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Original Article

Awareness of Teledentistry Among Patients Visiting an Urban Tertiary Dental Hospital in Karachi, Pakistan: A Cross-Sectional Study

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ABSTRACT

Objective: To determine how much patients of an urban tertiary dental hospital in Karachi, Pakistan know about tele-dentistry, including their understanding of its definition, perception of its benefits, and knowledge of its availability.
Study Design: Cross-sectional study.
Place and Duration of Study: Department of Oral Diagnosis, Hamdard University Dental Hospital, Karachi, Pakistan; Feb 2023 to Feb 2024.
Methodology: A total of 382 participants were enrolled through non-probability purposive sampling technique. A pre-tested self-administered 12-item questionnaire was used to measure tele-dentistry familiarity, attitudes, and prior experience.
Results: Out of 382 participants, 374(98%) had never heard of tele-dentistry. Only 19(5%) had used tele-dentistry before and 344(90%) did not think it would be beneficial for them. A significant statistical Association was found between age and awareness (χ^2 = 12.86, df = 6, *p* value = 0.045). However, no significant relationships were found between gender, marital status, educational level, occupation, or area of residence.
Conclusion: Dental patients in cities of Pakistan do not knowmuch about tele-dentistry. Since the healthcare sector is going digital and the world is getting more and more hostile, Pakistan needs to start making plans for tele-dentistry in emergencies, running awareness campaigns, and including it in the National Health Vision.

Keywords: Armed Conflict, Awareness, Digital Health, Humanitarian Crisis, Pakistan, Teledentistry, Telehealth

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INTRODUCTION

Tele-dentistry combines telecommunications, electronic health records, digital images, and videoconferencing to provide dental services across various barriers. Originating from the U.S. Army's Total Dental Access program in 1994, it has evolved into a comprehensive system for remote consultations, triage, diagnosis, follow-ups, and interprofessional collaborations.[1]

Tele-dentistry has rapidly gained traction globally due to the COVID-19 pandemic, facilitating patient consultations and emergency care amid restricted access. Its significance extends beyond the pandemic; in regions like the Middle East and North Africa, affected by numerous armed conflicts, tele-dentistry is vital not just for healthcare but as a humanitarian effort, delivering essential oral health services despite damage to facilities and the displacement of healthcare professionals.[2-4]

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According to UNHCR, over 110 million people are forcibly displaced worldwide, a record high. In conflict areas like Sudan, Gaza, Ukraine, and Yemen, dental infrastructures have been severely affected, with health workers either killed, displaced, or unable to work. Tele-dentistry, utilizing mobile phones and satellite internet, offers a solution for providing pharmacological guidance, triage, pain management, counseling, and referrals without physical contact.[3,5]

Pakistan faces regional instability, particularly due to active insurgencies in Baluchistan and Khyber Pakhtunkhwa, which could disrupt its dental infrastructure amidst conflicts. Therefore, increasing awareness of tele-dentistry and enhancing civilian capacity is crucial not only for digital health modernization but also for strengthening healthcare resilience and national preparedness.[6,7]

Pakistan's digital space is expanding, with over 182 million active mobile broadband subscribers and a 61% internet penetration rate, according to Pakistan Telecommunication Authority (2024). This advancement in digital infrastructure presents potential for tele-dentistry growth, contingent upon

continued development in awareness, digital literacy, and policy frameworks.[8]

The study addresses the need to assess patient readiness for tele-dentistry in Pakistan, where there is a significant dentist-to-population ratio of 1:8,600 and geopolitical challenges. Despite the global recognition of tele-dentistry's importance for healthcare resilience and Pakistan's growing digital infrastructure (61% internet penetration), its adoption is minimal. Existing literature highlights high awareness among dental professionals but reveals a substantial gap in patient awareness. This study aims to assess baseline patient awareness of tele-dentistry among individuals visiting Hamdard University Dental Hospital in Karachi. It focuses on identifying demographic factors influencing this awareness, with the goal of integrating tele-dentistry into Pakistan's national digital health promotion and emergency preparedness policies.

