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### **Patient**

#### **Satisfaction with Dental Services Provided by Hospitals in Saudi Arabia**

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### **ABSTRACT**

This research aims to assess patient satisfaction with dental services provided by hospitals in Saudi Arabia. In addition, the study aimed to determine the effect of demographic factors and accessibility on patient satisfaction and evaluate the effect of quality of dental care on patient satisfaction. In this study, a descriptive-analytic cross-sectional study was carried out in the Kingdom of Saudi Arabia to assess patient satisfaction with dental services offered by regional hospitals. The results obtained from the questionnaire indicated a high level of satisfaction with the dental services provided. Participants demonstrated a high level of agreement on the accessibility and effectiveness of these services (mean: 4.31, SD: 0.821). Additionally, subjects expressed satisfaction with other domains. This indicates that dental services have minimal

ngs; however, there remains potential for enhancement in particular domains. The study recommends improving patient satisfaction across various healthcare settings necessitates focusing on availability, clinical quality, and effective communication issues.

**Keywords:** Patient satisfaction, Dental services, Saudia Arabia, Demographic, Accessibility

#### الملخص

تهدف هذه الدراسة إلى تقييم رضا المرضى عن خدمات طب الأسنان المقدمة من المستشفيات في المملكة العربية السعودية. بالإضافة إلى ذلك، هدفت الدراسة إلى تحديد تأثير العوامل الديموغرافية وإمكانية الوصول على رضا المرضى، وتقييم تأثير جودة الرعاية السنية على رضا المرضى. تم إجراء دراسة وصفية تحليلية مقطعية في المملكة العربية السعودية لتقييم رضا المرضى عن خدمات طب الأسنان المقدمة من المستشفيات الإقليمية. أشارت النتائج المستخلصة من الاستبيان إلى مستوى عالٍ من الرضا عن خدمات طب الأسنان المقدمة. أظهر المشاركون مستوى عالٍ من الاتفاق على إمكانية الوصول وفعالية هذه الخدمات (المتوسط: 4.31، الانحراف المعياري: 0.821). بالإضافة إلى ذلك، أعرب المشاركون عن رضاهم عن مجالات أخرى. تشير هذه النتائج إلى أن خدمات طب الأسنان لديها قصور بسيط؛ ومع ذلك، لا يزال هناك مجال لتحسين بعض المجالات. توصي الدراسة بتحسين رضا المرضى عبر مختلف البيئات الصحية من خلال التركيز على التوافر، وجودة الرعاية السريرية، وقضايا التواصل الفعال.

**الكلمات المفتاحية:** رضا المرضى، خدمات طب الأسنان، المملكة العربية السعودية، العوامل الديموغرافية، إمكانية الوصول

Patient is an essential parameter for assessing the effectiveness of specific treatment protocols. Healthcare research primarily focuses on quality assurance and continual improvement of the quality components of service standards (Varsha & Varghese, 2020).

Assessing patient satisfaction is essential when assessing the caliber of medical service (Aldossary et al., 2023). Therefore, patient satisfaction plays a critical role in improving healthcare systems, serving as a valuable metric for assessing service quality, incorporating patients' perspectives into healthcare policy, and considering their rights and viewpoints (Ali, 2016). The quality of the medical facility can be assessed by assessing patient satisfaction with the care provided (Saffan et al., 2019). It can also be defined as the extent to which predetermined objectives have been achieved while considering cognitive and affective aspects as well as connections to expectations, prior experiences, and social networks (Alhabib & Albarikan, 2021; Balhaddad et al., 2018).

Patient satisfaction is a crucial metric in the dental industry, influencing service utilization. When patients' needs are met, they experience enhanced satisfaction, feel reassured, receive

quality care, and have their questions and concerns adequately addressed (Yong et al., 2021; Ghanem et al., 2023).

*Demographic factors.* Alhozgi et al. stated that patients' demographic and socioeconomic factors, including age, education, gender, marital status, place of residence, income, and race, are considered to be significant determinants of their degree of satisfaction with their healthcare system (Khan et al., 2018).

