

# Barriers to the access of oral health care facilities among adults: an exploratory study from Lahore

Shehla J. Akram<sup>1</sup>, Raheela Yasmin<sup>2</sup>, Saira Atif<sup>3</sup>, Asadullah Rathore<sup>4</sup>, Omair Anjum<sup>5</sup>, Muhammad Bilal Arshad<sup>6</sup>, Imran Hameed Khaliq<sup>7</sup>

<sup>1</sup>Consultant in Nutrition, Akram Medical Complex, Lahore, Pakistan, <sup>2</sup>Associate Professor, Department of Oral Biology, Avicenna Dental College, Lahore, <sup>3</sup>Associate Professor, Department of Oral Biology, Institute of Dentistry, CMH Lahore Medical College, Lahore, Pakistan, <sup>4</sup>Senior Lecturer, Department of Oral Biology, Avicenna Dental College, Lahore, <sup>5</sup>Associate Professor, Department of Science of Dental Materials, Lahore Medical and Dental College, Lahore, Pakistan, <sup>6</sup>Assistant Professor, Department of Community & Preventive Dentistry, Avicenna Dental College, Lahore, Pakistan, <sup>7</sup>Lecturer (Health Economics), Department of Public Health, University of Health Sciences, Lahore, Pakistan

**Correspondence to:** Imran Hameed Khaliq, Email: imranhameed@uhs.edu.pk

## ABSTRACT

**Background:** Oral health is one of the key indicators of the quality of life, overall health and well-being of the general population. Globally, the high prevalence of the periodontal disease, excessive tooth loss, dental caries experiences, oral cancers and xerostomia are the major issues reported among adult populations. Timely access to oral healthcare facilities preserves the function, morbidity and mortality. The best possible health outcomes are only possible if the personal health care services are accessible timely. So, the primary objective of this study was to explore the barriers to the access of oral health care facilities among adults. In addition, the study also determined the association between adult's demographic factors and their visits to dental clinics.

**Subjects and methods:** This exploratory study was conducted for two months between November 2019 and January 2020. The study recruited 400 adults including 200 males and 200 females visiting outpatient department (OPD) of public hospital i.e. Jinnah Hospital, Lahore. Participants were included in this study if they were 18 years of age or older and had provided written informed consent before data collection. Data were collected using a structured questionnaire whereas barriers to access the oral healthcare facilities was confirmed by asking an open-ended question. Statistical Package for Social Sciences (SPSS) software was used to calculate descriptive statistics (i.e., mean, standard deviation, percentages). The study also determined the association between sociodemographic factors of adults and their tendency to visit dental clinics just for routine checkups using the chi-square test.

**Results:** The average age of the participants was  $36.81 \pm 9.29$  years ranged from 18 – 63 years. Of the 400 participants, 259 (64.75%) reported costly treatment as a barrier affecting access to oral healthcare facilities followed by difficulty in access to dental clinics (27.75%) and fear of the pain of dental procedures (20.25%). Only 52 (13%) adults were regularly visiting dental clinics for routine check-ups whereas 21 (5.25%) respondents never had been to the dentist throughout their life. Nearly, half of the respondents i.e. 189 (47.25%) stated that dental care expenditures were borne by them and none of them was health insured. Statistically, a significant association was found between demographics (i.e. education, rural background and income) and the tendency to visit the dental clinics ( $p < 0.05$ ).

**Conclusion:** Expensive treatment, difficulty in accessing dental facilities and fear from dental procedures are the major barriers to the utilization of dental services. Access to dental clinics for routine check-ups is significantly influenced by sociodemographic factors.