METHODOLOGY

This was a cross-sectional study conducted in the Department of Oral Diagnosis, Hamdard University Dental Hospital, Karachi Pakistan, from February 2023 to February 2024. Ethical approval was granted by the Research Ethics Committee of Hamdard University, Karachi (Approval No. 345-01-21).

Inclusion Criteria: were adults of 18 years and above of any gender living anywhere in Karachi, who are English literate and capable of handling a simple mobile application.

Exclusion Criteria: Individuals who did not voluntarily agree to participate or provide informed consent, dental faculty members and undergraduate students of Hamdard University Dental Hospital were excluded to limit response bias. The authors calculated the sample size with OpenEpi Version 3.0 (Awareness Percentage: 52.70%; 95% CI; 80% power).[9] which gave a minimum of 382 participants. Non-probability purposive sampling was employed. All participants provided implicit consent by completing the questionnaire; confidentiality was maintained throughout.

The questionnaire was adopted from a validated instrument developed by Estai *et al.*[10] in a study regarding perceptions of telemedicine among dental practitioners. Few modifications were done to the original tool to adapt the phrasing and context from a professional perspective to a patient-centric perspective suitable for the Pakistani population. The original reported a Cronbach's alpha of 0.88, indicating excellent internal consistency. Content validity for the modified version was established through expert review by faculty in the Department of Oral Medicine and Radiology, and the tool was pilot tested on 30 participants to confirm clarity and comprehension. The self-administered English questionnaire was carefully designed with 12 items and split into two parts: (i) socio-demographic characteristics (age, gender, marital status, highest level of education, profession, living area), and (ii) Likert-scale or dichotomous questions on tele-dentistry awareness, exposure, and perceived usefulness. The word 'tele-dentistry' was intentionally not disclosed earlier to the respondents to get a genuine estimate of their familiarity with the subject.

Data was analyzed using IBM Statistical Package for the Social Sciences (SPSS) Statistics Version 26.0 (IBM Corp., Armonk, NY, USA). Frequencies and percentages were calculated for all study variables e.g. gender, marital status, educational level, occupation, area of residence, tele-dentistry awareness (heard of tele-dentistry: yes/no), prior use of tele-dentistry services (yes/no), and perceived benefit of tele-dentistry (yes/no). To examine associations between tele-dentistry familiarity (the primary outcome heard of tele-dentistry or not) and demographic variables (age group, gender, marital status, educational level, occupation, and area of residence), the Pearson Chi-square test was applied, as all variables were categorical. The level of statistical significance was set at a two-tailed p-value of ≤ 0.05.

RESULTS

A total of 382 participants were included in the study, comprising 182 males (47.6%) and 200 females (52.4%). The largest proportion of participants belonged to the 20–34 years age group 132(34.4%), followed by 35–44 years 100(26.0%) and 45–54 years (21.6%). Most participants had matric-level education (37.0%) or were graduates 120(31.3%), and the majority resided in central Karachi (71.9%).

The results revealed a critically low level of tele-dentistry knowledge across the entire cohort. Only 8 persons (2%) had previously heard of 'tele-dentistry', while 374(98%) were entirely unfamiliar with the term. Regarding their understanding of tele-dentistry, 176(46%) selected 'Don't Know', 84(22%) associated it with 'Use of Internet', 65(17%) with 'Use of Computer', and 57(15%) with 'Distant Medical Prescription by a

Dentist'. Only 19 participants (5%) had previously used tele-dentistry services, with 363(95%) having no prior exposure. An overwhelming majority of 344(90%) reported that they did not perceive tele-dentistry as personally beneficial.

Gender-based comparison revealed statistically significant differences between female and male participants in two perceptions: experience with tele-dentistry (first time family member experienced tele-dentistry; p = 0.001) and ability to discuss presenting complaints with the dentist (p = 0.001). No statistically significant differences were observed for dentist understanding (p = 0.053), ease of communication software (p = 0.057), perceived benefit (p = 0.072), or time-saving perception (p = 0.072). A statistically significant difference was observed in future willingness to use tele-dentistry, which was higher among female participants (p = 0.047). These results are presented in Table I.

