

Digital Media's Influence on Dental Treatment Choices: A Web-Based Evaluation

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Abstract

Background: Together, we can keep the oral health message alive. Social media also helps to draw in a wide range of people who we may not have first believed would be interested in oral health. Objectives: Based on their usage, determine the best social media platform to promote oral health. The goal is to evaluate the influence of social media on dental treatment decisions.

Materials and Procedures: The current cross-sectional web survey was carried out among WhatsApp, Facebook, and Instagram users. Using the Google survey feature of Gmail, an online survey link was created. The survey was distributed via the snowball method, in which the link was passed to the next friend circle after being sent to friends or a new contact person on the phone. The questionnaire consisted of 14 questions and was sent to 700 participants. For descriptive and inferential statistics, SPSS 21 was used.

KMO and Bartlett's test was used for factorial analysis. $P < 0.05$ was considered statistically significant.

Results: WhatsApp was cited as the app that was most frequently used by participants, with an average usage frequency of multiple times per day (81.8%). On Instagram, a significantly higher percentage of the participants (43.9%) were followers of dentists. However, a larger percentage of the participants cited a Facebook promotion as the trigger for their dentist appointment. The majority of participants (62.4%) would be influenced by reviews and complaints about dental care posted on social networking sites, and nearly half of them would be influenced in their choice of a dentist by the activity of their account. The majority of participants (78.5%) did not have any applications linked to dentistry, however a significant fraction of them (69.7%) admitted to watching instructional videos posted on social media.

Conclusion: Hence, WhatsApp can be utilised as an

informative tool for self-oral health promotion as it was found to be the most preferred app.

Keywords: Dental Treatment Choices, Facebook, Instagram, Social Media, Whatsapp.

Introduction

Unimaginable changes have occurred in communication during the past 20 years. The Internet, mobile phones, laptops, and other portable computer devices have all become widely available and offer brand-new ways to interact with others and communicate regardless of location.[1] The term "social media" has a broad definition and is always changing. In general, the phrase refers to Internet-based resources that enable people and groups to interact and communicate; to rapidly exchange information, concepts, private messages, photos, and other content using social media applications. One can openly share their opinions and engage in discussion on any subject they choose.[2]

There are many more social media sites because technology is constantly evolving, but the most popular ones internationally include Facebook, YouTube, Twitter, LinkedIn, Whatsapp, and Instagram.

Due to social media, the corporate, educational, and political sectors have all seen major change. This also holds true for dentistry education. The usage of social media platforms, blogs, microblogs, wikis, media-sharing websites, virtual reality headsets, and gaming environments is available to health care professionals (HCPs).[3] The profession's dedication to using those technologies to improve patient health outcomes must advance with their application. These resources can be used to improve or broaden public health program healthcare for patients, patient education, and professional development.

Dental professionals can improve the patient's oral health treatment in both in-person and virtual

interactions by integrating technology effectively and securely. Clinicians should continue to be at the forefront of technological innovation for patient-centered care as internet technologies develop and change.[4] The improvement of oral and general health may be facilitated by the use of various digital technologies in patient education.[4]

Today, practically everyone, regardless of age, gender, academic background, or economic status, has access to the internet. We have observed our grandparents exchanging images over Whatsapp and Skype with children under the age of ten. It is safe to presume that the majority of your target demographic can use the Internet to find links. Nevertheless, despite searching the literature, we have not yet found any studies that have been done.

However, they also pose potential dangers to patients and HCPs in terms of sharing low-quality material, harming one's professional reputation, violating patient privacy, crossing personal-professional boundaries, and having legal or licencing problems. To reduce these hazards, a lot of medical facilities and professional associations have released guidelines.[5] Together, we can keep the oral health message alive. Social media also helps to draw in a wide range of people who we may not have first believed would be interested in oral health. The use of social media for health communication has a number of advantages, but the accuracy and dependability of the information exchanged must be checked, and users' privacy and confidentiality must also be protected.[6]

Consequently, the goal of the present research was conducted to find out the best social media apps to impart dental health education and to evaluate the impact of social media on dental treatment options.

