Impact of Social Media on Oral Health Awareness and Treatment Knowledge

Bisma Anwar¹, Abdul Ghayas²

ABSTRACT

Objective: To assess the impact of social media on oral health awareness and treatment knowledge in Pakistan, evaluating its role as an educational tool and its influence on oral hygiene behaviors.

Methodology: This cross-sectional study was conducted with 110 participants recruited through convenience sampling. Data were collected via structured interviews with a bilingual questionnaire covering demographics, oral hygiene practices, social media usage, and oral health knowledge. Statistical analyses examined associations between social media usage and oral health outcomes, including brushing frequency and knowledge levels.

Results: The participants had a mean age of 38.71 ± 8.56 years, with 61% males and 39% females. Most participants (93.6%) considered oral health as important as physical health, and 85.5% believed poor oral hygiene fosters systemic

disease. Social media users (38.2%) demonstrated better brushing practices, with after-meal brushing reported only by users (11.9%, p = 0.002). However, no significant difference in oral health knowledge was found between users and non-users (p = 0.633). Among users, Google (69%) and YouTube (19%) were the primary sources, but 43.6% expressed doubts about the reliability of online information.

Conclusion: This suggests that social media can be used innovatively to improve oral health awareness and behaviors in Pakistan. Although social media is still not widely used, it has an effect mainly on practices such as brushing behavior. However, misinformation and doubts about the reliability of online information present challenges. Targeted interventions, culturally relevant content, and enhanced digital health literacy are essential to maximize social media's role in bridging knowledge gaps and promoting preventive oral health practices.

Keywords: Oral health awareness, Oral hygiene behaviors, Social media, Treatment knowledge

INTRODUCTION

Regionally, in many parts of Asia and the Middle East, the use of social media in healthcare is growing rapidly. It has become an essential tool for public health campaigns, improving engagement with audiences and facilitating easier access to healthcare information. Social media platforms have been effective in educating the public about oral health, creating awareness on preventive care, and offering insights into various treatment options.

The advent of social media has revolutionized how individuals' access and share information, connecting people across geographical boundaries. In healthcare, particularly oral health, social media has emerged as a critical platform for disseminating knowledge, influencing treatment decisions, and promoting preventive care. Platforms like Facebook, Instagram, WhatsApp, and YouTube are widely used to share educational materials and enhance communication between healthcare providers and patients. Studies show that social media not only raises awareness about oral health issues but also fosters behavioral change in oral hygiene practices, especially among younger demographics and urban populations^{1,2}.

Despite the rising burden of dental caries, periodontal diseases, and oral cancers in several countries such as

Corresponding Author Bisma Anwar¹ Email: bisanwar23@gmail.com Affiliations: Ameen Medical and Dental Centre, Karachi¹ Health Department, Balochistan² Dental Surgeon & Assistant Medical Director¹ Optometrist² Submitted: January 28, 2025 Revised: March 17, 2025 Accepted: April 05, 2025 Pakistan and the subcontinent, social media has not been fully harnessed as a tool for positive impact³. The cultural, economic and infrastructural barriers do not allow raising awareness regarding oral health and there is also limited access to dental care in Pakistan⁴. Conversely, social media presents a solution to fill these gaps at low cost and on a wider scale^{5,6}. India-based evidence indicated that WhatsApp and Instagram are more effective in imparting knowledge regarding oral health and decisions regarding dental treatment because of their visual and interactive nature^{7,8}.

Additionally, social media provides the ability to reach healthcare professionals directly so that patients are able to ask questions, obtain trustworthy information, and combat misinformation relating to dental treatments⁷. A study reported a significant gain after education through social platforms where social media is prevalent and easy to use⁸, while other studies reported that education via Instagram could greatly improve participants' knowledge regarding oral hygiene practices with an emphasis on targeting⁹⁻¹¹. Although studies have highlighted the use of social media among dentists and its influence on dental practice, as well as its impact on dental education, relatively few studies have examined the use and influence of social media on dental practice in SoutheastAsia¹²⁻¹⁴.

This study was conducted for the assessment of the role of social media to impart awareness about oral health and knowledge about treatment in Pakistan and its effectiveness as an educational tool and change of behavior. This research could help in strategizing future interventions to improve oral health by understanding the key drivers of the same and where exactly needs the most effort.

METHODOLOGY

This cross-sectional study aimed to evaluate the impact of social media on oral health awareness and treatment knowledge in Pakistan. A total of 110 participants were selected through convenience sampling, ensuring a diverse representation in terms of gender, socioeconomic status, education levels, and occupations. The sample size was calculated using the WHO sample size calculator, considering a sufficient knowledge rate of 13.5% from a prior study²³, with a margin of error of 6.5% and a confidence level of 95%.

