

ORAL HEALTH UTILIZATION AND FACTORS AFFECTING ORAL HEALTH ACCESS AMONG ADULTS IN RIYADH, KSA

Navin Anand Ingle^{1*}, Najla Khalid Algwaiz², Aliyah Abdulaziz Almurshad², Raghad Saeed AlAmoudi², Arwa Tariq Abduljabbar²

¹Department of Preventive Dentistry, College of Dentistry, Riyadh Elm University, Saudi Arabia. navin.ingle@riyadh.edu.sa

²Department of Internship Training Program, College of Dentistry, Riyadh Elm University, Saudi Arabia.

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ABSTRACT

To investigate dental service utilization and self-reported factors influencing access to dental care among a representative Saudi population in Riyadh. A cross-sectional survey study was performed, among the representative resident population of Riyadh, Saudi Arabia. A standard and validated designed survey questionnaire was distributed among public places in the north, south, east, and west of Riyadh city and also shared on google forums. A p-value of ≤ 0.05 , was found to be significant. Statistical Package for the Social Sciences (SPSS Inc., software version 21 Chicago, IL, USA) was used for tabulation of descriptive analysis. Standard deviation (SD), percentages, and means were calculated. The majority of participants were male 60% (376). Whereas, 29.9% (128) were female. The proportion of single (238) 47.2% and married (240) 47.6% participants was almost the same. Most of the participants' preference for dental care was a private setup (403)79.9% while (101)20.3% preferred a government setup. On getting treatment, the majority paid the cost from their pocket (280) 55.55% while 173(34.2%) used insurance for paying the cost of dental treatment. The foremost possible barriers to acquiring dental care were cost (449)89%. Based on the finding of the present study improved dental utilization and access to dental care was observed in the capital of the kingdom. Some barriers have been detected that need to be addressed by the government. More focus should be based on the prevention of care rather than the treatment of the disease.

Key words: Utilization, Dental care, Riyadh, Barriers, Access.

Introduction

Oral disease is a major health burden on the health care system globally, and it can manifest in combination with systemic disorders [1]. Oral infections are associated with compromised speech, diet, social interactions, and quality of life; and are related to chronic inflammation of multiple body systems. It is reported that 10% of the global population suffers from periodontal disease and more than two billion individuals are affected by tooth decay worldwide [2]. In addition, the prevalence of caries among Saudi children was reported above 80% [3], and periodontal disease in the adult population ranges from 35% to 63% [4]. The disease management burden for these disorders has a financial cost, and easy affordable access to oral health care can induce prevention.

Measures to improve oral health care in the kingdom of Saudi Arabia not just include the availability of health care but also the willingness of the population to utilize it. Access to oral care and associated factors, show a disparity between developed and developing countries. In a developed country like Australia, more than 50% population was reported to visit the dentist. However, in Sudan, nearly 65% of the population was reported to have never been to the dentist [5].

In a study it was found that It is clear from the current study as for conduct, brushing the teeth was the usual procedure

utilized for cleansing the oral cavity, then Miswak [6].

In a study surveying 499 individuals in the Saudi city of Abha, nearly 58% of participants visited dental services [7]. However, a study in 2016, showed that only 11.5% of the study participants visited the dentist for routine checkups in Saudi Arabia [8]. Therefore it appears that a population-based dental services utilization survey is warranted to assess oral care access and provision.

Multiple factors influence oral health care access among the general population. It is suggested that rural populations experience much high economic compromise compared to urban residents [9]. In addition, the sociodemography of rural residents is compromised leading to poor oral health access [9]. Individuals who have a high level of education are more likely to access oral health care compared to individuals with low education [10]. Other factors include difficulty in getting an appointment, waiting time, dental anxiety, and treatment cost [10]. As oral health utilization is better in high-income (45%) individuals, hence lack of dental insurance acts as a major barrier to accessing healthcare [10]. Therefore literature suggests that at the population level, inequality in oral healthcare is a major concern creating a heavy burden on the healthcare system. However, current trends in dental service utilization and factors influencing them are at the center of reviewing and reinforcing new policies for improvement in oral health

access.