## Keywords:

Oral health; Oral healthcare facilities; Accessibility; Barriers

## INTRODUCTION

Oral health is considered as one of the key indicators of the quality of life, overall health and well-being of the general population.<sup>1</sup> Nearly, 3.58 billion people are affected with dental caries in permanent teeth by making it the most prevalent medical condition,

worldwide.<sup>2</sup> Also, the high prevalence of the periodontal disease, excessive tooth loss, dental caries experiences, oral cancers and xerostomia are the major issues reported among adult populations particularly in older ages with poor oral health, globally.<sup>3</sup> Availability of dental care and timely access to oral healthcare facilities preserves the function, morbidity and mortality hence the overall quality of life can be improved.<sup>4</sup> The best possible health outcomes are only possible if the personal health care services are accessible timely.<sup>3</sup> Therefore, access to such facilities is subject to both the patient's willingness to seek care and the availability of care.<sup>3</sup> The availability of healthcare services with the

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provision of affordability is one of the fundamental human rights.<sup>5</sup> Unfortunately, people who have greater health needs are comprised of deprived populations. A local study showed that only 10.7% of the adult population had visited dentists for regular checkups during the last year in Pakistan.<sup>6</sup> Hence, easy access to oral healthcare facilities with affordability and addressing the barriers to this basic human right is of great importance for the overall well-being of the adult population. There is limited availability of public dental healthcare facilities serving oral health care needs as the dentist to population ratio is 1:1305811 in Pakistan.<sup>7,8</sup> Besides, inequalities between countryside and urban areas accessing health care facilities is another important issue. Generally, the countryside areas are most likely to experience a worse demographic and economic situation as compared to the urban areas.<sup>4</sup> The health beliefs of people living in these areas also play an essential role in delaying early access to healthcare professionals.<sup>4</sup> Understanding the barriers to access oral healthcare facilities is substantial. This is an important component that may help the health systems of Pakistan to smoothly provide dental care services to the adult population. So, this study was aimed to explore the barriers to the access of oral health care facilities among adults. In addition, this study also determined the association between demographic factors and adult's visits to dental clinics for oral health care.

## SUBJECTS AND METHODS

This study was duly approved by the Ethics Review Committee, University of Health Sciences, Lahore. The exploratory study was conducted for two months between November 2019 and January 2020 recruiting adults visiting OPD of public hospital i.e. Jinnah Hospital, Lahore which serves the majority of the population across Punjab province belonging to different socio-economic strata.

All persons included in this survey were male/female; 18 years of age or older; provided written informed consent before the data collection. However, those individuals who were not able to speak in English, Urdu, Saraiki and Punjabi were excluded from the study.

The minimum sample size needed to maintain a 5 % margin of error; 95 % confidence interval was calculated as 382 using an online sample size calculator.<sup>9</sup> However, by using a purposive quota sampling method, 400 individuals out of which 200 males and 200 females were interviewed.

A structured questionnaire with a few open-ended questions was developed by a field expert based on the reliable and validated scales available in the literature.<sup>3,10,11</sup> The questionnaire was pre-tested on 20 individuals to assess different aspects including presentation of the study instrument, acceptability by the respondents and ease of understanding. The questionnaire was consisted of fourteen (14) questions and was further sub-divided into three sections.

The section-wise distribution of variables includes: (1) demographic characteristics included six questions i.e. gender (male, female), age of the respondents (in years, later transformed into dummy variable: 50 years or above = 0, below 50 years = 1), education (illiterate = 0, literate = 1) where the respondent was considered as literate having formal education, marital status (single, married), rural background (yes, no), and average household income (in years, later transformed into dummy variable: above PKR 40,000 = 1, PKR 40,000 or below = 0); (2) status of dental services consisted of seven questions i.e. dental service (user, non-user), just routine check-ups with the dentist (yes, no), reasons to visit the dentist (checkup, emergency, never visited), last dental visit in years (<1, 1 – 2, 2 – 5, >5), payment methods for dental services (public, subsidized, insurance, out-of-pocket), preferred healthcare facilities (public facilities, subsidized facilities, private facilities) and last treatment received (in years); and (3) barriers to access the oral healthcare facilities: respondents were asked to provide the answer to the question, 'Describe barriers to access the oral healthcare facilities?' Dental service users were those respondents who had ever visited the dental health facilities for any dental treatment/procedures throughout their life.

Collected data were analyzed using SPSS [version 26.00 (IBM Corp., Armonk, NY, USA)]. Frequencies, percentages, and measures of central tendency were calculated for the collected data. Association between sociodemographic factors (including gender, respondent's age, education, marital status, rural background and monthly household income) and their tendency to visit dental clinics just for routine checkups were assessed using the chi-square test. The significance level (p-value) was taken as <0.05.

