

## Original Article

## Barriers in Seeking Dental Health Care Facilities by the Patients in Pakistan: A Cross-Sectional Study

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### Abstract

**Background:** Patients in Pakistan face considerable obstacles due to limited access to oral health care services, which are exacerbated by socioeconomic factors such as income and education. Gaining an understanding of these obstacles is essential to improve the oral health system.

**Objective:** To determine the factors related to barriers to seeking dental health care facilities among patients in Pakistan and their association with education and monthly income.

**Methods:** A cross-sectional study with 400 patients used a non-probability convenience sampling method. Patients of both genders who were 25 years of age and older were included, and all participants gave written consent. The chi-square test found relationships between income, education, and obstacles to accessing dental care ( $p < 0.05$ ).

**Results:** A total of 400 patients aged 25 and older participated in the data collection. Patients encountered various barriers when seeking dental healthcare facilities, including costly treatment (23.1%), fear of pain (13.7%), and time constraints (13.7%). Educated patients predominantly faced issues such as time shortages and appointment-related challenges, whereas illiterate individuals cited treatment costs and fear of pain as their primary barriers.

**Conclusion:** Costly treatment, time constraints, and dental procedure fears pose significant barriers to dental service utilization. These challenges are particularly acute among individuals with lower educational attainment and income levels.

**Keywords:** Dental Anxiety, Health Care Costs, Self-Medication, Patient Education, Cross-sectional study

### Introduction

Health care access is increasingly acknowledged as vital to health outcomes, with dental care access as a complex yet essential part of the health care system. Although global oral health has improved in recent

decades, dental disease rates remain high in developing nations, especially for dental caries and periodontal disease, where dental services are often underutilized.<sup>1</sup> Oral health is a crucial indicator of overall well-being and quality of life, with dental caries affecting approximately 3.58 billion people globally, making it the most prevalent medical condition.<sup>2</sup> In Pakistan, only 10.7% of adults visited a dentist for regular checkups in the past year, highlighting inadequate dental care utilization.<sup>3</sup> A 2013 study in Tehran by Bahadori et al. identified cost, inconvenience, fear, organizational factors, and patient-dentist relationships as barriers to dental service

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access, with cost being the most significant and patient-dentist relationships the least.<sup>4</sup>

According to Brown et al. (1999), dental service utilization is the proportion of the population accessing these services within a specific time frame. Regular dental visits enable early detection and treatment of oral health issues, support health promotion, provide oral health education, and help maintain overall oral health.<sup>5</sup> Preventive measures, including regular fluoride toothbrushing and professional guidance on oral health habits, can effectively reduce the risk of caries and periodontal disease.<sup>6</sup> Oral disease prevention is a longstanding goal in dentistry, now prioritized in primary care through National health services reforms and evidence-based practices.<sup>7</sup> Jain et al. identified knowledge, attitude, fear, cost, and transportation as barriers to utilizing oral healthcare services.<sup>8</sup>

Access to dental healthcare in Pakistan is crucial but hindered by significant barriers such as high treatment costs, fear of pain, and time constraints. These obstacles are particularly challenging for individuals with lower education and income levels, leading to disparities in dental care utilization. Previous studies have highlighted these barriers but have often overlooked the specific challenges faced by patients at dental hospitals. Therefore, this research paper aims to address this gap by observing the barriers to accessing dental hospital facilities among patients in Pakistan. By investigating the factors influencing individuals' ability to access these facilities and their implications for oral health outcomes, this study seeks to contribute to the development of contextually relevant interventions within the Pakistani healthcare system.

## Methods

At Lahore Medical and Dental College's OPD Dental Hospital, a cross-sectional study was conducted from 10<sup>th</sup> May 2024 till 12<sup>th</sup> November 2024. A pre-validated questionnaire was used.<sup>9</sup> The questionnaire was piloted with 40 patients, representing 10% of the sample with a 0.72 Cronbach's alpha value, indicating a good internal consistency level. 400 patients were interviewed for data collection using the convenience sampling technique. Patients 25 years and older and those who were making their first visit to the hospital were included in this study. This study did not include patients who were recalled for follow-up or who had received prior treatment. This study did not include patients who declined to participate and those who couldn't communicate in

Saraiki, Punjabi, Urdu, or English. The Ethics Review Committee of Lahore Medical and Dental College (Ref. No. LMDC/FD/1971/24) in Lahore fully approved the study. Using an online open epi sample size calculator, version 3.01, the calculated sample size was 384 by using a 5% margin of error, the 95% confidence interval.<sup>10</sup> The chi-square test was used to determine the association between the sociodemographic characteristics of the population (education, and monthly household income). It was decided to use a significant threshold (p-value) of less than 0.05.

