

COMMUNICATION AND PROMOTION STRATEGIES IN ONLINE AND OFFLINE ENVIRONMENTS FOR DENTAL MEDICAL SERVICES

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The promotion of medical services is regulated by national and international legislation that protects patients' rights and ensures an ethical standard in advertising, this is a sensitive process that must comply with strict ethical standards and regulations. In the current context in which digitalization and competitiveness in the healthcare field require the adoption of effective methods of attracting and retaining patients in the online and offline environment and given the direct impact on patients' health, any marketing and communication strategy must be transparent, fair and provide truthful information.

Keywords: communication, promotion, online and offline environment, dental medical services

I. INTRODUCTION

Communication plays an essential role in improving the doctor-patient relationship and in promoting quality services [1]. In the current context in which digitalization and competitiveness in the healthcare field require the adoption of effective methods of attracting and retaining patients in the online and offline environment, this topic explores communication and promotion strategies in this direction for dental medical services, identifying the most effective communication and promotion tactics, analyzing their impact on patients' decisions and offering solutions adapted to the current needs of the dental industry. The results obtained will be used by both medical professionals and marketing specialists who want to optimize dental services promotion strategies.

II. PURPOSE /OBJECTIVES

The purpose of this study is to identify and analyze the communication and promotion strategies used in the online and offline environment for dental medical services. The study aims to highlight the efficiency of these strategies, their impact on patients and their adaptability to current trends in the field of medical marketing. Healthcare marketing, including in the dental medical services sector, must respect a series of fundamental principles that ensure both the efficiency of promotional campaigns and compliance with ethical and deontological norms [2]. A positive interaction between doctor and patient can reduce anxiety, improve collaboration and contribute to a quality medical experience [3].

The promotion of medical services, including dental services, is a sensitive process that must comply with strict ethical standards and regulations. Given the direct impact on patients' health, any marketing strategy must be transparent, fair and provide truthful information [4].

The promotion of medical services is regulated by national and international legislation that protects patients' rights and ensures an ethical standard in advertising. In Romania,

promotion of medical services, establishing that they must be carried out in a fair and non-discriminatory manner [5]. The regulations of the College of Physicians impose restrictions on excessive or misleading advertising of medical services.

European Union norms impose clear restrictions on the promotion of medicines and medical devices, limiting aggressive marketing techniques.

In order to provide a complete and relevant analysis of communication and promotion strategies for dental medical services in the online and offline environment, the research aims at the following scientific objectives:

1. Theoretical analysis of communication and promotion strategies in the dental field
2. Identification and classification of the most effective online and offline promotion strategies
3. Evaluation of the impact of communication and promotion on patient behavior
4. Study of current and future trends in the promotion of dental services
5. Development of recommendations and solutions for optimizing promotion strategies in the dental field

By achieving these objectives, the research will contribute to the development of effective communication and marketing strategies, adapted to the current needs of the dental medical services market.

III. METHODOLOGY

To carry out this study, the following data sources were used:

- Questionnaires applied to patients who accessed dental medical services in the last 12 months.
- Semi-structured interviews conducted with dentists and medical marketing specialists.
- Content analysis of websites, blogs and social networks of dental offices to evaluate the promotional tactics used.

- Case studies of dental offices that have implemented successful communication and promotion strategies.

Research Methods

The research adopts a mixed approach, combining quantitative and qualitative methods to obtain a complete picture of communication and promotion strategies.

- Quantitative methods by using structured questionnaires applied to a sample of 70 patients and statistical analysis of the collected data to identify dominant trends.
- Qualitative methods by organizing interviews with 15 specialists in the field of dentistry and medical marketing and thematic analysis of the responses obtained from the interviews.
- Examination of digital content to identify the most effective online communication tactics.

Sampling characteristics:

- Patients: 70 respondents, selected through the conventional sampling method, who accessed dental medical services in the last 12 months.
- Professionals in the field: 15 dentists and medical marketing specialists, chosen through purposive sampling.

The questionnaire includes questions on the sources of information used by patients, the impact of online reviews and the elements that influence the decision to choose a practice.

The interview guide for professionals contains questions on promotion strategies, difficulties encountered and future trends.

Content analysis examines the frequency of postings, typology of messages and the level of interaction on digital platforms. Qualitative analysis uses thematic coding to extract relevant insights from interviews and online content analysis.

Inclusion criteria in the sample

The following inclusion criteria were established,

For patients:

- Age over 18 years.
- Access to a dental medical service in the last 12 months.
- Willingness to participate in the study by completing a questionnaire.

For professionals:

- Minimum 2 years of experience in the field of dentistry or medical marketing.
- Active involvement in the promotion of dental services.

- Willingness to participate in semi-structured interviews.
- Knowledge and application of digital or traditional marketing strategies in professional activity.

The chosen methodology allows a complex analysis of communication and promotion strategies in the dental field, combining quantitative and qualitative data for a balanced perspective, as well as a deeper approach to consumer behavior and practices used by professionals to increase their visibility and credibility.

