

ASSESSMENT OF PATIENT SATISFACTION UNDER DENTAL HOUSE OFFICER CARE A CROSS-SECTIONAL STUDY AT DOW DENTAL COLLEGE

Dr. Sania Qureshi^{*1}, Dr. Saad Uddin Siddiqui², Dr. Saqif Nasir³, Dr. Kashif Abrar⁴,
Dr. Aqeel Aslam⁵, Dr. Mohammad Mustafa⁶, Dr Arifa Fatima⁷

^{*1,3}Lecturer, Department of Oral medicine, Dow Dental College (DDC), Dow University of Health Sciences (DUHS), Karachi, Pakistan

²Incharge & Chairperson, Assistant Professor, Department of Oral Medicine, Dow Dental College (DDC), Dow University of Health Sciences (DUHS), Karachi, Pakistan.

⁴Lecturer, Department of Periodontology, Dow Dental College (DDC), Dow University of Health Sciences (DUHS), Karachi, Pakistan

⁵Senior Instructor, Department of Oral Maxillofacial surgery, Dental Dental section, Agha Khan University Hospital, Karachi, Pakistan

⁶Assistant Professor, Department of Periodontology, Shahida Islam Dental College, Lodhran, Pakistan

⁷Scientific Officer, Department of Oral Medicine, Dow Dental College (DDC), Dow University of Health Sciences (DUHS), Karachi, Pakistan

^{*}sania.qureshi@duhs.edu.pk

DOI: <https://doi.org/10.5281/zenodo.16019624>

Keywords

patient satisfaction, dental clinics, oral health, dental care, quality of care, dental school

Article History

Received: 11 April, 2025

Accepted: 02 July, 2025

Published: 17 July, 2025

Copyright @Author

Corresponding Author: *

Dr. Sania Qureshi

Abstract

Introduction: Dentists provide treatments spanning oral health exams, pain relief, aesthetics, and functional restoration. Dental colleges deliver thorough care via supervised student practitioners, prioritizing excellence. In order to provide the appropriate health-care services to patients, it is essential to investigate their health-care needs, and expectations.

Aims & objectives: This study aims to evaluate how satisfied patients are with the dental facilities, services and the level of care they receive by dental house officers to improve the quality of care being provided.

Methodology: A questionnaire-based survey quantified factors impacting satisfaction from different departments. Anonymity was ensured in the questionnaire to secure participant privacy.

Result: A total of 250 questionnaires were distributed, and 206 responses were received. The findings revealed a very high level of overall satisfaction among the participants, indicating strong contentment with the treatment received. Majority of the patient were satisfied with the Oral Surgery department as compare to other departments. The treatment received unanimous satisfaction, highlighting that patient satisfaction was consistent across gender, age, and departments at the dental clinic.

Conclusion: Our study found that patients are very satisfied with the care provided by dental house officers, reflecting their dedication to quality and patient needs. However, there were few dissatisfied patients, so it's important to improve

care quality. Providing excellent patient experiences can attract and keep more patients, benefiting dental house officers and the institute as a whole.

INTRODUCTION

BACKGROUND:

Dentists provide treatment to maintain oral health, alleviate pain, improve aesthetics, and restore full-mouth functionality. People typically choose dental clinics or hospitals that are accessible, practical, and affordable. While most clinics focus on treating oral health issues, dental colleges and allied hospitals offer comprehensive treatments due to their reputation, affordability, and professional expertise.¹

Dental colleges train students to provide high-quality care under professional supervision. Despite longer appointments, they attract many patients due to lower costs and a reputation for high standards. This emphasizes the need for young dentists to maintain strong professional conduct..^{2,3}

A great deal of progress has taken place in the past few years in the dental field, where dental care has evolved from a dental focus into a patient focus approach. This approach focuses not only on the oral issue but also on how the patient is welcomed, managing any systemic conditions, and the length of treatment.⁴ Patient satisfaction must be prioritized in all aspects of dental care at educational institutions, including their dental clinics, with regard to continuously satisfy the needs of both patients and young dentists.⁵

In order to provide the appropriate health-care services to patients, it is essential to investigate their health-care issues, requests, needs, and expectations.⁶ Assessing patient satisfaction in relation to dental care offered may be done with the aid of tools like structured surveys that track patients' responses to dental treatment.⁴ Such surveys have yielded some insightful data that has been useful in enhancing the standard of healthcare and developing strategic plans for the future.⁶

Since it is necessary to determine patient satisfaction with care provided by our students and house officers, the current study aims to gain insight into whether patients are satisfied with the treatment they receive at Dow Dental College, which is home to our house officers as their treatment providers.

