

# Impact Of Social Media Dental Trends On Periodontal Health Awareness And Practices: A Cross-Sectional Questionnaire-Based Study

Sweety K Christie, Chaitali Agrawal

(Postgraduate Student, Department Of Periodontology, Ahmedabad Dental College And Hospital, Gujarat, India)

(Professor, Department Of Periodontology, Ahmedabad Dental College And Hospital, Gujarat, India)

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## **Abstract:**

**Background:** Social media has become an important source of health-related information for the general public. Many dental trends, such as charcoal toothpaste use, do-it-yourself (DIY) whitening methods, and home remedies for oral care, are widely promoted online. While these trends may influence oral hygiene practices, their impact on periodontal health remains uncertain. Therefore, the present study aimed to evaluate the influence of social media dental trends on periodontal health awareness, practices, and perceived outcomes among dentists and the general population.

**Materials and Methods:** A cross-sectional questionnaire-based survey was conducted among participants in Gujarat, India. Two structured self-administered questionnaires were distributed through Google Forms: one targeting dental professionals and another targeting the general population. The dentist questionnaire assessed observations regarding patient behaviour influenced by social media and periodontal complications associated with these trends. The patient questionnaire evaluated awareness and use of social media dental practices. A total of 152 participants (76 dentists and 76 individuals from the general population) completed the survey. Data were analysed using descriptive statistics, and the Chi-square test was used to assess associations between variables.

**Results:** Among dentists, 61.8% reported very frequent social media use, while 93.4% observed an increase in patients influenced by social media dental trends. Additionally, 56.6% of dentists reported observing adverse periodontal effects related to these practices, and 77.6% reported treating periodontal problems associated with social media-influenced habits. From the patient survey, 57.9% reported following dental trends promoted on social media, with charcoal toothpaste and teeth whitening products being the most commonly used practices. Approximately 38.2% of patients reported experiencing gum-related problems. A statistically significant association was observed between adoption of social media dental trends and reported gum-related problems ( $\chi^2 = 4.32$ ,  $df = 1$ ,  $p = 0.038$ ).

**Conclusion:** Social media significantly influences oral health behaviour and may contribute to periodontal complications when dental trends are followed without professional supervision. Dental professionals should actively promote evidence-based oral health information on social media platforms to prevent misinformation and improve periodontal health awareness.

**Key Word:** Social media, periodontal health, oral hygiene behaviour, dental trends, questionnaire survey, health misinformation.

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## I. Introduction

Periodontal health plays a vital role in maintaining overall oral health, function, and esthetics. The periodontium consists of the gingiva, periodontal ligament, cementum, and alveolar bone, which together support and protect the teeth. Maintenance of periodontal health requires effective plaque control, proper oral hygiene practices, and regular professional dental care, which collectively contribute to overall oral health and well-being.<sup>1-4</sup>

In recent years, social media platforms such as Instagram, YouTube, Facebook, and TikTok have emerged as important sources of health-related information for the general population.<sup>5-7</sup> These platforms facilitate rapid dissemination of information related to oral health, cosmetic dental procedures, and home-based remedies and enable interactive communication between health professionals and the public.<sup>5-6</sup> Although social media can be a powerful tool for health education, it can also spread misinformation and promote practices that lack scientific evidence.<sup>8</sup>

Several social media-driven dental trends have gained popularity, including charcoal toothpaste, oil pulling, do-it-yourself teeth whitening using household substances, fluoride-free toothpaste, and even self-directed orthodontic treatments.<sup>9,10</sup> Many individuals adopt these practices believing they are safer, more natural, or cost-effective alternatives to professional dental treatments. However, some of these practices may cause detrimental effects such as enamel erosion, tooth sensitivity, gingival irritation, and periodontal damage.<sup>11,12</sup>

From a periodontal perspective, improper oral hygiene methods and unverified dental products can lead to plaque accumulation, gingival inflammation, recession, and other periodontal complications.<sup>2</sup> Dental professionals have reported an increasing number of patients influenced by information obtained from social media rather than evidence-based dental advice.<sup>13</sup>