## Results

Table I depicts participant demographics in which age was divided into 25-35 years (33.6%), 36-46 years

**Table I:** Demographic outline of the patients (n=400)

	Frequency	Percentage
<b>Age</b>		
25-35 years	135	33.6%
36-46 years	135	33.6%
47 and above	130	32.3%
<b>Gender</b>		
Male	180	44.8%
Female	220	54.7%
<b>Education</b>		
literate	143	35.6%
illiterate	257	63.9%
<b>Monthly income</b>		
Less than 40000	185	46.0%
40000-50000	121	30.1%
above 50000	94	23.4%

**Table II:** Barriers in seeking dental health care facilities by the patients (n = 400)

Barriers	Frequency	Percentage %
Fear of Pain	55	13.7%
Time shortage	55	13.7%
Costly treatment	93	23.1%
Appointments related issues	42	10.4%
Distance/Difficulty in access	34	8.5%
Avoid treatment	37	9.2%
Lack of awareness regarding dental treatment	32	8%
Rely on home remedies	24	6%
Self-medication	28	7%

(33.6%), 47 and above (32.3%); while gender in which males (44.8%) and females (54.7%) reported to OPD of dental college. 35.6% were literate and 63.9% were illiterate. The majority report monthly income below 40,000 PKR.

The data in Table II demonstrate various barriers faced by patients seeking dental healthcare facilities which were costly treatment (23.1%) and fear of Pain (13.7%).

Table III presents that literate patient predominantly faced time shortages and appointment-related issues, while illiterate individuals encountered cost and fear of pain as the primary barriers to access. For incomes less than 40000 PKR, the major barriers were costly treatment (63.4%) and time shortage (54.5%).

## Discussion

Our study showed that females (54.7%) visited more than the males (44.8%). The majority were illiterate (63.9%), and most participants had an income below 40,000 per month (46%). The study results aligned with earlier research by the ajayi in which female 222 (55.5%) participated more than the male 78 (44.5%).<sup>11</sup> The expense of treatment posed a significant obstacle to receiving dental care, as reported by 23.1% of patients in our study. The results were consistent with a previous study in India, revealing that the main barrier to accessing

dental treatment was the elevated cost of dental services.<sup>12</sup> The study findings are consistent with previous research in India found that cost and perceived need significantly influence dental visits.<sup>13</sup>

The fear of pain (13.7%) was another barrier in our study, and it emerged as a prominent barrier to accessing dental healthcare services among patients. This emphasizes the importance of addressing patients' fears about dental procedures to improve access to dental care, as seen in Karachi, Pakistan, where females displayed heightened dental fear, aligning with our findings on barriers to access.<sup>14</sup> The constraint of time (13.7%) and distance from dental services (8.5%) emerged as a significant barrier to accessing dental healthcare. This finding underscores the importance of addressing time management and scheduling issues to improve the accessibility and convenience of dental services for patients. Most patients, accounting for 38.4%, mentioned the cost of dental services as their primary challenge, followed by 26.5% with busy schedules, and 19.1% facing distance-related difficulties.<sup>15</sup> This issue is more in females and older males who rely on companions for conveyance to hospitals, as shown by the Indian studies.<sup>16</sup> Appointment-related issues (10.4%), presented as a notable barrier to accessing dental healthcare. These findings reflected on the study conducted in Jordan.<sup>17</sup>