Data were collected using a structured questionnaire through face-to-face interviews, and the questionnaire was developed in English and Urdu. The questionnaire collected demographics (age, gender, marital status, education and socioeconomic status), oral hygiene practices (e.g., how often they brush their teeth and whether they previously had toothaches), social media usage patterns (e.g., preferred platform, how often they use it and what is the purpose), and oral health knowledge (e.g., whether they know that oral health is important and that oral health is related to systemic health). The inclusion criteria included adults aged 18 years and above, residents of urban, peri-urban or rural Pakistan, active social media users or users with other access to social media, willing to give informed consent form before the study, and willing to engage in an interview. Exclusion criteria included professional or academic experience in oral health, impairments in cognition or communication and failure to complete the interview.

The data was meticulously entered and subsequently analyzed employing SPSS version 26. Descriptive statistical parameters were calculated, specifically in relation to the mean alongside standard deviation and frequency alongside percentage, and the dataset was scrutinized and presented with a 95% confidence interval.

RESULTS

The research study included a sample size of 110 participants, exhibiting a mean age of 38.71 ± 8.56 years, the majority of whom fell within the age bracket of 30 to 50 years, thus suggesting a demographic profile that is largely representative of young to middle-aged individuals (Figure I). In the assessment of knowledge, the participants exhibited a notable degree of awareness, achieving a mean knowledge score of 7.59 ± 2.566. The majority of participants attained scores ranging from 6 to 10 (Figure II). The analysis of gender distribution revealed that 67 individuals (61%) identified as male, while 43 individuals (39%) identified as female, thereby indicating a notable male predominance (Figure III). Concerning oral hygiene practices, 51 participants (46.4%) indicated that they engaged in brushing their teeth once daily, 44 participants (40%) reported brushing twice daily, 5 participants (4.5%) brushed after every meal, and 10 participants (9.1%) admitted to brushing either irregularly or occasionally, thereby suggesting that a significant proportion adhered to a consistent dental hygiene regimen (Figure IV).

As delineated in **Table I**, a predominant proportion of the study cohort was comprised of individuals who were married (65.5%), whereas 34.5% remained unmarried. In the context of educational attainment, the majority of participants possessed a graduate degree (46.4%), succeeded by those holding postgraduate qualifications (40.0%), with a smaller fraction having intermediate (7.2%), secondary (5.5%), or middle-level (0.9%) education. In terms of occupational status, 88.1% were engaged in occupations characterized by office-based environments, 6.4% were identified as housewives, and 5.5%

participated in fieldwork. Concerning socioeconomic standing, over half (51.8%) indicated a monthly income within the range of Rs. 25,000-50,000, 44.6% reported earnings exceeding Rs. 50,000, while a mere 3.6% earned below Rs. 25,000.

The participants in the study demonstrated a strong belief in the importance of oral health, with 103 participants (93.6%) considering it as important as physical health, while only 7 participants (6.4%) disagreed. Furthermore, a significant majority, 94 participants (85.5%), believed that poor oral hygiene fosters systemic disease, with 16 participants (14.5%) expressing the opposite view. In terms of personal experience, 71 participants (64.5%) reported having suffered from toothache, whereas 39 participants (35.5%) did not. Among those who experienced toothache, the most common action taken to alleviate the pain was visiting the dentist, reported by 51 participants (71.8%). Other responses included taking painkillers (self-medication) by 13 participants (18.3%), discussing the issue with relatives or friends who had experienced toothaches (5 participants, 7.0%), and searching for information online about the causes and treatments for toothache (2 participants, 2.8%). The frequency of social media and internet use to obtain information about oral health problems, the findings indicate that 42 participants (38.2%) utilized social media or the internet for this purpose, while the majority, 68 participants (61.8%), did not. Among those who did seek information online, 24 participants (57.1%) searched for the causes of toothaches, and 18 participants (42.9%) looked for treatments related to toothaches. The primary source for obtaining oral health information was Google, used by 29 participants (69.0%), followed by YouTube (19.0%) and Facebook (11.9%). When assessing the perceived reliability of the information available online, 45 participants (40.9%) believed it was accurate, while 17 participants (15.5%) did not, and 48 participants (43.6%) were uncertain about its reliability. Regarding knowledge about oral health care, the results showed that 29 participants (26.4%) had inadequate knowledge, whereas 81 participants (73.6%) demonstrated adequate knowledge, as shown in Table II.