Aims & objectives:

Health care organizations all across the world are very concerned about quality. In numerous dental schools

around the world, the satisfaction of patients has been studied. Dental professionals may experience a tremendous deal of stress and anxiety as a result of patients' dental concerns. Thus, by knowing the level of satisfaction among the patients, what comforts them and what doesn't, will encourage the young dentists to act in a professional manner. Using this study, doctors at Dow Dental College will assess how satisfied patients are with the dental facilities, services, and the quality of care they receive from dental house officers.

Methodology:

A cross-sectional study was conducted at Dow Dental College to analyze the satisfaction of patients with the treatment provided by dental house officers and the overall environment. The survey was conducted via questionnaire to quantify the parameters influencing patient satisfaction. These questionnaires were handed over to the patients when they visit the reception counter upon completion of their treatment where they come for the payment of the services that were provided.

Sample: Sample size was calculated using the Open Epi system, version 3. As a result of the calculation, the estimated sample size was at least 135 with a 95% confidence level and 5% confidence limit based on the level of patient satisfaction. With proper screening according to our inclusion and exclusion criteria, the study consisted around 200 patients. Patients were chosen from different departments in Dow Dental College i.e. Periodontal department, Oral Maxillofacial surgery department, Operative Department, Removable and Fixed Prosthodontic departments. The questionnaires were provided to all departments, which were filled by the house officers by asking the patients once treatment had been completed. Since many of the patients were not literate, this was a challenging task.

Each participant's individual identification was secured by the questionnaire being anonymous, containing no identifiers.

Inclusion criteria: All patients whose treatment has been completed and has provided their consent to participate in this research.

Exclusion criteria: Patients under the age of 18, mentally retarded patients, those who have not completed the questionnaire, orthodontic patients, and patients with language issues as they are from different regions and speak different languages, but there are English and Urdu versions of the questionnaire.

Data collection tool: The questionnaire from Othman's study ⁷ was utilized and modified for this investigation. This questionnaire is widely used in various articles to analyze patient satisfaction. ⁸⁻¹² The study used a pre-designed, validated questionnaire originally in English, which was translated into Urdu to address language barriers, to

avoid the language barrier among our population. A back-translation method was applied, where another author re-translated the Urdu version into English to ensure accuracy and consistency. Any discrepancies were discussed and resolved, enhancing the instrument's validity in the local context. This process enhanced the **content and face validity** of the instrument in the local context.

Since the questionnaire was translated back and forth, the reliability was assessed to ensure the accuracy of the translated content. This involved comparing the original and translated versions to identify any discrepancies or inconsistencies. The assessment ensured that the questionnaire maintained its intended meaning and effectiveness across different languages. Upon confirmation of tool reliability, it was found satisfactory for each section and overall as well. (Cronbach's $\alpha > 0.7$) As shown in figure 01, the overall reliability of the questionnaire is 0.9.