Research indicates that individuals in rural areas are less satisfied with their healthcare than those in metropolitan areas (Alhozgi et al., 2021).

*Accessibility:* Access pertains to "That degree of fit between the system and the patient." Various dimensions influence healthcare access, including availability, acceptability, cost, accommodation, and accessibility (Shubayr et al., 2022).

Numerous studies regarding the accessibility and utilization of dental care in Saudi Arabia's capital and other major cities have been published. Until recently, residents of Abha, Saudi Arabia, have not self-reported access to dental care (Orfali, & Aldossary, 2020; Lee et al., 2020).

Rural inhabitants of Jazan often had to traverse significant distances to receive dental treatment in public hospitals (Barnett et al., 2017).

*Quality of Dental Care:* The quality of dental care and its management continue to be significant challenges within the dentistry sector, becoming increasingly contentious due to quality's impact on service receivers (Quadri et al., 2018).

In KSA, both the public and private sectors offer health services to the entire population. It serves both Saudi nationals and non-Saudis. Despite the availability of free dental care from the KSA government, the majority of Saudis favor treatment from private dentists (Alshahrani & Raheel, 2016).

*Communication:* Numerous research studies have demonstrated the significance of patients' influence on the quality of their relationship with their dentist. Furthermore, there is an increasing conviction that patient satisfaction is a pivotal element in determining the quality of oral healthcare (Bansal et al., 2018; Riley et al., 2017).

**g time:**The initial interaction between patients and hospitals generally transpires during the outpatient waiting period. Consequently, waiting times are considered one of the primary indicators of high-quality services (Zhang et al., 2023).

**Cost:**The cost of dental care is considerable and is widely acknowledged as a significant barrier to accessing dental treatment (Shubayr et al., 2022; Ali, 2016). A multitude of complex factors affect the utilization of dental care. Numerous factors, including behavioral, socioeconomic, cultural predispositions, enabling factors, and need-based considerations, influence an individual to seek or avoid professional dental care (Emami et al., 2017).

### **Study Problem**

Patient satisfaction is considered one of the important indicators of healthcare quality and a determinant of service effectiveness. Despite efforts to improve healthcare services, there is limited research on the factors that influence patient satisfaction with dental services in Saudi Arabia, especially with regard to accessibility, quality of care, communication, waiting times, and cost. Variability in satisfaction across demographic groups further complicates the understanding of patient needs. This study will, therefore, bridge the gaps and offer recommendations that will be useful in improving dental service delivery.

### **Study Questions**

- To what extent are patients satisfied with the dental services provided by hospitals in Saudi Arabia?
- How do demographic factors (e.g., age, gender, and education level) influence patient satisfaction with dental services?
- What is the impact of accessibility on patient satisfaction with dental services?
- How does the quality of dental care affect patient satisfaction?
- What is the role of communication between dental staff and patients in determining patient satisfaction?
- How do waiting time and cost influence patient satisfaction with dental services?

**the study:**To detect patient satisfaction with dental services provided by hospitals in Saudi Arabia.

### Objectives

- 1- To assess patient's satisfaction with dental services provided by hospitals in Saudia Arabia.
- 2- To determine the effect of demographic factors and accessibility on patient satisfaction.
- 3- To assess the effect of quality of dental care on patient satisfaction.
- 4-To assess the effect of communication on patient satisfaction.
- 5-To evaluate the effect of waiting time and cost on patient satisfaction.

### Methods

*Research design:*A descriptive-analytic cross-sectional research design was implemented in the Kingdom of Saudi Arabia to assess patient satisfaction with dental services offered by hospitals in the region.

*Researchplace:*The study was conducted within the health sector of the government of Saudi Arabia.

*Subjects:*Patients requiring dental care services in the government health sector of the Kingdom of Saudi Arabia, regardless of gender, must fulfill specific inclusion criteria to be eligible for sample inclusion.

*Sample size:*The study sample was 800 patients requiring dental care services, selected through the systematic random sampling method.

#### *Inclusion Criteria:*

The inclusion criteria were as follows:

- (1) patients need dental care services.
- (2) female and male.
- (3) from Saudi Arabia.

*SamplingTechnique:*Data was collected from participants via a survey.