The use of social media or the internet for obtaining information about oral health was examined in association with variables. In the proportion of having proper knowledge regarding oral healthcare, 76.19% of social media users demonstrated strong knowledge relative to 72.06% of non-users (p = 0.633). The distribution of gender was similar, with 59.52% of social media users and 61.76% of non-users being male (p = 0.815). There was a significant difference (p = 0.002) in brushing frequency as the after-meal brushing was practiced by 11.90% of social media users, while among the non-users, no one practiced it. Both groups accepted oral health as an integral component of overall health (p = 0.543), and 83.33% of users and 86.76% of non-users (p = 0.620) believed that poor oral hygiene promotes systemic diseases. 66.67% of users and 63.24% of non-users (p = 0.715) reported toothache history. Perception regarding the reliability of information on the internet/social media differed significantly, with 47.62% of users perceiving it as reliable, compared to 36.76% of non-users (p = 0.005). The association was not significant by age (p = 0.202) and occupation (p = 0.304) since most of the participants had ages 36–70 years and worked office jobs as shown in Table III.









Table I: Characteristics of Study Participants (n=110)						
Participant Characteristics		Frequency	Percent (%)			
Marital status	Married	72	65.5			
	Unmarried	38	34.5			
Education	Middle	1	0.9			
	Secondary	6	5.5			
	Intermediate	8	7.2			
	Graduate	51	46.4			
	Postgraduate	44	40.0			
Occupation	Housewife	7	6.4			
	Office job	97	88.1			
	Field work	6	5.5			
Socioeconomic Status	Rs. < 25,000/-	4	3.6			
	Rs. 25,00050,000/ -	57	51.8			
	Rs. > 50,000/-	49	44.6			

Table II: Distribution of Oral Health Importance (n=110)				
Oral Health Survey Items		Frequency	Percent	
Think of oral health as important as	Yes	103	93.6	
physical health	No	7	6.4	
Think poor hygiene fosters systemic	Yes	94	85.5	
disease	No	16	14.5	
Fuer suffered from a Testhasha	Yes	71	64.5	
Ever suffered from a Toothache	No 39		35.5	
	Took pain killer (self-medication)	13	18.30	
	Searched on the internet about toothache	51	71.84	
If yes, done to ease the pain	Searched on the internet about toothache causes and treatment	2	2.81	
	Discussed with relative/friend who had previously experienced a toothache	5	7.05	
Frequency of use social media /internet to	Yes	42	38.2	
obtain information about oral health problems	No	68	61.8	
If Yes, Searched the most on internet /	Cause of toothache	24	57.1	
social media	Treatment of toothache	18	42.9	
	Google	29	69.05	
Source used the most to gain oral health information	YouTube	8	19.05	
	Facebook 5		11.90	
	Yes	45	40.9	
Think information available on the internet / social media is reliable or accurate	No	17	15.5	
	Not Sure	48	43.6	
Knowledge about oral healthcare, how	Inadequate Knowledge	29	26.4	
important good oral health is to overall health	Adequate Knowledge	81	73.6	

Table III: Association of the use of social media for obtaining information about oral health with knowledge, gender & other factors

Factors Associated with Social Media Use for Oral Health		Use of social media / internet to obtain information about oral health problems		95% Confidence Interval (P-value)	
		Yes (n=42)	No (n=68)		
Knowledge about oral health care, how important good oral health is to overall health	Inadequate Knowledge	10 (23.81)	19 (27.94)	0.3321.954 (0.633)	
	Adequate Knowledge	32 (76.19)	49 (72.06)		
Gender	Male	25 (59.52)	42 (61.76)	0.4151.999 (0.815)	
	Female	17 (40.48)	26 (38.24)		
Frequency of brushing teeth	Twice a day, daily	19 (45.24)	25 (36.76)		
	Once a day, daily	18 (42.86)	33 (48.53)	0.8902.296	
	After every meal	5 (11.90)	0 (0)	(0.002)	
	Sometimes, irregularly	0 (0)	10 (14.71)		
Think oral health as important	Yes	39 (92.86)	64 (94.12)	0.1733.824	
as physical health	No	3 (7.14)	4 (5.88)	(0.543)	
Think poor hygiene fosters systemic disease	Yes	35 (83.33)	59 (86.76)	0.2612.229	
	No	7 (16.67)	9 (13.24)	(0.620)	
Ever suffered from toothache	Yes	28 (66.67)	43 (63.24)	0.5182.611	
	No	14 (33.33)	25 (36.76)	(0.715)	
Think information available on the internet / social media is reliable or accurate	Yes	20 (47.62)	25 (36.76)	1.0412.462 (0.005)	
	No	11 (26.19)	6 (8.82)		
	Not Sure	11 (26.19)	37 (54.41)		
Age	< 35 years	18 (42.86)	21 (30.88)	0.7553.731	
	36-70 years	24 (57.14)	47 (69.12)	(0.202)	
Occupation	Housewife	2 (4.76)	5 (7.35)		
	Office job	36 (85.71)	61 (89.71)	0.1321.477 (0.304)	
	Field work	4 (9.52)	2 (2.94)		