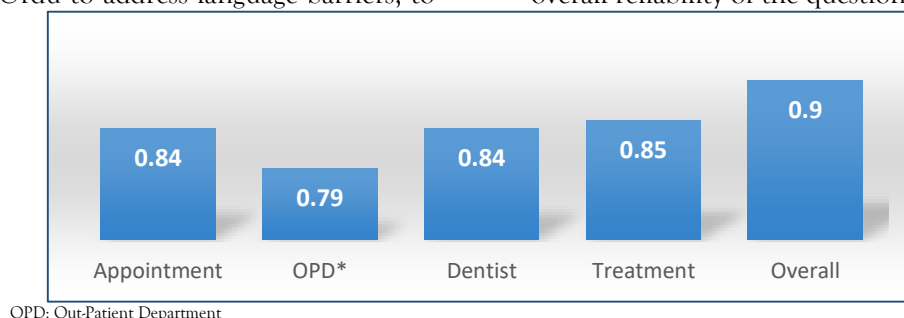


Figure I. Reliability of questionnaire

It comprises 22 questions, which are broken into four main sections. The first section was about appointments which consisted three items. Second section was related to OPD Setup (four items), which concerned the overall environment, cleanliness and comfort. Third section was regarding the dentist (seven items), asking about the behavior, professionalism and attitude towards the patient.

Fourth section concerned the efficiency of the treatment which consisted eight items.

In order to assess the scoring, the survey utilized a five-point Likert scale, with "strongly agree" as the highest response [5] and "strongly disagree" as the lowest response [1]. According to Table 1, the cutoff value for the overall survey and each section is 70%.

Table I. Satisfaction scoring criteria

	Item	Score range	Satisfaction (70%)	Cutoff
overall satisfaction	22	22-110	61.6	
Appointment	3	3-15	≥ 8.4	
OPD	4	4-20	≥ 11.2	
Dentist	7	7-35	≥ 19.6	
Treatment	8	8-40	≥ 22.4	

After receiving informed consent, questionnaires from participants were used to gather data. Items that were left unanswered will be coded with a zero to indicate a missing response. The results were then compiled to evaluate the satisfaction of patients.

Statistical Analysis Plan

Prior to data collection, a statistical analysis plan was developed to guide how the data would be processed and interpreted. The collected data was entered and analyzed using Microsoft Excel. Descriptive statistics such as frequencies, percentages, means, and standard deviations were calculated to summarize the demographic data and responses to satisfaction-related items.

For inferential analysis, the Chi-square test was applied to assess associations between demographic variables and levels of patient satisfaction. The Chi-square test was appropriate as it is commonly used to examine relationships between categorical variables, which matched the nature of both the demographic data and satisfaction responses in this study. A p-value of less than 0.05 was considered statistically significant.

Reliability of the questionnaire was measured using Cronbach's alpha to ensure internal consistency of the scale.

Result:

A total of 250 questionnaires were distributed, and 206 responses were received. The overall response rate was 82%. The participants consisted of males (42%) and females (58%) with their ages ranging from 18 to 68 with mean 34 ± 11 years. Highest number of questionnaires received from Oral surgery department i.e. 33%, followed by prosthodontic department i.e. 25% and almost same number of questionnaires were collected from periodontology and operative dentistry i.e. 21% each.

The findings revealed that the mean overall satisfaction score among the participants was 99.2, indicating a high level of contentment with the treatment received at the dental hospital.

Table 03 presents overall satisfaction levels at a dental hospital, categorized by gender, age group, and department. Based on the distribution of participation for the two genders, females were more satisfied with the program than males (58:42). The satisfaction difference between genders is statistically non-significant ($p\text{-value} > 0.05$). Patients with a satisfaction level of 48% were primarily between the ages of 31 and 50 ($p\text{-value} > 0.05$). While the majority of the patients were satisfied with the Oral Surgery department as compared to other departments i.e. 32.4%.

Table II: Association of overall satisfaction with demographic characteristics

Demographic Characteristics	Satisfied N = 204 (%)	Not Satisfied N = 2 (%)	P-value ^ε
Gender			
Male	86 (42.2)	1(50)	0.82
Female	118 (57.8)	1(50)	
Age (years)			
18 – 30	86 (42.2)	0(0)	0.34
31 – 50	98 (48.0)	2 (100)	
> 50	20 (9.8)	0 (0)	
Department			
Periodontics	43 (21.1)	0(0)	0.25
Oral Surgery	66 (32.4)	2 (100)	
Operative Dentistry	44 (21.6)	0 (0)	
Prosthodontics	51 (25.0)	0 (0)	

^εChi-square test for association

Table III represents patient satisfaction levels related to appointments and the outpatient department (OPD). Male participants showed 44% satisfaction

with appointments and 42% with the OPD, while females showed 56% satisfaction with appointments and 58% with the OPD. There is a significant

difference between satisfied and dissatisfied patients among the age groups, group of 31 to 50 years, shows around 47% satisfaction with appointments and 49% satisfaction with OPD. Patients of the same age group are approximately 52% dissatisfied with appointments, however 67% dissatisfied with OPD belong to the first age group, 18 to 30 years of age.