Dental service utilization level and factors influencing it are critical in improving current oral health care access and its provision in metropolitan cities in Saudi Arabia. However, there is a lack of recent statistics concerning dental service utilization and influencing factors in the Saudi population. Therefore a wide population-based study investigating dental service utilization in major cities of Saudi Arabia, including Riyadh is warranted. Policymaking and changes to improve oral health provision and overall oral health outcomes in the Saudi population are critically important for their oral and systemic well-being. And current statistics and data on dental service utilization, access to the population, and factors affecting oral health access will enable authorities to take practical and effective steps toward improving health care in the population. The present study aimed to investigate dental service utilization and self-reported factors influencing access to dental care among a representative Saudi population in Riyadh.

Materials and Methods

A cross-sectional survey study was performed, among the representative resident population of Riyadh, Saudi Arabia. The study was following the STROBE statement of reporting cross-sectional surveys. The duration of the study was four months. A literature review was performed to validate the present cross-sectional survey, which revealed that there was no available data on oral health utilization and access to dental care.

A standard and validated designed survey questionnaire was distributed among public places in the north, south, east, and west of Riyadh city, including and not restricted to shopping malls and mosques. Also, the questionnaire was sent through google forums on different social media accounts. Healthy Saudi nationals above the age of 18 years, with no mental or psychiatric, or psychological disorders were included. Individuals not able to write or read Arabic were excluded. The questionnaire had a written consent form explaining the importance of taking part in the study and their ability to not take part if not willing. A total sample size of 500 was well-thought-out but since dropouts, and invalid responses were anticipated so a sample size of 580 was considered appropriate. The research team of statisticians along with the authors reviewed the content of each question to make sure that the survey reflected appropriate phrasing and understanding

A questionnaire in the Arabic language was adapted and modified from a previous study [7]. The questionnaire comprised 4 sections including, sociodemographic features (age, gender, income, education, marital status, and transportation), general health status, and disease recognition (systemic disease, stress, presence of disability, use of medication, and previous and ongoing treatment), dental service utilization and perceived reason for private

and government services (last dental appointment, frequency of visits, previous treatments at the dentist, preferred dentist type, cost of treatment and insurance) and barriers oral healthcare (dental awareness, clinic availability, appointment availability, treatment availability, access, waiting list, quality of care, dental anxiety, priority, time and cost). Only completed questionnaires were included. 504 (86.89%), responses were attained. All the responses were evaluated by a single investigator to minimize bias. Periodic reminder emails were sent to improve the response rate.

A *p*-value of ≤ 0.05 , was found to be significant. Statistical Package for the Social Sciences (SPSS Inc., software version 21 Chicago, IL, USA) was used for tabulation of descriptive analysis. Standard deviation (SD), percentages, and means were calculated.

Results and Discussion

Table 1 represents that the sociodemographic factors exhibited that the majority of participants were male 60% (376). Whereas, 29.9% (128) were female. The proportion of single (238) 47.2% and married (240) 47.6% participants was almost the same. The age group of most of the participants was 46-60 (248) 49.2%. Whereas other participants were in the age range of 18-30 (114) 22.6% and 31-45 (123)24.4%. The majority of the candidates were jobless (217)43.04%. Whereas, participants working in both private (143) 28.3% and government sectors (144)28.5% were almost alike. When inquired about their level of education most of the participants were university qualified (348) 69%. Whereas, literacy levels at intermediate (74) 14.68% and postgraduate (71)14.08% were almost the equivalents. The majority of the participants earned less than 10000sar/month (156) 30.9% followed by (143)28.37% earned more than 15000sar/month. The statistics about sociodemographic characteristics of respondents are also shown in **Figure 1**.

