

THE DENTAL CLINIC WEBSITE AND ITS ROLE IN THE DOCTOR–PATIENT COMMUNICATION PROCESS

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Abstract: Patients seek rapid and reliable answers to medical queries arising throughout the progression of their conditions, frequently consulting the websites of various dental practices. Consequently, this study **aimed to** investigate the utilization of dental practice websites within the communication framework between Bulgarian dental practitioners and their patients.

This study was conducted among 195 dental practitioners, including both general dentists and specialists, as well as clinicians working in private practices and those employed under a labor contract. Respondents are divided into groups according to their work experience, specialty, and their work in different clinical environments.

The study revealed that slightly more than half of all surveyed dental practitioners (52.3%) maintain an official website for their dental practice. Content creation is primarily managed directly by the dental practitioner (68.6%), followed by collaboration with IT professionals (36.3%), while artificial intelligence (AI) tools are utilized least frequently (3.9%) for website content generation.

Regarding content orientation and perception, respondents predominantly endorsed the statement "the information on the site is reliable and scientifically based" (82.4%), followed by "the information on the site has an advertising purpose" (18.6%), whereas "the information on the site is commercial" received the lowest response rate (3.9%).

A statistically relevant association was observed between years of professional experience and the approach to website content management. Younger dental practitioners demonstrated a stronger tendency to leverage online resources and artificial intelligence tools, while also accepting a higher degree of marketing-oriented messaging in published web content.

The evolution of dental practices must align with the communication preferences of younger generations, offering services through modalities acceptable to diverse patient demographics (both traditional and virtual). Maintaining professional practice websites with verified, scientifically sound information enhances clinic reputation and fosters patient loyalty. Furthermore, there is a clear imperative for comprehensive guidelines to develop reliable web-based resources, enabling dentists to utilize digital platforms and social media effectively and responsibly.

Keywords: Dental Practice, Marketing, Dental Practice Website, Digitalization

1. INTRODUCTION

Modern society prefers every personal need to be addressed with a single "click." This also applies to scheduling dental appointments, monitoring patient health status, and selecting a treating practitioner or clinical team. Dental health must be perceived as an essential component of public health (Engelmann et al., 2020). Although characterized by an uneven distribution of practices, varying levels of practitioner specialization, and disparate digital infrastructure among clinics, dental care must remain visible to patients and society—a visibility made possible through various online media, particularly websites. In everyday life, information and communication technologies (ICT) and the Internet can play a pivotal role in the delivery of oral and dental healthcare services (da Costa et al., 2020). This contrasts sharply with the recent past, when the sole avenue for communication and addressing oral health-related inquiries was direct personal contact with dentists (Chiu, 2016). Patients seek rapid and, where possible, accurate answers to queries arising throughout the progression of their conditions. Consequently, they are inclined to utilize diverse communication tools—such as email, websites, social networks, and specialized platforms—to obtain these responses (Bastani et al., 2022; Fonseca et al., 2021; Georgakopoulou, 2020; Jampani et al., 2011; Torres-Pereira et al., 2013).

It must be acknowledged that a dental clinic's website serves as the patient's initial encounter with their prospective healthcare provider. According to Andrade et al. (2024), modern websites optimized for mobile devices dramatically improve new patient acquisition rates. Furthermore, social networks are emerging as a crucial tool in practitioner interaction with both current and prospective patients. This necessitates the personalization and segmentation of target user groups and information seekers. Fiorini (2026) posits that digital health marketing grounded in content created by dentists—possessing authoritative clinical and scientific value—represents the most operationally effective short- and medium-term lever for increasing patient-consumer volume.

Various authors report a growing global trend toward leveraging social media for marketing purposes (Bahabri et al., 2021) and even recommend the establishment of policies to illuminate interprofessional and ethical standards governing social media use in healthcare. The integrity and reliability of published online content remain highly debatable; thus, consumers must exercise caution when utilizing information obtained from online sources.

On the other hand, the aggregation of web-based content generated by dental practitioners can be utilized by search engines as a foundational database for online dental consultation services.