Charcoal-based dentifrices may exhibit high abrasivity and may contribute to enamel wear and gingival irritation when used excessively.<sup>11,14</sup> Similarly, home-based whitening methods involving acidic substances may result in enamel erosion and increased dentinal sensitivity.<sup>12</sup>

Despite the growing influence of social media on patient behaviour, limited scientific evidence exists regarding the extent to which these digital trends influence oral hygiene practices and periodontal health outcomes. While social media may improve awareness, it can also encourage the adoption of unverified or potentially harmful dental practices without professional supervision.<sup>8</sup> Understanding how these trends affect public behaviour and clinical observations is essential for developing effective educational strategies and promoting evidence-based oral health practices.

Therefore, the present study aimed to evaluate the influence of social media trends on periodontal health by assessing the awareness, attitudes, and practices of the general population as well as the observations of dental professionals regarding commonly followed social media-driven dental trends.

## **II. Material and Methods**

A cross-sectional questionnaire-based survey was conducted to evaluate the influence of social media trends on periodontal health awareness and practices among dental professionals and the general population in Gujarat, India, and data were collected from participants residing in different regions of the state. The survey was carried out over a period of five months from March 2025 to July 2025. A total sample size of 152 participants was included in the study, comprising 76 dental professionals and 76 individuals from the general population.

**Study Design:** Cross-sectional questionnaire-based survey

**Study Location:** The study was conducted in Gujarat, India. Participants were recruited from different regions of the state, including both urban and semi-urban areas.

**Study Duration:** March 2025 to July 2025

**Sample size:** A total of 152 participants were included in the study. The sample consisted of 76 dental professionals and 76 individuals from the general population who voluntarily participated in the survey.

**Sample size calculation:** The sample size was calculated using the single population proportion formula. Assuming a prevalence of 50%, a 95% confidence level, and a margin of error of 8%, the minimum required sample size was estimated to be approximately 150 participants. A total of 152 responses were obtained and included in the final analysis, consisting of 76 dental professionals and 76 individuals from the general population.

**Subjects & selection method:** The study population consisted of two groups: the general population and dental professionals residing in Gujarat, India.

Participants from the general population included individuals aged 18 years and above who actively used social media platforms and were willing to participate in the study.

The dental professional group included registered dental practitioners, periodontists, postgraduate dental students, and dental hygienists practising in Gujarat.

Participants were recruited using a convenience sampling method through online platforms. Invitations to participate in the survey were circulated through social media channels and professional dental networks. Participation was voluntary, and individuals who met the inclusion criteria and provided informed consent were included in the study.

**Inclusion criteria:**

For General Population:

- Individuals aged  $\geq 18$  years
- Individuals using social media platforms
- Individuals willing to provide informed consent

For Dental Professionals:

- Registered dental practitioners
- Periodontists and postgraduate dental students
- Dental professionals currently practicing in Gujarat

**Exclusion criteria:**

- Individuals who did not complete the questionnaire
- Participants who declined to provide consent
- Duplicate responses

**Procedure methodology**

After written informed consent was obtained, two structured questionnaires were developed for the study: one designed for the general population and the other for dental professionals.

The **public questionnaire** included questions related to demographic information, patterns of social media usage, exposure to dental content on social media platforms, self-reported oral health outcomes after following such practices, adoption of social media dental trends such as charcoal toothpaste, DIY teeth whitening methods, oil pulling, and fluoride-free toothpaste, as well as Level of trust in dental professionals compared to information obtained through social media.

The **dentist questionnaire** collected information regarding professional background, clinical experience, social media usage by dental professionals, observations of patients influenced by social media dental trends, periodontal complications associated with these practices, and attitudes toward regulating misinformation related to dental health on social media platforms.

Both questionnaires consisted primarily of closed-ended multiple-choice questions to ensure consistency and ease of analysis. Before the main survey, the questionnaire was pilot tested on 15 participants to evaluate clarity, comprehension, and relevance of the questions. Necessary modifications were made based on the feedback obtained.