Table 2 demonstrates about physical health status. When inquired about physical health status (397) 78.2% were considered as healthy. Whereas, (116)23.01% were using medication due to any medical reason. When questioned about dental utilization 472(93.7%) visited the dentist on their own. Periodic checkups (200)39.68% and dental emergencies (246)48.8% were the most reported reason for the utilization of dental care. (285)56% of the dentist acquired dental services in the last 6 months. Whereas, 130(25.79%) visited the dental clinic in the last year. Most of the participants' preference for dental care was a private setup (403)79.9% while (101)20.3% preferred a government setup. On getting treatment, the majority paid the cost from their pocket (280)55.55% while 173(34.2%) used insurance for paying the cost of dental treatment. The statistics about physical and health status and utilization of services are mentioned in **Figure 2**.

The statistics for perceived reasons for private and

government dental services and possible barriers to dental services utilization are shown in **Table 3**. The foremost possible barriers to acquiring dental care were cost (449)89%. Whereas in another question when inquired about fear in the utilization of oral care, 79%(400) of the participants said that they fear dental treatment. 64% (324) claimed appointments with the dentist were easily available. (294) 58% said busy schedules and time constraints were the factors that abstained them from utilizing dental services. The **Figure 3** represents the statistical data for the perceived reasons for private and government dental services and possible barriers.

Table 1. Sociodemographic characteristics of respondents

Characteristics	Frequency	Percentage (%)
Gender		
Male	376	74.6
Female	128	25.3
Marital status		
Single	238	47.2
Married	240	47.6
Divorced	19	3.7
Widow	7	1.3

Work Sector		
Government	144	28.5
Private	143	28.3
No Job	217	43.4
Age (yrs)		
18-30	114	22.6
31-45	123	24.4
46-60	248	49.2
61 above	19	3.76
Income		
No Income	107	21.2
Less than 10000 sar	156	30.9
B/w 10000 to 15000 sar	98	19.4
15000 sar or above	143	28.3
Education		
No education	-	-
Primary	11	2.1
Intermediate	74	14.6
University	348	69.0
Postgraduate	71	14.0

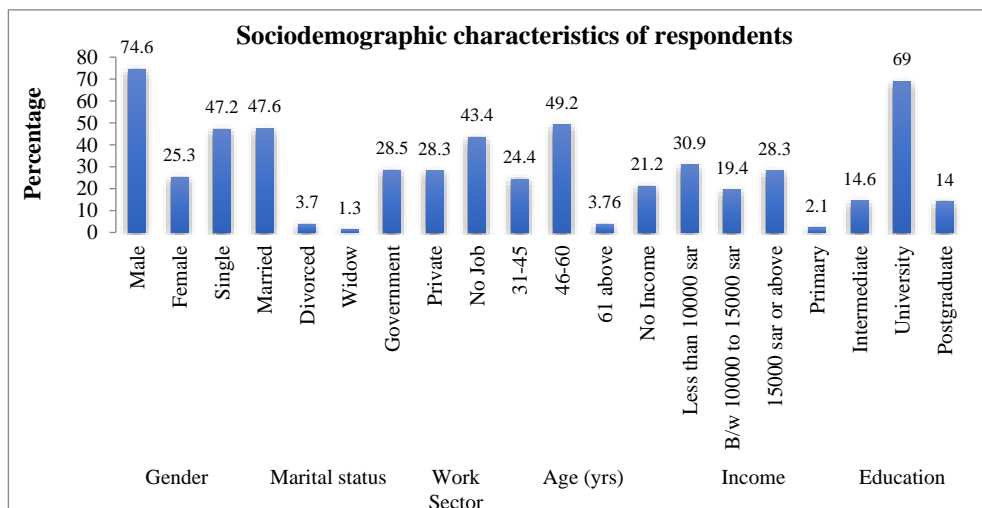


Figure 1. Sociodemographic characteristics of respondents

Table 2. Physical and Health status and utilization of services

Health and service utilization	Frequency	Percentage (%)
Have health related problem		
No	397	78.2
Yes	107	21.2
Currently using medication		
Yes	116	23.0
No	388	76.9