There is an expanding market of patients seeking treatment options abroad, driving the growth of "health tourism" (Adams et al., 2010; Kopmaz et al., 2019). Dental health tourism is defined as the pursuit of dental care options by patient-tourists worldwide. A primary driver of dental patient mobility is the availability of marketing-driven information outlining clinical and financial alternatives tailored to individual patient needs. This is perceived by patients as offering new avenues for healthcare availability and accessibility (Gheorghe, 2010; Hanefeld et al., 2010).

In summary, as global digitalization advances, the healthcare sector—including dental practice—increasingly recognizes social media as a vital tool for health promotion, patient recruitment, marketing, and communication strategies. Therefore, our team conducted a survey among Bulgarian dental practitioners to evaluate our position relative to these global developments.

This study **aims to** investigate the utilization of dental practice websites within the communication process between dental practitioners and patients.

2. MATERIAL AND METHODS

This study was conducted among dental practitioners, including both general dentists and specialists, as well as clinicians working in private practices and those employed under a labor contract. Participants were recruited through voluntary participation in a web-based closed group of dental practitioners with more than 2,500 members. The questionnaire was administered via Google Forms.

Table 1: Distribution of survey participants by various characteristics

Variables	Study groups				
Distribution of participants by years of work experience	Work experiences up to 3 years	Work experience from 4 to 10 years	Work experience from 11 to 20 years	Work experience over 20 years	
	n = 20 10.3%	n = 49 25.1%	n = 51 26.2%	n = 75 38.5%	
Distribution of dental practitioners by workplace	Private dental office	Private dental clinic	Employed in a dental clinic (labor contract)	Private specialized dental clinic	Employed in a specialized dental clinic
	n = 95 49.0%	n = 40 20.6%	n = 28 14.4%	n = 18 9.3%	n = 13 6.7%
Distribution of dental practitioners by specialty	Dental doctors with a specialty	Dentists without a specialty			
	n = 96 49.2%	n = 99 50.8%			

Source: Authors' research

The survey included detailed information regarding the aims of the study and its potential benefits. Participation was entirely voluntary. All collected data were handled in accordance with confidentiality and anonymity standards, and the research team ensured that participants could not be identified.

The participants included in the study were divided into groups according to several characteristics: years of work experience - 4 categories (up to 3 years; from 4 to 10 years; from 11 to 20 years and over 20 years of work experience); according to their place of dental practice - 5 categories (My own private dental practice, My own

private dental clinic, My own private specialized dental clinic, Associate/Employed at a dental clinic, Associate/Employed at a specialized dental clinic) and according to the presence or absence of a dental specialty - 2 categories (dentists with a specialty and general dental practitioners).

Participants were divided into several groups according to different criteria, as shown in Table 1.

Statistical Tests and Analyses

Descriptive statistical processing of the data was performed with software packages IBM SPSS Statistics 27.0 and MedCalc Version 23.4.5. Microsoft Excel (Office 2021) was also used for figure preparation. The level of statistical significance for rejecting the null hypothesis was set at $p < 0.05$.

3. RESULTS

The study revealed that slightly more than half of all surveyed dental practitioners (52.3%) maintain a dedicated website for their dental practice, whereas 47.7% do not yet have one. Respondents indicated who authors the content regarding the clinical procedures performed in their dental practice. The distribution of their responses is presented in Table 2. The sum of the percentages exceeds 100%, as some dental practitioners selected more than one option.

Table 2: Percentage distribution of dentists by who and with what assistance developed the information about medical procedures on the sites

Variables	%
The information on the site was created personally by the dentist	68.6%
The information on the site is borrowed from other sites	4.9%
The information on the site is borrowed from the Internet	14.7%
The information on the site is compiled with the help of AI	3.9%
The information on the site was compiled with the help of a computer specialist	36.3%
They declare that the information on the site is reliable and scientifically based	82.4%
They declare that the information on the site has an advertising purpose	18.6%
They define the information on the site as commercial	3.9%