*Tools for data collection:*It collected participant demographics, including age, gender, marital status, and educational level. Additionally, concerns regarding patient satisfaction with dental services offered by hospitals in Saudi Arabia were assessed.

:A panel of experts assessed the revisions to the tools to evaluate their content validity and ensure the necessary modifications were made.

*Ethical considerations:*Data was submitted by individuals via questionnaires.Data was obtained using a self-reported questionnaire. The ethics committee granted approval for this study. Prior to the administration of the questionnaire, each participant provided signed informed consent.

## Results:

### *Validity and Reliability Tests*

*Internal Consistency Reliability Calculation:*Pearson's Coefficient Correlation was calculated to verify the statement's validity after establishing the validity of the internal consistency between each objective's statements and the total score for the associated axis.

In order to determine the internal reliability of the questionnaire, a pilot sample comprising 30 healthcare staff members was recruited. Subsequently, as demonstrated in the following tables, the researchers calculated the correlation coefficients to assess the internal validity of the research instrument:

The dimensional correlation coefficients ranged between 0.301 and 0.891, indicating excellent correlation coefficients and strong internal consistency coefficients. This indicates that all of the statements are significant at the 0.01 level. The current study methodology provides reliable indicators of validity.

\*\* : p-value <0.001

*Reliability of the study tool:*We used Cronbach's alpha coefficient to examine the questionnaire's reliability, and the results demonstrated the reliability axis of the study tool as follows:

Cronbach's alpha coefficient reliability coefficient for the total score of the questionnaire

Cronbach's alpha 0.856

The table shows that Cronbach's alpha reliability coefficient for the total score of the questionnaire was (0.856), which is a good reliability coefficient suitable for the study.

*Application Method of the Study Tool:*Before entering the data into the computer for statistical analysis, we reviewed the collected data. Subsequently,data were annotated and tabulated.

were given five levels: strongly agree (5 points), agree (4 points), neutral (3 points), disagree (2 points), and strongly disagree (1 point). To determine the length of the pentavalent scale cells used in the study phrases, the range (5-1=4) was calculated and divided by the number of questionnaire cells (4/5=0.80). The Likert pentavalent scale correction procedure is shown in the following table.

**Table1.** Method for correcting the scale

Scale	The weight	The average arithmetic mean value ranges
StronglyDisagree	1	From1to lessthan 1.80
Disagree	2	From1.81tolessthan 2.60
Neutral	3	From2.61to lessthan 3.40
Agree	4	From3.41to4.20
Strongly agree	5	From4.21to5.

**Table2.** Sociodemographic characteristics of the studied participants

Sociodemographic variables	Cases (n=800)	
	No.	%
<i>Agecategory(years)</i>		
Less than 25 years	200	25%
From 26 to 35 years	260	32.5%
From 36 to 47 years	90	11.25%
More than 47 years	250	31.25%
<i>Gander</i>		
Male	350	43.75%
Female	450	56.25%

<i>Marital status</i>		
single	240	30%
married	290	36.25%
absolute	270	33.75%
<i>Job</i>		
Primary School	50	6.25%
High School	40	5%
Bachelor's Degree	320	40%
Master's Degree	290	36.25%
Doctorate	100	12.5%
<i>Frequency of Dental Visits</i>		
First visit	220	27.5%
Once a year	230	28.75%
Twice a year	140	17.5%
More than twice a year	210	26.25%

Table (2) indicates that 11.25% and 31.25% of the participants in the study were between the ages of 36 and 47 and > 47 years old, respectively. In terms of gender, more than half (56%) were females, and 44% were males. Additionally, 40% of the studied participants hold Bachelor's Degrees, while only %36.25 have a Master's Degree. Regarding the frequency of dental visits, 27.5% of the studied participants visit the dentist once annually.

