survey. *BMC Health Serv Res* 2006 Dec;6:160-164.
13. Vargas CM, Yellowitz JA, Hayes KL. Oral health status of older rural adults in the United States. *J Am Dent Assoc* 2003 Apr;134(4):479-486.
14. Kakatkar G, Bhat N, Nagarajappa R, Prasad V, Sharda A, Asawa K, Agrawal A. Barriers to the utilization of dental services in Udaipur, India. *J Dent (Tehran)* 2005;8(2):81-89.
15. Bhushan P, Arora G, Agrawal R, Kumar M. Affordability of population towards dental care in Mathura City – A household survey. *Global J Med Public Health* 2012;1(6).
16. Hoeven M, Kruger A, Greef M. Differences in health care seeking behaviour between rural and urban communities in South Africa. *Int J Equity Health* 2012 Jun;11:31.
17. Kadaluru U, Kempraj V, Muddaiah P. Utilization of oral health care services among adults attending community outreach programs. *Indian J Dent Res* 2012 Nov-Dec;23(6):841-842.