Table I: Patient responses related to Tele-Dentistry Perception, stratified by Gender (n=382)

Questions	Study Groups		p-Value
	Females (n = 200)	Males (n = 182)	
Was this your first time/family member experienced tele-dentistry? n (%)	No: 162 (80.2%)	No: 145 (79.7%)	0.001*
Were you able to discuss your presenting complaint with dentist? n (%)	Very Much: 5 (83.3%)	Very Much: 6 (85.7%)	0.001*
Was the dentist able to understand your problem and treat accordingly? n (%)	Somewhat: 1 (16.7%)	Somewhat: 1 (14.3%)	0.053
Was the communication software easy to use? n (%)	Yes: 5 (83.3%)	Yes: 6 (85.7%)	0.057
Do you think it is beneficial for you? n (%)	Disagree: 5 (83.3%)	Disagree: 6 (85.7%)	0.072
In your opinion, how is tele-dentistry beneficial for you? n (%)	Saves Time: 4 (66.7%)	Saves Time: 6 (85.7%)	0.072
Would you use tele-dentistry again in the future? n (%)	No: 3 (50.0%)	No: 5 (71.4%)	0.047*

$p \leq 0.05$ is statistically significant. Data presented as n (%).

The association between tele-dentistry familiarity and demographic variables is presented in Table II. A statistically significant association was observed between age and tele-dentistry familiarity, with younger participants (20–34 years) showing comparatively higher familiarity. No statistically significant associations were found between tele-dentistry familiarity and gender (p = 0.767), marital status (p = 0.226), educational level (p = 0.556), occupation (p = 0.671), or area of residence (p = 0.433). Age was the only demographic factor significantly associated with tele-dentistry familiarity.

Table II: Associations between Tele-Dentistry Familiarity and demographic variables among study participants (n = 382)

Parameters	Study Groups		p-Value
	Familiar with Tele-dentistry (n = 8)	Not Familiar with Tele-dentistry (n = 374)	
Age (years) n (%)			
20–34 years	5(62.5%)	127 (34.0%)	0.045
35–44 years	2(25.0%)	98 (26.2%)	
45–54 years	1(12.5%)	82 (21.9%)	
55–64 years	0(0.0%)	44 (11.8%)	
≥65 years	0(0.0%)	23 (6.1%)	
Gender n (%)			
Female	4(50.0%)	198 (52.9%)	0.767
Male	4(50.0%)	178 (47.6%)	
Marital Status n (%)			
Married	7(87.5%)	309 (82.6%)	0.226
Single	1(12.5%)	61 (16.3%)	
Divorced	0 (0.0%)	6 (1.6%)	
Educational Level n (%)			
Matric	3 (37.5%)	139 (37.2%)	0.556
Intermediate	2 (25.0%)	85 (22.7%)	
Graduation	3 (37.5%)	117 (31.3%)	
Masters	0 (0.0%)	33 (8.8%)	
Occupation n (%)			
Housewife	2 (25.0%)	102 (27.3%)	0.671
Business	1 (12.5%)	25 (6.7%)	
Doctor/Eng./Teacher	0 (0.0%)	12 (3.2%)	
Other	5 (62.5%)	229 (61.2%)	
Retired	0 (0.0%)	8 (2.1%)	
Area of Residence n (%)			
Central Karachi	5 (62.5%)	271 (72.5%)	0.433
West Karachi	1 (12.5%)	37 (9.9%)	
East Karachi	1 (12.5%)	31 (8.3%)	
Malir	0 (0.0%)	19 (5.1%)	
Other Areas	1 (12.5%)	16 (4.3%)	

DISCUSSION

According to the current research, 98% of dental patients at a large urban tertiary hospital in Karachi did not know anything about tele-dentistry, only 5% had used it before, and 90% did not think it would be personally useful to them. These results go beyond being just digital health issues, they have far-reaching effects on the country's healthcare system's ability to withstand shocks, preparedness for humanitarian crises, and fairness in oral health in a time of rapid global instability.