Across gender and age groups, non-significant variations ($p>0.05$) were observed for appointments and the OPD. In department comparison, significant differences were found in satisfaction for appointments ($p\text{ value}<0.05$), which demonstrates a lower satisfaction level in operative dentistry as compared to other departments.

Table III: Association of Satisfaction level of appointment, OPD, dentist and treatment with demographic characteristics

Demographic Characteristics	Appointment		OPD			P-value	Dentist			Treatment		
	Satisfied N (%)	Not Satisfied N (%)	Satisfied (n)	Satisfied (n)	Not Satisfied (n)		Not Satisfied (n)	P-value ^e	P-value	Satisfied N (%)	Not Satisfied N (%)	P-value
Gender												
Male	75 (44.1)	12 (33.3)	84 (42.0)	87(42.2)	0	N/A	3(50.0)	0.7		86 (42.4)	1 (33.3)	
Female	95 (55.9)	24 (66.7)	116 (58.0)	119 (57.8)	0		3(50.0)		0.23	117 (57.6)	2 (66.7)	0.75
Age (years)												
18 – 30	70 (41.2)	16 (44.4)	85 (42.5)	86 (41.7)	0	N/A	1 (16.7)	0.22		84 (41.4)	2 (66.7)	
31 – 50	81 (47.6)	19 (52.8)	95 (47.5)	100 (48.5)	0		5 (83.3)		0.3	99 (48.8)	1 (33.3)	0.64
> 50	19 (11.2)	1 (2.8)	20 (10.0)	20 (9.7)	0		0 (0.0)			20 (9.9)	0 (0)	
Department												
Periodontics	39 (22.9)	04 (11.1)	42 (21.0)	43 (20.9)	0	N/A	1 (16.7)	0.28		43 (21.2)	00 (0)	
Oral Surgery	59 (34.7)	9 (25.0)	64 (32.0)	68 (33.3)	0		4 (66.7)			65 (32.0)	3 (100)	
Operative Dentistry	24 (14.1)	20 (55.6)	43 (21.5)	44 (21.4)	0		1 (16.7)		<0.001	44 (21.7)	0 (0)	0.1
Prosthodontics	48 (28.2)	3 (8.3)	51 (25.5)	51 (24.8)	0		0 (0.0)			51 (25.1)	0 (0)	

^eChi-square test for association, OPD: Outpatient department

Table III also represents patient satisfaction levels with regards to the dentist and treatment categorized by gender, age group, and department. The satisfaction rate of females was higher than that of males, despite the fact that three of each gender were unsatisfied. Most satisfied patients belong to the second age group i.e., 31 to 50, demonstrating around 95% satisfaction for dentist and 100% satisfaction for treatment, while most dissatisfied patients belong to the same age group demonstrating around 83% dissatisfaction for dentist. The dentists of the Oral surgery department had the most satisfied number of patients departmentally wise but also included the

highest number of dissatisfied patients among other departments. While the overall satisfaction rate for treatment was 100%.

Overall, the study suggests that patient satisfaction levels were generally consistent across gender, age, and departments at the dental clinic.