**Table III:** Association between education and monthly income and barriers in seeking dental health care facilities.

Association between education and monthly income and barriers in seeking dental health care facilities.										
	Fear of Pain	Time shortage	Costly treatment	Appointments related issues	Distance/Difficulty in access	Avoid treatment	Lack of awareness regarding dental treatment	Rely on home remedies	Self-medication	P Value
<b>Education</b>										
Literate	20 (36.4%)	30 (54.5%)	21 (22.6%)	25 (59.5%)	14 (41.2%)	10 (27.0%)	8 (25.0%)	7 (29.2%)	8 (28.6%)	<0.001*
Illiterate	35 (63.6%)	25 (45.5%)	72 (77.4%)	17 (40.5%)	20 (58.8%)	27 (73.0%)	24 (75.0%)	17 (70.8%)	20 (71.4%)	
<b>Monthly income</b>										
Less than 40000	18 (32.7%)	30 (54.5%)	59 (63.4%)	17 (40.5%)	15 (44.1%)	14 (37.8%)	13 (40.6%)	9 (37.5%)	10 (35.7%)	0.021*
40000-50000	27 (49.1%)	13 (23.6%)	22 (23.7%)	12 (28.6%)	9 (26.5%)	11 (29.7%)	10 (31.3%)	8 (33.3%)	9 (32.1%)	
above 50000	10 (18.2%)	12 (21.8%)	12 (12.9%)	13 (31.0%)	10 (29.4%)	12 (32.4%)	9 (28.1%)	7 (29.2%)	9 (32.1%)	

*p* value calculated by chi-square test, \**p* value < 0.05 considered significant

The inclination to avoid treatment was reported by 9.2%, lack of awareness regarding dental treatment (8%), reliance on home remedies (6%), and self-medication (7%) were reported by the patients as barriers in our study. The low literacy level in developing countries like Pakistan contributes to a lack of awareness regarding the importance of seeking timely dental care.<sup>18</sup> Another barrier was self-medication and reliance on home remedies, which was similarly observed in studies conducted in India and Nigeria.<sup>19</sup>

Our study reported that illiterate participants reported higher percentages of the causes of barriers such as costly treatment (77.4%), fear of pain (63.6%), time shortages (45.5%), difficulty accessing care (58.8%), avoiding treatment (73.0%), lack of awareness regarding dental treatment (75%), rely on home remedies (70.8%) and Self-medication (71.4%). Similar results were reported by a systematic review also indicated that individuals with lower educational status utilize dental services less frequently compared to those with higher educational status, which may be due to differences in their knowledge about the benefits of dental visits and their attitudes toward utilizing them.<sup>20</sup> Around 17.3% of respondents avoided seeing a dental professional due to cost in the past year, and 16.5% declined recommended dental treatment for the same reason.<sup>21</sup> Another study found that the primary barriers to accessing dental care were cost (39.1%) and lack of time (28.7%).<sup>22</sup> This finding was consistent with El Bcheraoui et al., who reported that the likelihood of utilizing dental services increases with higher education levels.<sup>23</sup> This contrasts with Obeidat et al.'s study, which found no significant impact of age, gender, income, education, employment, health, insurance, or transportation on dental service utilization and regularity.<sup>17</sup>

Our study reported that low income was associated with various barriers like cost (63.4%), time shortage (54.5%), and difficulty to access (44.1%). Kakatkar et al. found that higher-income individuals had better access to dental care compared to those with lower incomes.<sup>16</sup> According to another study, lower-income patients earning below 40,000 had limited access to dental care, whereas higher-income individuals above 50,000 enjoyed significantly better access.<sup>24</sup> The results are emphasized by a similar study where it was reported that individuals with low income ( $P < 0.001$ ) and those lacking dental insurance ( $P < 0.001$ ) were most likely to experience financial barriers to accessing dental care.<sup>25</sup>

## Conclusion

Costly treatment, time constraints, and dental procedure fears pose significant barriers to dental service utilization. These challenges are particularly acute among individuals with lower educational attainment and income levels. Addressing these issues through targeted interventions—such as cost-reduction strategies and enhanced patient education—will be essential for improving dental care accessibility and ensuring equitable service provision across different demographic groups.

Additionally, access to dental care correlates with patient education and monthly income. Tackling barriers, considering education and income, is crucial for dental service access.

**Conflict of Interest:** None

**Funding Disclosure:** None

**Ethical Consideration:** The study was approved by the ethical review board. Informed written consent was obtained from the participants, and the confidentiality of their data was clearly explained.

**Acknowledgment:** None

**Authors Contribution:** All the authors contributed equally in accordance with ICMJE guidelines and are accountable for the integrity of the study.

**SLSS:** Study design and concept, Acquisition and analysis of data and final approval

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