Reason for acquiring dental services		
Periodical check-up	200	39.6
Emergency	246	48.8
Beautification	58	11.5
Last visit to the dental clinic		
Past six-year	285	56
One year	130	25.7
Between 1-2 years	89	17.6

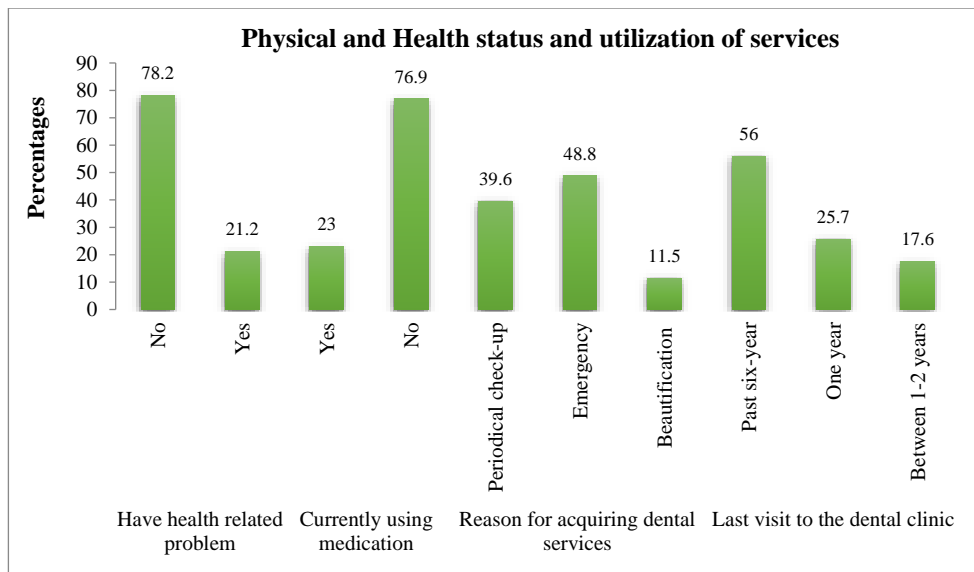


Figure 2. Physical and health status and utilization of services

Table 3. Perceived reasons for private and government dental services and possible barriers to dental services utilization

Barriers and perceived reasons for dental utilization	Frequency	Percentage (%)
Payment method		
Government	50	9.9
Insurance	173	34.3
Personal payment (PP)	280	55.5
Insurance and PP	1	0.19
Dental Clinic Preference		
Private Practice	403	79.9
Government setup	101	20.0
Barries In dental services		

Transportation	53	10.54
Cost	449	89.0
Phobia	2	0.39
Readily available for a dental appointment		
Yes	330	64.3
No	174	36.7
Is the Time factor for not utilizing dental services		
Yes	295	58.5
No	209	41.1
Do you fear dental treatment		
Yes	400	79.6
No	104	21.4