Methodology

Users of Facebook, Instagram, and WhatsApp participated in the current cross-sectional web poll. Through Gmail, an online survey link was created using the Google survey form. The questionnaire was distributed via snowball exchange, in which the link was passed to the next friend circle after being emailed to friends or a new contact person on the phone. The URL was made sure to reach all non-dental Indian professionals and individuals. Participants under the age of 13 were not allowed to participate in the study because, in theory, they are not allowed to use these social networking apps. The Declaration of Helsinki's ethical principles were followed in this investigation, which received approval from the institutional ethical committee. The sample size was determined using formula $N = Z\alpha^2 (P [1 - P]) / d^2$ Where, N = Sample size, $Z\alpha$ = Standardized Normal Deviate at 95%, confidence level = 1.96 P = Anticipated prevalence of social media use = 38% (as derived from pilot study) d = Absolute Precision, required on either side of the prevalence = 5%. Thus, the minimum sample size obtained to conduct this study was 361. Due to the unpredictability of response, the questionnaire link was sent to a lot of social media users (around 700). All the questionnaires with even 1 incomplete response were excluded from the analysis. Thus, final analysis was done on 545 complete questionnaire responses. Due to lack of time, all the responses were analyzed in a span of 1 week.

The survey questions included in the questionnaire were adopted and modified from those used in the study by Al Awdah et al. The 50 people who participated in the pilot trial were not included in the current data analysis. With a Cronbach's alpha of 0.897, the pilot study's findings demonstrated satisfactory validity. The validated questionnaire then contained 13 items with four domains

for selecting dental treatment, i.e., the domains for influence from family, friends, or celebrities, the domain for dependability, the domain for the impact of advertisements, and the domain for demographics. A few of the questions did not fit into any of the present questionnaire's areas, thus we used figures to represent the frequency analysis of the most common affirmative responses. The majority of the responses to each question fell into the YES or NO category and only a few questions had distinct options. All the online responses were entered into the electronic database and were analyzed using SPSS-21 (IBM Inc., Armonk, NY, USA). Frequency distribution was used for descriptive analysis. Chi-square test was used for finding out the association between variables. Principal component analysis was performed for data reduction. The level of statistical significance was set at $P < 0.05$.

Results

Frequency analysis on dichotomous scale showing the influence of social media on dental treatment choices is given in Table 1. Results of the present study showed that a higher proportion was comprised male participants and was in the age group of 21–30 years. Only significant changes are shown domain-wise in Figures 1–4 for the application-wise distribution of the responses. Figure 2 shows the distributions of replies based on the veracity of the social media information (just Facebook as the majority response was discovered to be in favour of the Facebook app). On Facebook, Instagram, and Whatsapp, subject selections for dental care were significantly influenced by either the subject's personal dental experience or the experiences of their family and friends ($P < 0.05$). Significantly, a sizable fraction of survey respondents claimed that various social networking apps had an impact on their decisions about dental care $P < 0.05$. The correlation matrix [Table 2]

was shown by Bartlett's test of sphericity to be statistically significant ($P < 0.001$). According to the principal component analysis, Eigen values were found to be more than 1 for only three questions (component 1 – 26.67%,

component 2-10.72%, component 3 = 9.98%), probably due to the variability of responses gathered through the survey thus results for all the components are reported in the present study.

Table 1: Distribution of responses based on influence of social media on dental treatment choices		
Questions	Yes (%)	No (%)
Do you follow (dentist/dental clinic) in social media?	213 (39.1)	332 (60.9)
Do you think that dentists should communicate with people through social media rather than conventional media (TV, newspapers, magazine)?	487 (89.4)	58 (10.6)
If you want to get information about a dental treatment or clinic, is social media your first choice for information?	327 (60)	218 (40)
Do you trust the information you get from social media about dentistry and treatment options?	343 (62.9)	202 (37.1)
Does your decision of choosing a dentist or dental clinic affected by the activity of their account?	281 (51.6)	264 (48.4)
Do you write about your visit to the dentist or dental clinic in social media?	177 (32.5)	368 (67.5)
When you read a criticism to a dentist or dental clinic in social media, would that affect your personal decision to visit the dentist or clinic?	340 (62.4)	205 (37.6)
Would you visit a dental clinic because you visited or read their page on social media sites?	348 (63.9)	197 (36.1)
Would you go to a dentist because you saw a before and after pictures in the social media?	301 (55.2)	244 (44.8)
Does advertisements that contain special offers for different treatment attract you, regardless of the quality of treatment?	142 (26.1)	403 (73.9)
If you saw on social media a friend or family member with a new smile, would you ask about the dentist or dental clinic they were treated in?	440 (80.7)	105 (19.3)
Would you choose a dental clinic or dentist based on an advertisement by a celebrity on social media?	181 (33.2)	364 (66.8)
Do you have any applications related to dentistry?	116 (21.3)	428 (78.5)
Do you watch instructional videos uploaded on social media?	380 (69.7)	165 (30.3)