Discussion

In recent years, the evaluation of health care quality has emerged as a key issue for all health services, and patient perspectives have been recognized as an essential component of such evaluations¹³. In reviewing the literature regarding health care, it

became evident that a substantial number of studies were conducted not only in emerging, developing countries but also in well-developed countries, indicating the importance of analyzing areas for improvement¹⁴⁻¹⁶. As part of the evaluation process of oral health care quality, patients may participate in three ways: by setting standards of care (i.e. defining what is desirable or undesirable); by providing information that will assist others in evaluating care quality; or by expressing satisfaction or dissatisfaction with care.¹⁷

A number of patients participated in this study by providing information about oral health care and expressing satisfaction or dissatisfaction with their dental house officers' treatment. These data were analyzed systematically in terms of appointment times, OPD environments, dentist behavior, and treatment provided as correlated with gender, age, and dental department. According to the results of our study, participants were extremely satisfied with the treatment provided by the dental hospital, resulting in an extraordinary mean overall satisfaction score. And achieved a commendable overall response rate, indicating a high level of engagement and interest among participants. It was found that females participated in the study more actively and willingly than males. And patients who were in the age range of 31 to 50 showed varying levels of satisfaction and dissatisfaction. As far as departmental satisfaction goes, oral surgery had the highest rate.

Among our sample, we found that the gender distribution and a wide age range is similar to that described in a study conducted in Turkey (2000) and Saudi Arabia (2022).^{18,19} Despite the fact that the overall satisfaction levels between males and females were not statistically significant, there were some differences in appointment and outpatient department (OPD) satisfaction between males and females. Our study shows slightly higher number of satisfaction rate among females as compared to males which contrasts with a study conducted in Saudi Arabia (2012) that reported higher satisfaction levels among males.⁸ Whereas, other studies reported that women are usually more satisfied with dental care than men.²⁰⁻²²

A wide range of age were included in this study, starting with 18 years. These were divided into 3 groups i.e. 18 to 30, 31 to 50 and 50 onwards. The

predominant age groups were 31 to 50 followed by 18 to 30 and then 50 onwards. Study conducted in Sri Lanka (2021) confirmed similar findings, suggesting that maturity level has a significant effect on satisfaction assessment.²³ Some studies have shown that older patients are more likely to be satisfied with the quality of dental care provided than younger patients.²⁴ On the other hand, a study conducted in Finland found that elderly patients were less satisfied than younger patients. This was attributed to younger people having better oral health than the elderly.²⁴

The departmental distribution of patients and its correlation with satisfaction levels provide valuable insights. The Periodontology and Oral Surgery departments, in particular, reported higher levels of satisfaction with their appointments and the outpatient department compared to Operative Dentistry and Prosthodontics. Similar results were seen in different studies of Sri Lanka and Kuwait with highest satisfaction rate in Oral Surgery.^{23,25} In accordance with the study by Dental School of Tehran University of Medical Sciences, it has been shown that specialized departments often deliver more focused and tailored patient care, contributing to a higher level of satisfaction for patients.²⁶ However patients seem to have low satisfaction levels with the department of operative dentistry, probably due to the fact that they had multiple sessions to complete their treatment.²⁷

The overall satisfaction level of patients is quite high, demonstrating the dedication of our young dentists and their desire to provide the best possible care. These results are similar to those of many other studies conducted throughout the world, including Sri Lanka, the West Indies, Saudi Arabia, Pakistan and many others.^{8,19,22,23,28,29} In contrast, a study conducted in Taiwan found that patients gave little confidence to junior dentists and preferred to be treated by a senior dentist.³⁰

Our study adds to the growing body of research on patient satisfaction with dental house officers' treatment. By systematically examining gender, age, and departmental influences on satisfaction, we provide a comprehensive understanding of patient experiences. There is a degree of consistency between our findings and those of some previous studies, while other aspects do differ. This underscores the complexity of patient satisfaction in dental settings. In

light of the results of these studies, it is apparent that personalized communication, efficient appointment systems, and comprehensive treatment across departments are essential.

Limitations

A few limitations are evident in this study, which suggest slight modifications for future research. Since our research took place at only one site and was confined to the treatment provided by dental house officers, it may limit its generalizability. Future studies could employ a multi-site approach to ensure a broader representation. Furthermore, qualitative research can also help us comprehend more details of patient experiences, which will improve our knowledge of the factors that influence satisfaction. Second, Patients who chose to participate may be more satisfied than those who declined to participate. This could result in sampling bias.