DISCUSSION

The study underscores the growing potential of social media as an educational platform to enhance oral health awareness in Pakistan. Participants demonstrated a high level of recognition regarding the importance of oral health and its association with systemic health conditions, aligning with global research that emphasizes this critical connection^{15,16,19}. Our study findings are supported by another study reporting knowledge before and after being given education about maintaining dental and oral health through Instagram social media results in the good category (59.5%) to (86.5%), in the sufficient category (37.8%) to (13.5%), and in the less category (2.7%) to no (0%) respondents with less knowledge category²³.

Despite this, the utilization of social media for seeking oral health information was moderate, with only 38.2% of participants engaging with these platforms. This suggests an underutilization of a powerful tool that could be leveraged to address oral health challenges on a broader scale. Platforms such as Google and YouTube emerged as the most frequently

used sources for obtaining oral health information, a pattern that mirrors findings from related studies conducted in India and Brazil, where similar online platforms dominate health information dissemination^{2,16}.

This study also found that, although there was no significant difference in oral health knowledge between social media users and non-users (p = 0.633), some specific behaviors were positively associated with social media usage. Interestingly, brushing after meals was only mentioned by users on social media (11.9% of posts, p = 0.002), again demonstrating that social media can have the potential to promote meaningful effects in the right direction^{9,17}. But misinformation continues to be a significant obstacle to its efficacy.

These findings indicate an urgent need for tailored, appropriate interventions designed to leverage the opportunities social media offers for oral health education. Healthcare providers and organizations in Pakistan should engage more actively with popular platforms such as WhatsApp, Instagram, and YouTube and disseminate evidence-based and culturally sensitive content via these platforms. This way, they will fill in the knowledge gap between professionals and the masses, encourage preventive care and nudge individuals to receive dental treatment on time and in the correct manner. As we have previously seen during the COVID-19 pandemic, targeted social media campaigns to promote positive health behaviors and mitigate misinformation can be successful^{17,20}.

Additionally, the study emphasizes the importance of increasing digital health literacy to empower individuals to critically evaluate and differentiate between credible and unreliable sources of information. Incorporating oral health into current digital platforms and interactive, evidence-based campaigns can uniquely address and improve population health while building societal trust in professionally endorsed guidance^{16,18}.

Nevertheless, there are several limitations to the study. Due to a small sample size (n=110) and that the study uses convenience sampling; its findings may limit its generalizability. In addition, the consideration of an urban and peri-urban population also excluded many rural communities, in which access to social media and the internet may be markedly different. Consequently, we propose these limitations showcase the requirement of conducting much broader and representative studies to explore the audiences on social media needs with regard to oral health education by demographics.

Future research should explore the development of regulatory frameworks and the active involvement of dental organizations in monitoring and curating online content. By ensuring the accuracy and credibility of disseminated information, these measures can mitigate the risks of misinformation and self-diagnosis while maximizing the positive impact of social media on oral health awareness and behavior^{17,21,22}.

CONCLUSION

This suggests that social media can be used innovatively to improve oral health awareness and behaviors in Pakistan. Although social media is still not widely used, it has an effect mainly on practices such as brushing behavior. However, misinformation and doubts about the reliability of online information present challenges. Targeted interventions, culturally relevant content, and enhanced digital health literacy are essential to maximize social media's role in bridging knowledge gaps and promoting preventive oral health practices. **Conflict of Interest:** The authors declare no conflict of interest.

Source of Fundings: Nil

Authors' Contributions: All authors took part in this study to an equal extent. Anwar B: Data collection, drafting and conceptual framework. Ghayas A: Statistical analysis and result interpretation.