## RESULTS

Of the 400 participants, a similar proportion of 200 (50%) respondents was interviewed in the male and female group each. The majority of respondents i.e. 357 (89.30%) were below 50 years of age and the average age of participants was 36.81±9.29 years ranged from

18–63 years. Moreover, the average monthly household income of the respondents was amounted to PKR 40501.24±7225.43 ranged from PKR 29940 – 55000. More than half of the respondents i.e. 232 (58%) were literate with formal education and remaining 168 (42%) were illiterate. The meagre number of respondents i.e. 45 (11.30%) were unmarried and the other 355 (88.80%) were married. Only 167 (41.80%) participants had a rural background.

Table 1 showed various barriers to access oral healthcare facilities among study respondents. Of the 400 study participants, 259 (64.75%) reported fear of expensive treatment as the most frequent barrier to access the oral healthcare facilities followed by difficulty in accessing oral healthcare facilities (27.75%) and fear of the pain of dental procedures (20.25%), respectively. Moreover, a few of the study participants reported more than one factor as a barrier.

Table 2 delineates that almost half of the respondents (46.75%) were dental service users whereas only 13% were regularly visiting oral healthcare facilities just for routine check-ups. Of the 400 respondents, 5.25% reported that they never had been to the dentist throughout their life. None of the respondents was health insured, but the majority of oral care was obtained from out of the pocket expenditure (47.25%).

Table 3 shows the association between demographic characteristics and their tendency to visit dental clinics just for routine checkups. Respondents with literacy (16.4%) were more likely to visit oral healthcare facilities as compared to those who were illiterate (8.3%). Statistically, a significant association was found between education and the tendency to visit dental clinics ( $p = 0.012$ ). Table 3 further shows that in total affected the tendency to visit the dental clinics.

**Table 1.** Barriers to the access of oral healthcare facilities among study respondents ( $n = 400$ )

Barriers to access dental clinics	Frequency	Percentages
Fear of expensive treatment	259	64.75
Time shortage	27	6.75
Fear of pain of dental procedures	81	20.25
Appointment related issues	6	1.50
Difficulty in accessing dental facilities/clinics	111	27.75
Avoid treatment	42	10.50
Lack of awareness regarding dental treatment options	4	1.00
Family pressure/advice to avoid visiting clinics and rely on home remedies	15	3.75
Others/prefer not to mention	1	0.25

**Table 2:** Status of dental services among study respondents ( $n = 400$ )

Description	Frequency	Percentages
<b>Dental service</b>		
User	187	46.75
Non-user	213	53.25
<b>Just routine check-ups with the dentist</b>		
Yes	52	13.00
No	348	87.00
<b>Reasons to visit the dentist</b>		
Checkup	300	75.00
Emergency	79	19.75
Never visited	21	5.25
<b>Last dental visit in years</b>		
<1	73	18.25
1 – 2	131	32.75
2 – 5	159	39.75
>5	37	9.25
<b>Payment methods for dental services</b>		
Public	90	22.50
Subsidized	121	30.25
Insurance	0	0.00
Out of pocket	189	47.25
<b>Preferred oral healthcare facilities</b>		
Public facilities	45	11.25
Private facilities	234	58.50
Subsidized facilities	121	30.25
Last treatment received (in years [mean±SD])	2.89	1.74

## DISCUSSION

The results of this study showed that fear of expensive treatment, fear of pain of dental procedures, difficulties to access dental clinics were the major reasons in accessing to the oral health care facilities. It was also observed that people preferred to either avoid dental treatment or some had family pressure to rely on home remedies rather than approaching modern science-based dental facilities. The trend of visiting dentists just for routine check-ups was relatively low. The majority of the respondents were interested to seek dental care from private oral healthcare facilities. The most recurring method of dental services payment was out of pocket expenditure and no one had health insurance. Demographic factors including education, rural background and monthly household income were most likely to affect their tendency to visit dentists just for their routine check-ups. The utilization of oral healthcare facilities can be attributed to various factors from the patients' perception. Affordability and cost of the treatment are some of the important barriers for patients to seek oral healthcare services.<sup>12</sup> Dentistry is a specialized healthcare field that requires patients to pay multiple visits for a single treatment which is quite costly as compared to other medical treatments.<sup>13</sup> The results were also consistent with a previous study conducted in India with a similar demographic profile.<sup>14</sup> The study showed that key barriers to dental treatment were the high cost of dental services.<sup>14</sup> Various studies