Conclusion:

In summary, our study found that patients are very satisfied with the care provided by dental house officers, with an average satisfaction score of 99.2. This shows the dedication of dental house officers to quality care and the importance of focusing on patients' needs. However, there were a few dissatisfied patients, so it's important to improve care quality. Providing excellent patient experiences can attract and keep more patients, benefiting dental house officers and the institute as a whole.

Recommendation:

To improve patient satisfaction and service quality, it is recommended to implement a structured feedback system, offer multilingual support, and raise awareness in underrepresented communities. Future research should include multiple clinics and use open-ended questions or interviews for richer feedback. Longitudinal studies could also help assess changes in patient satisfaction over time, contributing to ongoing improvements in dental care services

LIST OF ABBREVIATIONS:

OPD: Out Patient Department

i.e.: id est / that is

e.g.: exempli gratia / for example

p- value: probability value

DECLARATIONS:

Ethical approval & consent to participate:

The study was approved by Dow University of health sciences' Institutional Review Board.(IRB-2869/DUHS/Approval/2023/189) Informed consent to participate was taken from all participants.

Consent for publication:

The consent for publication was taken from all participants.

Availability of data and materials:

The datasets used and analyzed during the current study are available from principal investigator (corresponding author) which can be given upon reasonable request.

Competing interests:

The authors declare that they have no competing interests.

Funding:

The current study did not receive any funding.

Author's contribution:

Dr. Sania Qureshi, the principal investigator, made a substantial contribution to the conception, design of the work, literature search, data collection, sample processing, data analysis and interpretation and led the writing.

Dr. Saad uddin Siddiqui, supervised and proofread the project, providing the final approval of the version to be published.

Dr. Saqif Nasir, contributed to the literature search, sample collection, data analysis, processing and drafting.

Dr. Arifa Fatima & Dr. Aqeel Aslam, aided in drafting the work or revising it critically for important intellectual content, data analysis and interpretation, designed figures and tables.

Dr. Kashif Abrar & Dr. Mustafa, translated the questionnaire back and forth, and edited the final manuscript.

All authors contributed to the interpretation of data, read and approved the final manuscript and agreed to be both personally accountable for their contributions and ensure that questions related to the accuracy or integrity of any part of the work are appropriately

investigated, resolved and the resolution documented in the literature.

Author information:

Dr. Sania Qureshi, lecturer in Oral Medicine at Dow Dental College (DDC), is responsible for the academic and clinical development of third-year BDS students, as well as for the supervision of House officers in the outpatient department. Additionally, engaged in a private practice, dealing with a variety of patients seeking dental care.

Dr. Saad Uddin Siddiqui, Assistant Professor of Oral Medicine at Dow Dental College (DDC), is both responsible for leading the Oral Medicine Department and for coordinating the 3rd year BDS program. He has also obtained the degree of MFDS and MOMS from Royal College of Surgeons (Glasgow).

Dr. Saqif Nasir, lecturer in Oral Medicine at Dow Dental College (DDC), plays a vital role of meeting the educational needs of 3rd year BDS students in a clinical and academic manner, and is also responsible for supervising house officers in OPD. She is currently undertaking a postgraduate course of MPHE from Dow University of Health Sciences.

Acknowledgements:

We would like to thank all the participants who cooperated with us, without whom this study would not have been possible.

REFERENCES

- Habib SR, Ramalingam S, Beladi AA, Habib AA. PATIENTS' SATISFACTION WITH THE DENTAL CARE PROVIDED BY DENTAL STUDENTS. *J Ayub Med Coll Abbottabad*. 2014;26(3):353-356.
- BudhiKismiaryani E, FauzanAzhmy M, Pasaribu F. Analysis of the Influence of Dental and Oral Health Services on BPJS Patient Satisfaction at Kaliwungu Kendal Health Center. *JMET J ManagEntrep Tour*. 2025;3(1):103-121. doi:10.61277/jmet.v3i1.184
- Yuan S, Freeman R, Hill K, Newton T, Humphris G. Communication, Trust and Dental Anxiety: A Person-Centred Approach for Dental