It's common knowledge that the pandemic of COVID-19 is the main reason behind the popularization of tele-dentistry, showing its capability to deliver consultations, triage, and follow-up care when physical access was limited.[11] Nonetheless, if one defines tele-dentistry only as a tool to fight the pandemic, one will very likely undermine its strategic importance. Currently, the world is experiencing an unprecedented increase of wars, political instability, and humanitarian crises, all of which have destructive consequences on the oral health infrastructure and dental care accessibility.

Due to the current armed conflict between the Sudanese Armed Forces and Rapid Support Forces, many hospitals in Sudan have been bombed or occupied. In a 2024 short communication published in the Sudan Journal of Medical Sciences, the authors specifically promoted tele-dentistry as a 'golden solution' during the Sudanese conflict, since it can be a time-saving, cost-effective, and safe modality which also would be able to bridge the oral healthcare gap when physical facilities are not accessible.[12]

The ongoing crisis in Gaza has forced about 1.7 million Palestinians to be uprooted, which translates to almost 75% of the total population. Meanwhile, only 17% of primary care centers are still working, and 16 out of 36 hospitals are functioning at a reduced capacity.[5] In fact, oral care was labeled the 'silent causality' of the crisis as it was associated with the deterioration of overall health due to an abundance of untreated dental caries, periodontal diseases, and malnutrition-related oral conditions, all of which need immediate intervention.

The policy brief issued jointly by World Dental Federation (FDI) and the United Nations High Commissioner for Refugees (UNHCR) very clearly demanded that oral health be made part of the package delivered through new digital and remote ways at primary emergency responses.[5]

A recent systematic review published in 2024 in the Journal of Global Health identified tele-dentistry and e-health solutions as the two most important strategies for overcoming access barriers through oral health system strengthening in fragile and conflict-affected states across 12 countries, where physical infrastructure collapses. Online referral systems and tele-dentistry were the two main highlighted solutions for remote and conflict-affected populations with outreach programs.[13]

For Pakistan, these global developments carry direct and urgent.[11-13] Pakistan shares borders with two active conflict zones Afghanistan and Iran and has experienced decades of internal security challenges in Baluchistan and the former Federally Administered Tribal Areas. Any escalation of regional tensions, natural disaster, or internal security crisis could rapidly render conventional dental facilities inaccessible to large civilian populations. Creating tele-dentistry awareness and building its capacity during such a stable period is a vital investment in healthcare resiliency. A population completely unaware of tele-dentistry, as our study has shown, would not be able to effectively transition from awareness to adoption during a humanitarian emergency.

In Turkey, Özveren *et al*. (2023) found that 74.5% of dental patients believed tele-dentistry would make communication with dentists easier, and 80.3% of patients from underserved areas believed tele-dentistry would improve healthcare access.[14] The huge difference with respect to our own cohort, where 90% questioned the personal benefits of tele-dentistry, is a reflection of the lack of tele-dentistry promotion to patients.

A study published in 2022, involving dental professionals in Pakistan and Saudi Arabia, found that there was a high level of awareness and positive attitude towards tele-dentistry, with 74.7% agreeing that tele-dentistry improves communication and is beneficial to patients in remote areas.[15] This striking contrast between near zero patient awareness and high tele-dentistry knowledge underscores the fact that tele-dentistry knowledge has not crossed the clinician-patient interface, a systemic failure that needs urgent and structured attention.[16]

Shrestha et al. (2022) observed that dental professionals in Nepal were familiar with tele-dentistry but had not used it prior to COVID-19.[17] The level of patient awareness among the Pakistani urban

population is still lower than even this level of professional familiarity, again highlighting the multiple levels of the awareness gap.

Khokhar *et al.* (2022) found that 59.8% of dental professionals in Malaysia raised concerns regarding data security, a barrier to tele-dentistry adoption.[18] In the context of conflict, the need to balance data security concerns with the need for timely clinical intervention underscores the need to develop crisis-specific tele-dentistry guidelines that take into account practical and context-specific privacy guidelines.