*Secondly, results related to the axes of the questionnaire:*

**Table3.**Response of the studied participants regarding the first axe (Quality of Dental Services)of the questionnaire

No.	Cases (n=800)
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	Mean	SD	Category	Rank
1- How satisfied are you with the ease of scheduling appointments?	3.32	0.865	Neutral	1
2- How would you rate the waiting time before seeing the dentist?	2.46	0.67	disagree	4
3- How satisfied are you with the cleanliness and hygiene of the dental clinic?	2.23	0.865	disagree	5
4- How would you rate the quality of dental care provided?	3.12	0.758	neutral	2
5- How well did the dentist explain the procedures and treatment options?	2.95	0.657	neutral	3
6- How well did the dentist explain the procedures and treatment options?	1.92	0.895	disagree	6
<b>Total score</b>	2.85	0.788	neutral	

The findings displayed in Table (3) indicate a divergence in survey participants' views regarding the comprehensive quality standards and the productivity of healthcare workers within the public health system of the Kingdom of Saudi Arabia. The average range of agreement was between 3.32 and 1.92.

Phrase (1): "How satisfied are you with the ease of scheduling appointments?" ranked first, with a neutral of (3.32).

(4): "How would you rate the quality of dental care provided?" ranked second, with an average neutral of (3.12).

Phrase (5): "How well did the dentist explain the procedures and treatment options?" ranked third, with an average disagreement of (2.95).

**Table 4.** Response of the studied participants regarding the second axe (Interaction with Dental Staff) of the questionnaire

No.		Cases (n=800)			
		Mean	SD	Category	Rank
1-	How would you rate the professionalism and courtesy of the dental staff?	2.72	0.699	neutral	3
2-	How satisfied are you with the communication skills of the dental staff?	3.735	0.741	Agree	1
3-	Did the dental staff answer all your questions and concerns adequately?	1.62	0.831	disagree	4
4-	How would you rate your overall experience with the dental staff?	2.92	0.758	neutral	2
<b>Total score</b>		3.56	0.821	agree	

Phrase (2): "How satisfied are you with the communication skills of the dental staff?" ranked first, with an average agreement of (3.735).

Phrase (4): "How would you rate your overall experience with the dental staff?" ranked second, with an average agreement of (1.62).

Phrase (1): "How would you rate the professionalism and courtesy of the dental staff?" ranked third, with an average agreement of (2.72).

response of the studied participants regarding the third axe (Facility and Environment) of the questionnaire

No.		Cases (n=800)			Rank
		Mean	SD	Category	
1-	How satisfied are you with the overall cleanliness and comfort of the waiting area?	4.13	0.699	Agree	1
2-	How would you rate the availability and accessibility of dental services at this hospital?	1.62	0.741	Strongly disagree	3
3-	How satisfied are you with the availability of dental care equipment and technology?	2.82	0.831	neutral	2
<b>Total score</b>		3.52	0.821	agree	

Phrase (1): "How satisfied are you with the overall cleanliness and comfort of the waiting area?" ranked first, with an average agreement of (4.13).

Phrase (3): "How satisfied are you with the availability of dental care equipment and technology?" ranked second, with an average agreement of (2.82).

Phrase (2): "How would you rate the availability and accessibility of dental services at this hospital?" ranked third, with an average agreement of (3.735).

**Table6.**Response of the studied participants regarding the fourth axe (overall satisfaction) of the questionnaire

No.		Cases (n=800)			Rank
		Mean	SD	Category	

	Overall, how satisfied are				
1-	you with the dental services provided at this hospital?	2.82	0.699	neutral	1
	Would you recommend				
2-	this hospital's dental services to others?	2.42	0.831	disagree	2
	<b>Total score</b>	2.62	0.821	neutral	

Phrase (1): "Overall, how satisfied are you with the dental services provided at this hospital?" ranked first, with an average agreement of (2.82).

Phrase (2): "Would you recommend this hospital's dental services to others?" ranked second, with an average agreement of (2.42).

**Discussion:** This study has five primary objectives: to assess patient satisfaction with dental services provided by hospitals in Saudi Arabia and to detect the effect of demographic factors and accessibility on patient satisfaction. In addition, the study aimed to evaluate the effect of the quality of dental care on patient satisfaction, determine the effect of communication on patient satisfaction, and investigate the effect of waiting time and cost on patient satisfaction.