Attendance Behaviours. *Dent J*. 2020;8(4):118. doi:10.3390/dj8040118

Luo JY, Liu PP, Wong MC. Patients' satisfaction with dental care: a qualitative study to develop a satisfaction instrument | *BMC Oral Health* | Full Text. Accessed September 26, 2023. <https://bmcoralhealth.biomedcentral.com/articles/10.1186/s12903-018-0477-7?report=reader>

Ahmady AE, Pakkhesal M, Zafarmand AH, Lando HA. Patient Satisfaction Surveys in Dental School Clinics: A Review and Comparison. *J Dent Educ*. 2015;79(4):388-393. doi:10.1002/j.0022-0337.2015.79.4.tb05895.x

Badran A, Keraa K, Farghaly MM. The impact of oral health literacy on dental anxiety and utilization of oral health services among dental patients: a cross sectional study. *BMC Oral Health*. 2023;23(1):146. doi:10.1186/s12903-023-02840-3

Othman. Othman L, Jaafar N. A survey of customer satisfaction with the school dental service among 16-year-old schoolchildren in the district of Tawau, Sabah [monograph]. Kuala Lumpur, Malaysia: Oral Health Division, Ministry of Health and University of Malaya. 2004.

Mahrous MS, Hifnawy T. Patient satisfaction from dental services provided by the College of Dentistry, Taibah University, Saudi Arabia. *J Taibah Univ Med Sci*. 2012;7(2):104-109. doi:10.1016/j.jtumed.2012.12.002

Satisfaction with healthcare services among refugees in Zaatari camp in Jordan | *BMC Health Services Research*. Accessed May 2, 2024. <https://link.springer.com/article/10.1186/s12913-021-06471-8>

Viswanath D, Krishna AV. Correlation between dental anxiety, sense of coherence (SOC) and dental caries in school children from Bangalore North: A cross-sectional study. *J Indian Soc Pedod Prev Dent*. 2015;33(1):15. doi:10.4103/0970-4388.148962