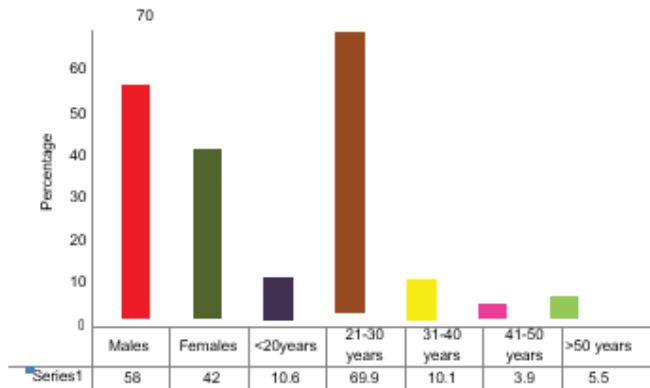


Figure 1: Age groupwise and gender wise distribution

Table 2: Principal components load values prior to rotation.

KMO and Bartlett's test	
KMO measure of sampling adequacy	0.778
Bartlett's test of sphericity	
Approximately χ^2	1086.120
Df	66
P	0.000

Discussion

Social media is used in many ways around the world. The majority of users worldwide on social media come from Brazil. Social media links like-minded communities and individuals and encourages their creative engagement in public life. Without being constrained by the constraints of time and space, social media promote the efficient approach to link a diversity of people, cultures, opinions, and locations with one another worldwide.

The current questionnaire-based study, "Impact of Social Media On Dental Treatment Choices," was conducted nationally and allowed replies from diverse Indian cities, removing any barriers based on culture, emotion, or environment.

In one case, how people choose to use Facebook may have unfavourable effects, such as providing false information to those seeking medical attention. However, given the considerable advantages and

disadvantages it can have for both patients and medical professionals, social media's impact on global healthcare is a topic worth examining.[9]

The survey's largest age range, 21 to 30 years old, had the most responses. Based to a Pew Research Centre article titled "Technology's Impact on Workers," 53% of Internet users in this age group are working either full-time or part-time in jobs ranging from executive to business owner to skilled and semiskilled workers.[10]

In addition, several of the participants held bachelor's degrees.[11] Despite the fact that the majority of participants (60.9%) did not follow any dentists or dental offices, they largely concur (89.4%) that dentists should engage with people via social media as opposed to traditional media. This is consistent with a number of western research showing that patients valued healthcare providers' social media presence.[7,12-15] They can speak quickly and unfiltered thanks to this didactic mode of communication, as noted out by McNab[10]. According to this study, a sizable portion of respondents would use social media to research a dental procedure or a clinic. Nearly 62.9% of the participants said they believed the dental information they learn on social media. According to research by Hamm et al., a significant portion of people use the Internet to hunt up health-related information.[11] Pew Research Center's 2013 report on a different poll indicates that 72% of adult Internet users looked for assistance and medical information online.[12] Our results supported those of the study by Al Awdah et al.,[7] which found that about 55% of participants believed information obtained from social media.[16] The majority of participants (62.4%) would be impacted by written dental care experiences and criticism.

The question "what will attract them most to visit a dentist or a dental clinic when viewing their sites on

social media;" was put to the participants. The majority of them decided to put their own dental experiences or the advice of a family member ahead of social media comments and opinions, the number of followers a dentist or dental practise has, and finally the images uploaded about the case. In addition, the research revealed that the majority of survey participants were influenced by the dental experiences of their relatives and friends, followed by commercials, with celebrities having the least impact. In addition, Fox and Duggan[17] discovered that 68% of all participants in their survey consulted a friend or member of their family for advice on their health. Al Awdah et al.'s research on the influence of social media on dental treatment decisions showed similar results[7]. The vast majority of those taking part (78.5%) do not have any dental-related applications, yet a significant fraction of them (69.7%) admitted to watching instructional videos posted on social media.

Limitations

No research comes without limitations. Although social media is considered a potential tool for health education, it requires careful application and may not always achieve the expected outcomes.

Conclusion

Web-Based social media It is now required of health practitioners to disseminate information using the most efficient methods under social networking 2.0. For the majority of HCPs, social networks constitute a priceless and underutilised educational resource, in our opinion. There is no reason why social media cannot be used as a crucial component of learning and development if appropriate criteria for its use in the medical or dental fraternity are followed. Social media can be one of the most effective platforms in this regard for disseminating dental knowledge pertaining to dental health education

or treatment preferences and choices, but the reliability of information from various social media is still limited. However, to a certain extent, they can be used for professional networking, health communication and opinion modification for making dental treatment choices.

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