The final questionnaires were distributed using Google Forms, and the survey link was shared through various social media platforms and professional networks. Participants provided electronic informed consent before completing the questionnaire. Responses were collected anonymously to maintain confidentiality.

**Statistical analysis**

All collected data were compiled and analyzed using Statistical Package for Social Sciences (IBM SPSS Statistics version 26.0; IBM Corp., Armonk, NY, USA). Descriptive statistics were used to summarise the data, and the results were expressed as frequencies (n) and percentages (%). The Chi-square test was applied to determine associations between categorical variables, including age group and adoption of social media dental trends, as well as adoption of social media dental trends and occurrence of self-reported gum-related problems. A p-value  $< 0.05$  was considered statistically significant at a 95% confidence level.

### **III. Result**

A total of 152 participants completed the present questionnaire-based survey, comprising 76 dental professionals and 76 individuals from the general population. The results obtained from both groups are presented below.

**Dentist Responses:**

**Professional Characteristics, Social Media Usage, and Observations:**

**Table 1.** summarises dentists' responses regarding professional background, social media use, and observations of patient behaviour related to social media trends.

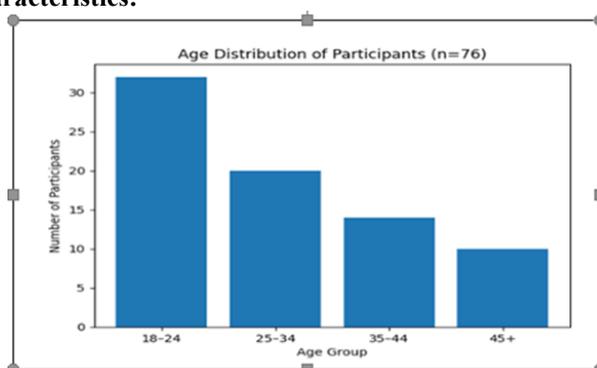
Among the dentists surveyed, 35.5% were general dentists, 28.9% were periodontists, 18.4% were postgraduate students, and 17.1% belonged to other dental specialities. Regarding social media usage, 61.8% reported very frequent use, while 19.7% reported frequent use, 15.8% occasional use, and 2.6% rare use. A majority of dentists (93.4%) reported observing an increasing number of patients influenced by dental trends promoted on social media platforms. Furthermore, 56.6% of dentists observed periodontal complications associated with these practices, while 36.8% reported not observing such complications and 6.6% were unsure.

Additionally, 77.6% of dentists reported treating patients with periodontal problems related to social media-influenced oral care practices.

**Table 1.** Professional characteristics of dentists and observations regarding social media-influenced dental practices (n = 76)

Variable	Category	n (%)
<b>Qualification</b>	General Dentist	27 (35.5)
	Periodontist	22 (28.9)
	Postgraduate	14 (18.4)
	Other	13 (17.1)
<b>Frequency of Social Media Use</b>	Very frequent	47 (61.8)
	Frequent	15 (19.7)
	Occasional	12 (15.8)
	Rare	2 (2.6)
<b>Observed Patient Influence from Social Media</b>	Yes	71 (93.4)
	No	5 (6.6)
<b>Observed Periodontal Complications</b>	Yes	43 (56.6)
	No	28 (36.8)
	Not sure	5 (6.6)
<b>Have Treated Such Cases</b>	Yes	59 (77.6)
	No	17 (22.4)

**Patient Responses:  
Patient Demographic Characteristics:**



**Figure 1** presents the age distribution of the participants. The majority of respondents belonged to the 18–24 years age group (42.1%), followed by 25–34 years (26.3%), 35–44 years (18.4%), and 45 years and above (13.2%).

**Social Media Usage and Adoption of Dental Trends Among Patients:**

**Table 2** shows the distribution of social media usage and adoption of dental trends among patients across different age groups. Social media usage was highest among individuals aged 18–24 years, with the majority reporting very frequent usage. This age group also showed the highest proportion of participants following dental trends promoted on social media platforms. A Chi-square test showed no statistically significant association between age group and adoption of social media dental trends ( $\chi^2 = 4.19$ ,  $df = 3$ ,  $p = 0.24$ ).