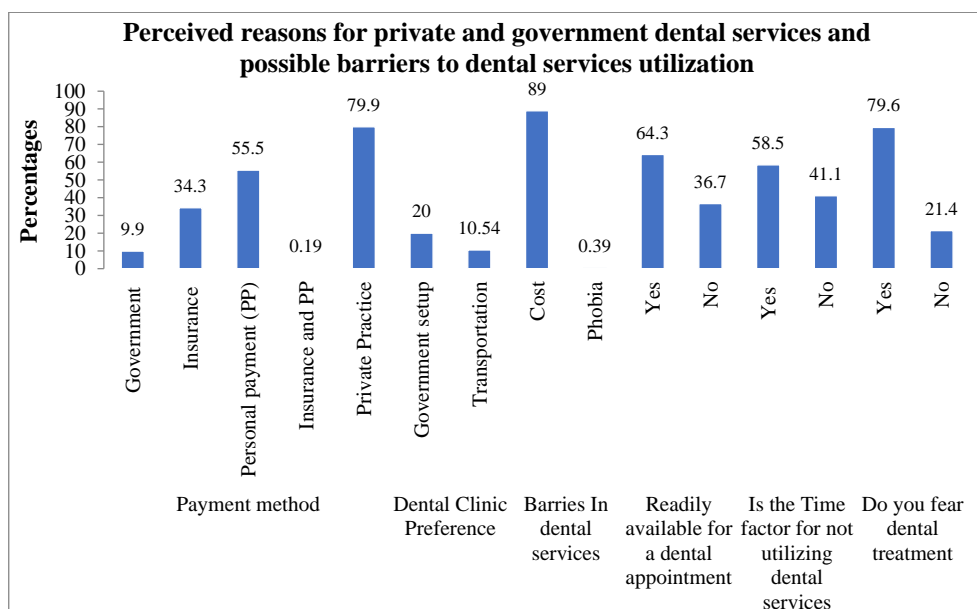


Figure 3. Perceived reasons for provate and government dental services and possible barriers

The present cross-sectional survey displayed a unique assessment of the utilization of dental services and access to care in different regions of Riyadh. To our understanding, this is one of the distinguishing surveys performed in Riyadh KSA.

Out of the total 580 emails sent 504 (86.89%), responses were attained. The better response rate in the present study can be attributed to the follow-up reminders at different intervals through emails, and the short duration of the study type [11]. In the present study majority of participants were male 60% (376). Whereas, 29.9% (128) were female. This outcome demonstrates busy family commitments in females and male dominance which is part and parcel of their culture and societal norms [12].

In general, the finding of the present study was very convincing. When questioned about dental utilization 472(93.7%) visited the dentist on their own. Whereas, Periodic checkups (200)39.68% and dental emergencies (246)48.8% were the most reported reason for the utilization of dental care. The findings are in line with the already reported previous work in different neighboring Arab countries [13]. The present study was confined to the Riyadh region. The city is the capital of Saudi Arabia and it is believed that awareness of dental care along with the better implementation of resources and improved and convenient infrastructure might have contributed to the reason in increasing utilization of dental care and periodic checkups [14]. However, the results are not in agreement with previously published work that was performed in the city of Abha, Saudi Arabia [15].

(285)56% of the dentist acquired dental services in the last 6 months. Whereas, 130(25.79%) visited the dental clinic in the last year. It has been argued that high-quality healthcare services tend to increase individual utilization of dental care which seems to be logical taking into consideration the results of the present study [16]. Another possibility that might have improved the utilization of dental services is awareness and belief that most oral conditions are treatable and can be prevented with proper and early care [16].

In the existing study cost of dental treatment, lack of insurance coverage and the busy schedule of the participants were the perceived barriers hindering the utilization of dental care. This result is in line with that of the reported study by Al-Ansari, in which cost and lack of insurance were the main reasons for accessing preventive oral health care in the study population [17]. Similarly, another study by Obiedat *et al.*, emphasized time constraints as one of the important barriers to using dental services [18]. The cost and fear were consistent findings reported by different studies. In our study dental oral care utilization was favored in private setups compared to government setups. The outcome can be attributed to the quality of care in a private setup, hygiene, trained staff, ready availability of a specialist, minimal waiting time, and better handling of patients by private setup

[19]. This finding is concurrent with already reported work by Obiedat *et al.*, [18, 19].

Within the limitations of the present study, a better sample size covering different regions of Saudi Arabia may provide a better understanding of dental utilization throughout the kingdom. Moreover, apart from quantitatively measuring the utilization of services qualitative assessment of dental utilization is recommended in future studies.

Conclusion

Based on the finding of the present study improved dental utilization and access to dental care was observed in the capital of the kingdom. Some barriers have been detected that need to be addressed by the government. More focus should be based on the prevention of care rather than the treatment of the disease.

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