- Satisfaction With School Dental Service Provided by Mobile Dental Squads - Noormi Othman, Ishak Abdul Razak, 2010. Accessed May 2, 2024. <https://journals.sagepub.com/doi/abs/10.1177/1010539510370794>
- Shetty A, Hegde P, Madiyal A, Bhandary R, Thomas B. Patients' Satisfaction as a Tool of Dental Setting and Dental Services Assessment in the Dental College of Mangalore. *Acta Medica Bulg.* 2018;45(2):36-44. doi:10.2478/amb-2018-0017
- Shahid M, Freeman R. What is the function of psychosocial factors in predicting length of time since last dental visit? A secondary data analysis. *Int Dent J.* 2019;69(5):369-375. doi:10.1111/idj.12483
- Srivastava A, Avan BI, Rajbangshi P, Bhattacharyya S. Determinants of women's satisfaction with maternal health care: a review of literature from developing countries. *BMC Pregnancy Childbirth.* 2015;15(1):97. doi:10.1186/s12884-015-0525-0
- Asif M, Jameel A, Hussain A, Hwang J, Sahito N. Linking Transformational Leadership with Nurse-Assessed Adverse Patient Outcomes and the Quality of Care: Assessing the Role of Job Satisfaction and Structural Empowerment. *Int J Environ Res Public Health.* 2019;16(13):2381. doi:10.3390/ijerph16132381
- Ho JCY, Chai HH, Luo BW, Lo ECM, Huang MZ, Chu CH. An Overview of Dentist-Patient Communication in Quality Dental Care. *Dent J.* 2025;13(1):31. doi:10.3390/dj13010031
- Manzoor F, Wei L, Hussain A, Asif M, Shah SIA. Patient Satisfaction with Health Care Services; An Application of Physician's Behavior as a Moderator. *Int J Environ Res Public Health.* 2019;16(18):3318. doi:10.3390/ijerph16183318
- Gürdal P, Çankaya H, Önem E, Dinçer S, Yilmaz T. Factors of patient satisfaction/dissatisfaction in a dental faculty outpatient clinic in Turkey. *Community Dent Oral Epidemiol.* 2000;28(6):461-469. doi:10.1034/j.1600-0528.2000.028006461.x
- Altwaijri A. Patient's perception of the treatment performed by dental students: A cross-sectional satisfaction survey. *Asian J Oral Health Allied Sci.* 2022;12. doi:10.25259/AJOHAS_16_2021
- Gopalakrishna P, Mummalaneni V. Influencing satisfaction for dental services - ProQuest. Accessed September 26, 2023. <https://www.proquest.com/openview/88330116c71f8e7a0ef8cbcb9d1b5cae/1?pq-origsite=gscholar&cbl=36770>
- Tabatabaei, S.H., Lotfi, M.H., Yarman, S., et al. Evaluation of Patients' satisfaction with the services at Khatamolanbia Dental Clinic in Yazd....., 2014. Evaluation of Patients' satisfaction with the services at Khatamolanbia Dental Clinic in Yazd, 2011. *Tolooebehdasht,* 13(4), pp.66-82. *J Tolooebehdasht.* 2014;13(4):66-82.
- Hassan, Arooj, Khalid, Arsala, Nawaz, Muhammad. Patient Satisfaction in Dental Teaching Hospitals of Lahore. *Pak J Med Health Sci.* 2020;14(4):969-972.
- Jayasuriya NS, Perera IR, Gunasena C, et al. Perceived Satisfaction of Patients and Related Factors for Oral Surgery Student Dental Clinic: Evidence From Sri Lanka - Nadeena Sri Swarnagupta Jayasuriya, IroshaRukmali Perera, ChandiraGunasena, SakunthaRatnapreya, MadhubhashineeDayabandara, R M Sumudu Himesha B Medawela, Manjula Attygalla, ParakramaWijekoon, Kanchana Kapugama, 2021. Accessed September 26, 2023. <https://journals.sagepub.com/doi/full/10.1177/2374373521998817>
- Leung KCM, Chu CH. Dental Care for Older Adults. *Int J Environ Res Public Health.* 2022;20(1):214. doi:10.3390/ijerph20010214

- Al-Mudaf BA, Moussa MA, Al-Terky MA, Al-Dakhil GD, El-Faragy AE, Al-Ouzairi SS. Patient Satisfaction with Three Dental Speciality Services: A Centre-Based Study | Medical Principles and Practice | Karger Publishers. Accessed September 26, 2023. <https://karger.com/mpp/article-abstract/12/1/39/202826/Patient-Satisfaction-with-Three-Dental-Speciality>
- Dorri H, Farid F, Seidi D. Evaluation of patients' satisfaction from dental care services provided by dental school of Tehran University of Medical Sciences in academic year 2006-2007. *J Dent Med*. 2011;24(3):249-255.
- Melgaço-Costa JLB, Martins RC, Ferreira EF, Sobrinho APR. Patients' Perceptions of Endodontic Treatment as Part of Public Health Services: A Qualitative Study. *Int J Environ Res Public Health*. 2016;13(5):450. doi:10.3390/ijerph13050450
- Balkaran RL, Osoba T, Rafeek R. A Cross-sectional Study of Patients' Satisfaction with Dental Care Facilities: A Survey of Adult Treatment at the University of the West Indies, School of Dentistry - PMC. Accessed September 26, 2023. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4655678/>
- Yeon AAA, Kamaruddin AI, Harun NA, Kusumawardani A. Parents' satisfaction and the quality of dental care provided by dental students at International Islamic University Malaysia. *Mater Today Proc*. 2019;16:2341-2350. doi:10.1016/j.matpr.2019.06.131
- Lee KT, Chen CM, Huang ST, et al. Patient satisfaction with the quality of dental treatment provided by interns. *J Dent Sci*. 2013;8(2):177-183. doi:10.1016/j.jds.2012.05.015.