The statistically significant correlation between age and tele-dentistry awareness, with younger individuals displaying higher levels of tele-dentistry awareness ($p = 0.045$; Cramer's $V = 0.19$), is consistent with the broader literature on health literacy. The lack of significant effect size and near-universal unawareness among even the youngest age groups (20-34 years) underscores that, while age is a moderate rather than a determining correlate, systemic information gaps are the major drivers of low tele-dentistry awareness.

The lack of significant correlations with educational level, including graduates and postgraduates, underscores that tele-dentistry awareness is not a product of general literacy but rather a reflection of a condition-specific information gap, a phenomenon that is consistent with the broader literature, who found that even graduates, including qualified dentists, tele-dentistry awareness was largely informal and unsystematic.[19-20]

Pakistan's National Digital Pakistan Policy (2023) and the eHealth components of the National Health Vision 2030 nominally endorse telehealth integration.[21] However, dental-specific tele-dentistry, patient-oriented digital health education campaigns, and conflict preparedness-based tele-dentistry protocols are completely absent in this regard. Thus, without structural enablers such as regulatory frameworks, tele-dentistry coordinators, data privacy, and crisis-specific deployment protocols, awareness campaigns would be insufficient.

The limitations of this study include its single-center, urban-based study, which does not allow for its generalizability to a rural population and other areas of Pakistan. The use of a convenient sampling method and English-based questionnaire may also result in a selection bias, and data collection during a pandemic, when patient attendance is unusual, might also influence the sample population.

Future studies could include a multi-center, mixed-method study, including a rural and semi-urban population, and a questionnaire for dental surgeons, along with assessing attitudes regarding conflict and disaster preparedness-based tele-dentistry protocols.

CONCLUSION

Tele-dentistry awareness among dental outpatients in urban Karachi is critically deficient, with 98% entirely unfamiliar with the concept and 90% not perceiving it as personally beneficial. Age was the only demographic variable modestly associated with awareness, confirming that systemic barriers rather than individual characteristics drive this profound knowledge deficit. Critically, tele-dentistry's importance extends far beyond the post-COVID context. In a world experiencing rapid escalation of armed conflicts and humanitarian crises including in Pakistan's own geopolitical neighbor-hood tele-dentistry represents a cornerstone of healthcare resilience, enabling oral care delivery when physical infrastructure is destroyed, displaced, or inaccessible.

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Authors' Contribution

Following authors have made substantial contributions to the manuscript as under:

HF & MA: Data acquisition, data analysis, critical review, approval of the final version to be published.

AA & BSA: Study design, data interpretation, drafting the manuscript, critical review, approval of the final version to be published.

AT & SA: Conception, data acquisition, drafting the manuscript, approval of the final version to be published.

Authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

REFERENCES

1. Alabdullah JH, Daniel SJ. A systematic review on the validity of teledentistry. Telemed e-Health 2018; 24(8): 639-648. http://doi.org/10.1089/tmj.2017.0132
2. Maqsood A, Sadiq MSK, Mirza D, Ahmed N, Lal A, Alam MK, et al. The teledentistry, impact, current trends, and application in dentistry: a global study. BioMed Res Int 2021; 2021(1): 5437237. http://doi.org/10.1155/2021/5437237