This study exhibits numerous variations based on participants' sociodemographic characteristics. The findings indicated that 25%, 32.5%, 11.25%, and 31.25% of the participants were under 25 years, between 26 and 35 years, between 36 and 47 years, and over 47 years, respectively. In terms of gender distribution, 56% of participants were female, while 44% were male. Regarding educational attainment, 40% of the participants hold a Bachelor's Degree, whereas 36.25% have a Master's Degree.

Similarly, Alhozgi et al. stated that the demographic and socioeconomic characteristics of patients such as age, education, gender, marital status, place of residence, income, and race are considered significant determinants of their satisfaction with the healthcare system<sup>10</sup>.

Overall, the questionnaire results showed general dissatisfaction with the provided dental services, with the accessibility and effectiveness of services showing a disagreement about satisfying services to participants. This suggests that dental services have relatively few weaknesses, but they can still be improved in certain domains.

questionnaire's results regarding the quality of dental services indicated a neutral agreement among participants regarding patient satisfaction with the accessibility of dental services (mean: 2.85, SD: 0.788). The range of agreement averages was 1.92 to 3.32.

The participants expressed differing opinions regarding the waiting time prior to dental appointments (mean: 2.46), the cleanliness and hygiene of the dental clinic (mean: 2.23), and the procedures and treatment alternatives (mean: 1.92). They showed natural qualities of dental care provided (mean: 3.12) and ease of scheduling appointments (mean: 3.32).

Consistent with our research findings, the studies of Orfali SM and Aldossary MS indicated dissatisfaction with quality. These studies attributed this result to low adherence to care standards, low treatment utilization, or treatment discontinuation<sup>12</sup>.

The questionnaire results indicated a consensus among participants concerning patient satisfaction with the accessibility of dental services (mean: 3.56, SD: 0.821). The participants' agreement averages were categorized within the second and fourth levels of the Likert scale, indicating a range from neutrality to agreement with the study tool. They varied from 1.62 to 3.735.

The participants exhibited a natural inclination towards the professionalism and courtesy of the dental staff (mean: 2.72) and expressed agreement regarding the communication skills of the dental staff (mean: 3.735). There was a disagreement regarding the adequacy of responses to all questions and concerns (mean: 1.62).

Prior research demonstrated a positive correlation between a dentist's demeanor, attentiveness to patient needs, and overall satisfaction, which is consistent with the current study's findings<sup>6</sup>.

The questionnaire's results regarding the facility and environment showed an agreement among the study participants regarding patients' satisfaction with dental services accessibility (mean: 3.52, SD: 0.821).

The participants reached an agreement regarding the overall cleanliness and comfort of the waiting area (mean: 4.13) as well as the availability and accessibility of dental services at this hospital (mean: 2.82). However, participants expressed significant disagreement regarding the accessibility of dental care equipment and technology (mean: 1.62).

Most patients in a prior study by Aldossary M, Alahmary M, et al. indicated satisfaction with the facility's cleanliness, yielding an average score of 4.11 out of 5 (82.2%). Satisfaction with

control features was rated at 4.0 out of 5 (80%), which contradicts the current study results.

**Conclusion:** The evaluation of prior research reveals a variety of perspectives regarding patient satisfaction with dental care services. Age and education emerged as significant variables. In addition, patients with higher education levels exhibited lower satisfaction levels. Improving patient satisfaction necessitates addressing access issues and maintaining high professional standards, particularly in public dentistry clinics that serve underprivileged communities. Patient satisfaction remains a crucial indicator of healthcare quality and must be consistently monitored to facilitate improvements in service delivery.

**Recommendations:** Our research indicates that to enhance patient satisfaction and improve the standard of dental care in rural areas, the government should develop and implement quality assurance programs. All dental clinics must have the necessary equipment to foster confidence in the quality of care provided. In this regard, establishing mobile dentistry clinics can effectively address accessibility issues in rural areas of Saudi Arabia. It is suggested that a tab be implemented at each clinic to evaluate the physician who provided the service in order to enhance the quality of service. This would entail recording evaluation results in their annual review, assessing service delivery to measure patient satisfaction, and investigating potential ways to improve the current circumstances.

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