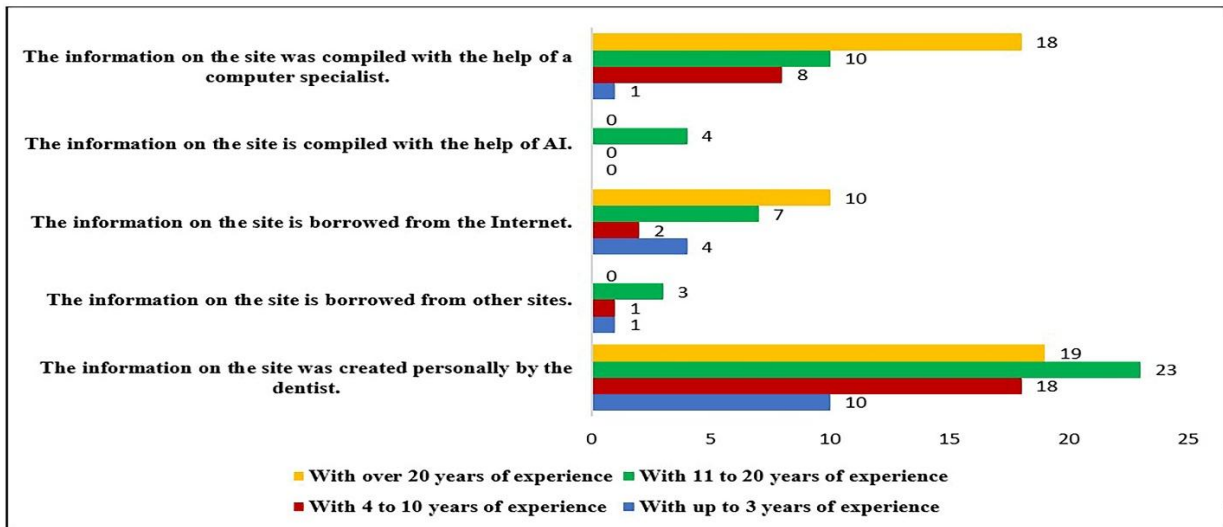
Source: Authors' research

Respondents evaluated the information on their practice websites, specifically regarding their clinical activity in terms of reliability and whether they permit it to serve a commercial purpose. The response "the information on the site is reliable and scientifically based" received the highest proportion (82.4%), followed by "the information on the site has an advertising purpose" (18.6%), whereas "the information on the site is commercial" yielded the lowest response rate (3.9%).

An analysis of the dependence between the dental practitioner's years of professional experience and the method of content creation regarding clinical procedures was conducted and is illustrated graphically in Figure 1. The findings indicate that:

- Among practitioners with *up to 3 years of professional experience*, the relative proportion of the response "Sourced from online resources" was significantly higher than that of "With the assistance of an IT specialist", but did not differ significantly from all other response options, whose relative proportions showed no statistically significant differences among themselves.
- Among practitioners with *11 to 20 years of professional experience*, the relative proportion of the response "With the assistance of artificial intelligence" was statistically significantly greater than those of all other responses, which did not differ significantly from one another.
- Among practitioners with *more than 20 years of professional experience*, the relative proportion of the response "With the assistance of an IT specialist" was statistically significantly greater than those of "Personally by the dental practitioner", "Sourced from other websites", and "Sourced from online resources" (whose relative proportions showed no statistically significant differences among themselves); however, it was not significantly different from "With the assistance of artificial intelligence", whose relative proportion did not differ statistically from any of the other options.
- Only in the group with *4 to 10 years of professional experience* was the difference among the reported options statistically non-significant.

Figure 1: The relationship between the dentist's work experience and the creation of information related to the procedures performed in dental practice



Source: Authors' research

The analysis of the relationship between the dental practitioner's years of professional experience and the functional orientation of their practice website content revealed that only among those with up to 3 years of clinical experience was the proportion of the response "Commercial" statistically significantly higher than those of the other two responses—"Reliable and scientifically based" and "Primarily promotional/advertising-oriented", which did not differ statistically from each other.