**Table 3.** Association between sociodemographics and the tendency to visits dental clinics

Sociodemographic factors	Visits to dental clinics just for routine check-ups		p-value
	No n (%)	Yes n (%)	
<b>Gender</b>			
Male	171 (85.5)	29 (14.5)	0.229
Female	177 (88.5)	11.50 (11.5)	
<b>Age</b>			
Below 50 years	309 (86.6)	48 (13.4)	0.313
50 years or above	39 (90.7)	4 (9.3)	
<b>Education</b>			
Literate	194 (83.6)	38 (16.4)	0.012
Illiterate	154 (91.7)	14 (8.3)	
<b>Marital status</b>			
Single	39 (86.7)	6 (13.3)	0.547
Married	309 (87.0)	46 (13.0)	
<b>Rural background</b>			
Yes	138 (82.6)	29 (17.4)	0.021
No	210 (90.1)	23 (9.9)	
<b>Monthly household Income</b>			
PKR 40,000 or below	194 (99.0)	2 (1.0)	0.001
Above PKR 40,000	154 (75.5)	50 (24.5)	

also highlighted that along with costly treatment other factors including fear from the dentists, fear of pain, geographical location and availability of services were some of the key issues that limit people from visiting a dentist.<sup>15,16</sup> Khaliq and coauthors also reported that the family pressure and ancestor's belief discouraged the family members to seek modern science-based treatment and rely either on home remedies or to consult traditional healers e.g. pir and hakim.<sup>4</sup> It might be owing to the influence of the education level of the family head. In Pakistan, most of the families live in a joint family system where decisions are usually influenced by peers and family elders based on their beliefs and experiences.<sup>17</sup> Health expenditure to gross domestic product (GDP) ratio has always remained low in Pakistan and maintained less than one percent of the total GDP.<sup>18</sup> According to The World Bank, out-of-pocket expenditure (percentage of current health expenditure) is 65.23 %. Another study conducted in Lahore may also be related to our study which showed that most of the patients managed to receive their treatments in public hospitals and none of them was health insured.<sup>19</sup> People with a higher level of education are more likely to aware regarding oral health care and it may be a reason that they tend to visit a dentist more often than people with a low level of education.<sup>20</sup> Education is also associated with the nature of employment and determines the income level. Generally, people with a higher level of education earn well which enables them to afford better medical facilities.<sup>21</sup> In this regard, a study highlighted that people with more education tend to visit dentists more

often as compared to people with a lower level of education.<sup>22</sup> Urban areas usually considered as the hub of various activities and have more healthcare facilities as compared to the towns or villages where one can only find limited healthcare services and facilities.<sup>23,24</sup> People living in villages had long distances to travel to the cities to seek oral healthcare, hence, they have reduced the frequency of visits to a dentist or oral health practitioner as compared to people living in the cities.<sup>25</sup> Contrary to the literature findings, our study showed that adults having rural background were more likely to visit dentists just for routine check-ups. However, this result may be explained as the more health consciousness of the people living in rural areas.<sup>26</sup> Although this study provides valuable insights into the effects of demographic characteristics on the tendency to regularly visit oral healthcare facilities for routine check-ups and highlights some barriers to access oral health care, it does have some limitations. Owing to limited resources, the only limited population was surveyed at the public hospital. The experiences and socioeconomic profiles of people in subsidized or private hospitals or other communities may differ. This study may be supplemented with possible future, larger-scale community-based surveys to strengthen the conclusions drawn about the population.

## CONCLUSIONS

Expensive treatment, difficulty in accessing oral healthcare facilities and fear from dental procedures are the major barriers to the utilization of dental services. Access to dental clinics for routine check-ups is a good practice that is influenced by demographic characteristics including education, rural background and income.

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