REFERENCES

- 1. Taneja P, Mahapatra S, Marya CM, Nagpal R, Kataria S. Impact of social media on dental treatment choices: a webbased survey. J Indian Assoc Public Health Dent. 2022; 20(4):415-9.
- Mary AV, Kesavan R, Vaishnavi V, Jerosan PI, Dharani G, Snegha S. Impact of social media on dental treatment needs: a cross sectional pilot study. Int J Appl Dent Sci. 2023;9(4):313-7.
- 3. Zahra N, Asad SR, Khan M, Asad SA, Asad SA, Syed QU. Addressing challenges of dental problems in Pakistan: a comprehensive review. Int J Biomed Res. 2024;3(1).
- 4. Aliuddin AM, Jabeen ZA, Sheikh A, Rashid S. Obstacles to utilization of dental services in Karachi, Pakistan. Pak Armed Forces Med J. 2021(2):454.
- Mir H, Shivalingesh KK, Gupta A, Srivastava D, Saleem A, Ashraf W. The impact of using social media on dental treatment: an online survey. Int Health Res J. 2020;3(11): 358-62.
- Bal SCB, Dalai RP, V D. Social media as a tool in dental public health. Indian J Forensic Med Toxicol. 2020;14 (4):8463-70.
- Smith A, Anderson M. A majority of Americans use Facebook and YouTube, but young adults are especially heavy users of Snapchat and Instagram. Pew Res Centre. 2018.
- Al Awdah AS, Ali BB, Al Twaim S, Al Habdan AA. The power of social media on esthetic dental treatment choices in Arabian Gulf Region. Int J Dent Oral Health. 2018;4(5):1-5.
- Kurian N, Varghese IA, Cherian JM, Varghese VS, Sabu AM, Sharma P, et al. Influence of social media platforms in dental education and clinical practice: a cross-sectional survey among dental trainees and professionals. J Dent Educ. 2022;86(8):1036-42.
- Freire Y, Sánchez MG, Suárez A, Joves G, Nowak M, Díaz-Flores García V. Influence of the use of social media on patients changing dental practice: a web-based questionnaire study. BMC Oral Health. 2023;23(1):365.
- Alkadhi OH, Aleissa NK, Almoharib MK, Buquayyid SA. Influence of social media on the patients for choosing the dental clinic-a cross-sectional survey. J Clin Diagn Res. 2020;14(1).
- Acosta JM, Detsomboonrat P, Pisarnturakit PP, Urwannachotima N. The use of social media on enhancing dental care and practice among dental professionals: cross-sectional survey study. JMIR Form Res. 2025;9(1): e66121.
- Kumar KS, Karuveettil V, Nair PK, Shanmugham AM, Jose R, Santhosh K, et al. Influence of search engines and social media on dental patients' health information seeking: a cross-sectional study. World. 2024;15(5):423.

- Bahabri RH, Zaidan AB. The impact of social media on dental practice promotion and professionalism amongst general dental practitioners and specialists in KSA. J Taibah Univ Med Sci. 2021;16(3):456-60.
- Poudel P, Griffiths R, Wong VW, Arora A, Flack JR, Khoo CL, et al. Oral health knowledge, attitudes and care practices of people with diabetes: a systematic review. BMC Public Health. 2018;18:1-2.
- Batista MJ, Lawrence HP, Sousa MD. Oral health literacy and oral health outcomes in an adult population in Brazil. BMC Public Health. 2018;18:1-9.
- Karasneh R, Al-Azzam S, Muflih S, Soudah O, Hawamdeh S, Khader Y. Media's effect on shaping knowledge, awareness risk perceptions and communication practices of pandemic COVID-19 among pharmacists. Res Soc Adm Pharm. 2021;17(1):1897-902.
- 18. Baskaradoss JK. Relationship between oral health literacy and oral health status. BMC Oral Health. 2018;18:1-6.
- 19. Sahni H, Sharma H. Role of social media during the COVID-19 pandemic: beneficial, destructive, or reconstructive? Int JAcad Med. 2020;6(2):70-5.

- Fang EF, Xie C, Schenkel JA, Wu C, Long Q, Cui H, et al. A research agenda for ageing in China in the 21st century: focusing on basic and translational research, long-term care, policy and social networks. Ageing Res Rev. 2020; 64:101174.
- 21. Tonetti MS, Bottenberg P, Conrads G, Eickholz P, Heasman P, Huysmans MC, et al. Dental caries and periodontal diseases in the ageing population: call to action to protect and enhance oral health and well-being as an essential component of healthy ageing–Consensus report of group 4 of the joint EFP/ORCA workshop on the boundaries between caries and periodontal diseases. J Clin Periodontol. 2017;44:S135-44.
- 22. Lipsky MS, Su S, Crespo CJ, Hung M. Men and oral health: a review of sex and gender differences. Am J Mens Health. 2021;15(3):15579883211016361.
- Widiyastuti R, Awaliah M, Purnama T, Ngatemi N. Instagram social media as an effort to increase dental health knowledge. Int J Multidiscip Res Anal. 2022;5(12): 3465-8.

How to cite: Anwar B, Ghayas A. Frequency of Impact of Social Media on Oral Health Awareness and Treatment Knowledge. Pak J Med Dent Sci. 2025;2(1):13-19