4. DISCUSSION

Communication represents an interaction between individuals situated in fundamentally distinct roles. In the field of dental medicine, an evidence-based discipline, the communication and dissemination of medically oriented content must occur in a secure, accurate, and reliable manner. Cases of intentional and misleading patient-directed information approaches via various websites or social media platforms are not infrequently reported. Consequently, this study was conducted, demonstrating that Bulgarian dental practitioners are responsible and do not mislead their patients with inaccurate information. More than half of the surveyed dental practitioners (68.6%) self-author the medical content on their websites, whereas those relying on artificial intelligence (AI) for this purpose constitute only 3.9%. A significantly high proportion (82.4%) of dental practitioners classify the medical content they generate as scientifically based and reliable information. Comprehensible communicativeness reflects the ability of the dental practitioner to explain clinical and therapeutic processes both orally and in writing—in the form of explanations on the practice website and through other communication channels with consumers (patients). Information exchanged in this manner serves as a key mechanism for business operation and acts as a conduit for practice expansion. Although communication exhibits unique characteristics across different domains, it fundamentally adheres to universal principles. Therefore, the dental practitioner must cultivate strong communication skills across a dual role: as a clinician demonstrating the requisite empathy toward patient needs, and as an entrepreneur maintaining focused business interests. An effective communicator must excel in the art of interpersonal relationships, demonstrating empathy and active listening while motivating patients through a compelling vision and employing effective communication strategies to achieve operational business goals.

The communication process necessitates compliance with established principles by all participants. Dental practitioners should formulate a structured communication strategy tailored to their target patient demographic, anticipating their information-seeking behaviors, attitudes, and health concerns. The development of a clinician as an effective communicator begins during undergraduate professional education, as dental medicine inherently deals with people and their health problems. In the patient-practitioner dynamic, the dentist occupies the primary guiding role and must therefore be adequately prepared.

In recent years, driven by technological advancements and the emergence of a digitally native generation, the influence of social networks within the healthcare sector has expanded substantially. Maintaining regular and effective communication with clients (patients), by responding to inquiries and updating news and events published on the clinic's page, has become paramount. For these activities, a website alone is often insufficient, necessitating integration with social media platforms such as Facebook, Instagram, and Twitter. While social media constitutes a vital component of any digital marketing strategy, the information provided through these channels must remain reliable, which intrinsically enhances its promotional value. Consequently, to foster

patient compliance and trust, dental practitioners must maintain complete integrity in the information provided to patients. In our study, only a negligible proportion (3.9%) of respondents acknowledged utilizing website content for strictly commercial purposes.

A statistically relevant association was identified between years of professional experience and the approach to website content formulation. Younger dental practitioners demonstrated a greater propensity to leverage online resources and artificial intelligence, while also permitting a higher degree of marketing-oriented messaging within published website content.

In the 21st century, patients seeking healthcare services frequently evaluate online reviews, testimonials, and practice websites prior to making informed choices. Unsurprisingly, other authors (Acosta, 2025) emphasize that social media platforms are widely utilized among younger dentists, primarily for educational, communicative, and marketing purposes. Although social media adoption is associated with perceived enhancements in practice quality and patient care, trust in social media-derived information remains low, and concerns persist regarding its impact on the doctor–patient relationship. In patient-centered investigations, Kostov et al. (2025) reported that confidence in fully AI-generated diagnoses was low; similarly, the level of trust in dental treatment performed by a computer-controlled dental machine was unsatisfactory. Consequently, it would be highly beneficial to establish and adopt comprehensive guidelines for building reliable web-based resources, thereby assisting dentists in utilizing social media effectively and responsibly.

5. CONCLUSION

The development of dental practices must align with the communication and service delivery preferences of younger generations, offering healthcare services through modalities tailored to diverse user expectations (incorporating both traditional and virtual formats). The integration of digital lifestyles into healthcare necessitates operational flexibility and process transformation, requiring dental practitioners and clinic executives to adapt proactively. Maintaining professional practice websites with verified, scientifically sound information enhances clinic reputation and fosters long-term patient loyalty.

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