3. Zieck M. Resettlement as Protection: Integrating Resettlement of Refugees in International Refugee Law. Edward Elgar Publishing, 2024.
4. Tiwari T, Diep V, Tranby E, Thakkar-Samtani M, Frantsve-Hawley J. Dentist perceptions about the value of teledentistry. BMC Oral Health. 2022; 22(1): 176. https://doi.org/10.1186/s12903-022-02208-z
5. Kateeb E, Nahla RSA. Addressing the silent crisis of oral health in conflict areas and war zones. Int Dent J 2024; 74(5): 1182. http://doi.org/10.1016/j.identj.2024.07.016
6. Subhan R, Ismail WA, Musharraf S, Khan M, Hafeez R, Alam MK. Teledentistry as a supportive tool for dentists in Pakistan. BioMed Res Int 2021; 2021(1): 8757859. http://doi.org/10.1089/tmj.2020.0367
7. Mahdi SS, Allana R, Amenta F. Teledentistry-based program to improve oral hygiene indicators in rural Pakistan—A protocol. J Contemp Dent Pract 2021; 22(4): 406-411. http://doi.org/10.5005/jp-journals-10024-3074
8. Waseem MT, Farooq MS, Rehman AA. Analyzing Challenges Faced By The Telecom Industry In Pakistan And Their Impact On Growth: https://doi. org/10.5281/zenodo. 17009441. J Manag Sci Res Rev 2025; 4(3): 980-995. https://doi.org/10.5281/zenodo.17009441
9. Boringi M, Waghray S, Lavanya R, Babu DBG, Badam RK, Harsha N, et al. Knowledge and awareness of teledentistry among dental professionals–A cross sectional study. J Clin Diag Res 2015; 9(8): ZC41. http://doi.org/10.7860/JCDR/2015/13303.6320
10. Estai M, Kruger E, Tennant M. Perceptions of Australian dental practitioners about using telemedicine in dental practice. Br Dent J 2016; 220(1): 25-29. https://doi.org/10.1038/sj.bdj.2016.25
11. Islam MRR, Islam R, Ferdous S, Watanabe C, Yamauti M, Alam MK, et al. Teledentistry as an effective tool for the communication improvement between dentists and patients: an overview. Healthcare 2022; 10(8): 1586.
12. Siddig RE, Hammad AM, Awooda EM. Teledentistry in the time of conflict in Sudan. Sudan J Med Sci 2024;19(3): 13975. http://doi.org/10.18502/sjms.v19i3.13975
13. Bogale B, Scambler S, Khairuddin ANM, Gallagher JE. Oral health system strengthening in fragile and conflict-affected states: a systematic review. J Glob Health 2024; 14: 04132. http://doi.org/10.7189/jogh-14-04132
14. Özveren N, Sevinç B, Güngör A, Baltacı E, Serindere G, Özgür Ö. Evaluation of knowledge and awareness about teledentistry among dentists and patients living in Turkey. Dent Med Prob 2023; 60(4): 150834 . http://doi.org/10.17219/dmp/150834
15. Chaudhary FA, Ahmad B, Javed MQ, Mustafa S, Fazal A, Javaid MM, et al. Teledentistry awareness, its usefulness, and challenges among dental professionals in Pakistan and Saudi Arabia. Dig Health 2022; 8: 20552076221089776. http://doi.org/10.1177/20552076221089776
16. Almazrooa SA, Mansour GA, Alhamed SA, Ali SA, Akeel SK, Alhindi NA, et al. The application of teledentistry for Saudi patients' care: A national survey study. J Dent Sci 2021; 16(1): 280-286. http://doi.org/10.1016/j.jds.2020.04.014
17. Shrestha R, Acharya G, Maskey S, Shrestha P. Awareness of tele-dentistry among dental professionals in Nepal. J KIST Med Coll 2022; 4(7): 44-50.
18. Khokhar RA, Ismail WA, Sunny A, Shaikh GM, Ghous S, Ansari M, et al. Awareness regarding teledentistry among dental professionals in Malaysia. BioMed Res Int 2022; 2022(1): 3750556. http://doi.org/10.1155/2022/3750556
19. Raucci-Neto W, de Souza Pereira M, Cerqueira NM, Louzada VG, de Castro Raucci LMS, Leoni GB. Knowledge, perception, and experience of dentists about teledentistry. Int Dent J 2022; 72(4): 456-462. http://doi.org/10.1016/j.identj.2021.07.007
20. Sujatha P, Kanitkar AA, Ranjeri S, Annu A, Patil A, Biradar J, et al. Assessment of knowledge and attitude regarding teledentistry among dental professionals: a cross-sectional study. Cureus 2024; 16(3): 55954. http://doi.org/10.7759/cureus.55954
21. Aziz F, Tahir F, Qureshi NA. Millennium development goals (MDGs-2000-2015) to sustainable development goals (SDGs-2030): a chronological landscape of public sector health care segment of Pakistan. J Pak Med Assoc 2021; 71(2): 596-601. http://doi.org/10.47391/JPMA.394