**Table 2.** Distribution of social media usage and adoption of dental trends among patients across different age groups (n = 76).

Age Group	Very Frequent	Frequent	Occasional	Rare	Follow Trends	Do Not Follow	Total
18–24	20	7	4	1	22	10	32
25–34	10	6	3	1	12	8	20
35–44	6	4	3	1	6	8	14
45+	2	3	4	1	4	6	10
<b>Total</b>	<b>38</b>	<b>20</b>	<b>14</b>	<b>4</b>	<b>44</b>	<b>32</b>	<b>76</b>

**Types of Social Media Dental Trends Followed:**

**Table 3** highlights the types of social media dental trends followed by participants across different age groups. Charcoal toothpaste was the most commonly followed trend, particularly among participants aged 18–24 years.

**Table 3.** Types of social media dental trends followed by participants according to age group

Age Group	Charcoal Toothpaste	DIY Whitening	Oil Pulling	Fluoride-Free Toothpaste
18–24	12	6	3	1
25–34	7	3	1	1
35–44	3	2	1	0
45+	2	1	1	0

**Self-Reported Periodontal Problems Among Patients:**

**Table 4** shows how participants experienced gum-related problems after following social media dental practices. As presented in 38.2% participants reported experiencing gum-related issues, **while** 61.8% reported no such problems.

A Chi-square test evaluating the association between adoption of social media dental trends and occurrence of gum-related problems revealed a statistically significant relationship ( $\chi^2 = 4.32$ ,  $df = 1$ ,  $p = 0.038$ ), indicating that participants who followed social media trends were more likely to report gum issues.

**Table 4.** Self-reported periodontal problems among participants following social media dental practices (n = 76)

Response	n (%)
Yes	29 (38.2)
No	47 (61.8)
<b>Total</b>	<b>76 (100)</b>

**IV. Discussion**

In the present study, a large proportion of dental professionals reported frequent use of social media platforms. This reflects the increasing integration of digital media in professional communication, continuing education, and patient engagement. Previous studies have also reported widespread adoption of social media among dental professionals for networking, professional learning, and the dissemination of dental information.<sup>13</sup> Al-Khalifa *et al.*<sup>13</sup> reported that more than half of dental professionals actively use social media for professional purposes, including sharing educational content and interacting with patients.

Social media has rapidly emerged as an influential source of health-related information, influencing patient knowledge, attitudes, and healthcare behaviour. In dentistry, platforms such as Instagram, YouTube, Facebook, and TikTok are increasingly used to share oral health information, cosmetic dental procedures, and home-based oral care practices. While these platforms provide opportunities for public health education, they also facilitate the widespread dissemination of unverified information and potentially harmful dental practices.<sup>8</sup> The present study aimed to evaluate the influence of social media dental trends on periodontal health awareness and practices among both dental professionals and the general population.

One of the most notable findings of the present study was that 93.4% of dentists reported observing patients influenced by dental trends promoted on social media. This observation highlights the substantial impact of digital platforms on patient decision-making regarding oral health practices. Similar findings have been reported in previous studies evaluating the role of social media in healthcare behaviour. Parmar *et al.*<sup>15</sup> demonstrated that patients frequently rely on social media platforms to obtain information about dental treatments, often forming perceptions about dental procedures before consulting a professional<sup>5</sup>. Likewise, Abbasi *et al.*<sup>16</sup> reported that social media significantly influences public attitudes toward dental care and aesthetic dentistry, often encouraging individuals to attempt self-directed treatments without professional consultation<sup>6</sup>.

More than half of the dentists in the present study reported observing periodontal complications associated with social media-influenced dental practices. This finding is clinically significant, as several oral health trends promoted online lack adequate scientific validation and may potentially cause damage to dental tissues. Charcoal-containing dentifrices, for example, have gained considerable popularity through social media marketing and influencer promotion. However, studies have reported that these products may exhibit high abrasivity, potentially leading to enamel wear and gingival irritation with prolonged use.<sup>11,14,17</sup> Brooks *et al.*<sup>11</sup>

highlighted that charcoal-based dentifrices often lack sufficient clinical evidence supporting their safety and long-term effectiveness in oral hygiene maintenance<sup>13</sup>.

Among participants from the general population in the present study, more than half reported following dental trends promoted on social media platforms. The most commonly adopted practice was the use of charcoal toothpaste, followed by do-it-yourself whitening methods and oil pulling. These findings are consistent with previous research demonstrating that alternative or “natural” oral health practices are frequently promoted online and widely adopted by younger individuals seeking convenient or cost-effective cosmetic solutions.<sup>9</sup> **Joiner**<sup>12</sup> reported that over-the-counter whitening products and whitening toothpastes are widely marketed online, often without clear information regarding potential adverse effects such as enamel erosion or dentinal sensitivity<sup>18</sup>.

The present study also found that younger individuals (18–24 years) demonstrated the highest levels of social media usage and adoption of dental trends. This observation aligns with findings from previous studies indicating that younger populations are more likely to seek health-related information through digital platforms and social networking sites. **Montagni et al.**<sup>19</sup> reported that university students frequently rely on internet-based sources for health information, including advice related to oral hygiene practices<sup>13</sup>. Similarly, **Gong and Verboord**<sup>20</sup> observed that social media has become a major channel for health information seeking among young adults, influencing both attitudes and behavioural decisions regarding personal health.

A particularly important finding of the present study was that 38.2% of participants reported experiencing gum-related problems after following social media dental practices, and statistical analysis revealed a significant association between the adoption of social media dental trends and the occurrence of gum-related problems. This finding suggests that unverified dental practices promoted online may negatively influence periodontal health. Previous studies have also raised concerns regarding the potential consequences of healthcare misinformation on social media.<sup>8,21</sup> **Chou et al.**<sup>8</sup> emphasised that inaccurate health information circulating online can lead individuals to adopt harmful practices that may compromise health outcomes<sup>14</sup>. Similarly, **Waszak et al.**<sup>22</sup> highlighted that the rapid spread of medical misinformation through digital platforms poses a significant challenge for healthcare professionals and public health authorities<sup>16</sup>.

From a periodontal perspective, improper oral hygiene practices and the use of unregulated dental products may contribute to plaque accumulation, gingival inflammation, gingival recession, and other periodontal complications.<sup>2</sup> In addition, home-based whitening techniques involving acidic substances or abrasive materials may increase the risk of enamel erosion, dentinal hypersensitivity, and gingival irritation<sup>13</sup>. These potential complications highlight the importance of professional dental supervision when adopting new oral hygiene practices or cosmetic dental treatments.

The findings of the present study emphasise the growing need for dental professionals to actively participate in digital platforms to promote evidence-based oral health information. Social media can serve as an effective tool for patient education if used responsibly by healthcare professionals. By providing accurate and scientifically supported information, dental professionals can help counteract misinformation and guide patients toward safe oral hygiene practices<sup>15</sup>. Professional organisations and academic institutions should also consider developing strategies to improve public awareness regarding evidence-based oral health practices and the potential risks associated with unverified online dental trends.

Overall, the results of the present study highlight the increasing role of social media in shaping oral health behaviour. While digital platforms offer opportunities for public health education, the absence of regulation and the rapid spread of misinformation may contribute to the adoption of potentially harmful dental practices. Therefore, greater collaboration between dental professionals, public health organisations, and digital platforms is necessary to ensure that reliable oral health information reaches the general population.

## V. Conclusion

Within the limitations of the present study, it can be concluded that social media plays a significant role in influencing oral hygiene behaviours and dental practices among the general population. A considerable proportion of individuals reported following dental trends promoted on social media platforms, with charcoal toothpaste and do-it-yourself whitening methods being the most common.

Dental professionals also reported observing an increasing number of patients influenced by online dental content, with more than half reporting periodontal complications associated with such practices. A statistically significant association was found between adoption of social media dental trends and the occurrence of self-reported gum-related problems.

These findings highlight the need for greater awareness regarding evidence-based oral health practices and emphasise the importance of dental professionals actively engaging in digital platforms to provide accurate and reliable oral health information.

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