IV. RESULTS

Data analysis

An applied study was conducted to understand patients' perceptions and behaviors in relation to communication and promotion strategies of dental services, based on a fundamental tool in quantitative research: the questionnaire. This questionnaire was designed and applied among a sample of 70 patients who accessed dental services in the last 12 months, aiming to capture the opinions and real experiences of the direct beneficiaries of these services.

The questionnaire was carried out based on the need to identify the factors that influence the patient's decision in choosing a dental clinic, as well as the efficiency of communication and promotion channels - both online and offline, the questions asked targeted topics such as the sources of information used by patients (recommendations, social networks, websites, leaflets, etc.), the impact of online reviews, the importance of the first impression and interaction with the clinic staff, but also the degree of satisfaction with the services received. Before applying the questionnaire, all participants were presented with a short information form, which explained the purpose of the research, the voluntary nature of participation, the anonymity of the responses and the right to withdraw at any time, without consequences. Only after expressing informed consent – verbal or written, depending on the context – could the respondents continue to fill out the questionnaire. Through this investigation, the aim was not only to collect relevant data, but also to outline an updated profile of the modern patient: informed, attentive to details, influenced by the digital presence of the practice, but also sensitive to classic factors such as reputation, personal recommendations and experience from the first visit.

Descriptive analysis of the demographic structure of the study group

The distribution of respondents by age group indicates the predominance of the 26–35 age group, followed by the 36–45 and 18–25 age groups. This suggests an active online presence of young people and young adults, which is relevant for the evaluation of digital communication strategies. (Figure 1)

The majority of the studio participants are female, followed by male respondents. This distribution is important for understanding differences in perception regarding online promotion. (Figure2)

Figure 1 – Distribution of the study group by age groups

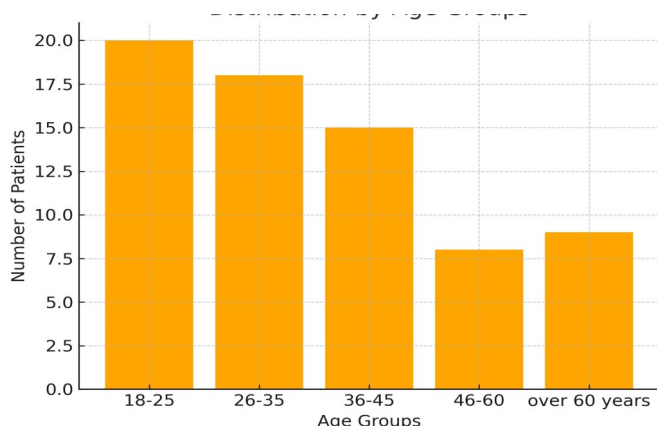
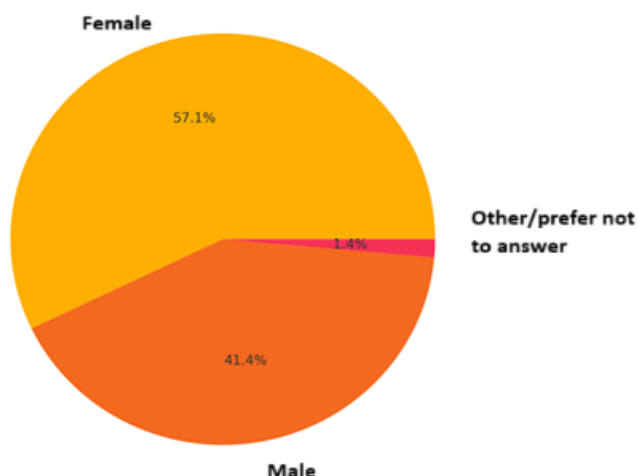
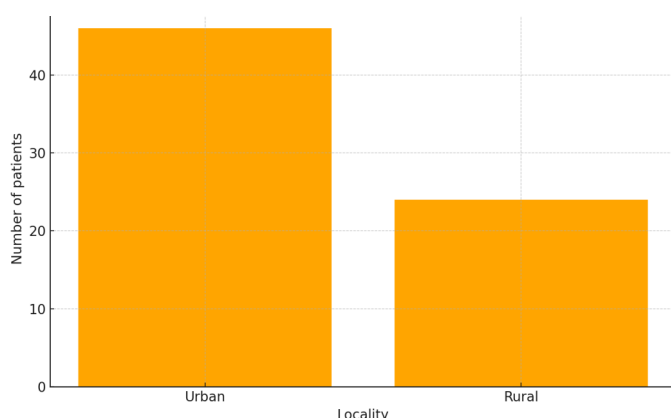


Figure 2 – Distribution of the study group by gender



The respondents come from several localities, predominantly the urban area of Timisoara. This aspect indicates that the study reflects the perceptions of patients from urban areas, where online promotion is more developed, but given the wide spread of internet access in Romania we cannot necessarily make this differentiation. Thus 46 respondents came from urban areas while 24 were from rural areas. (Figure 3)

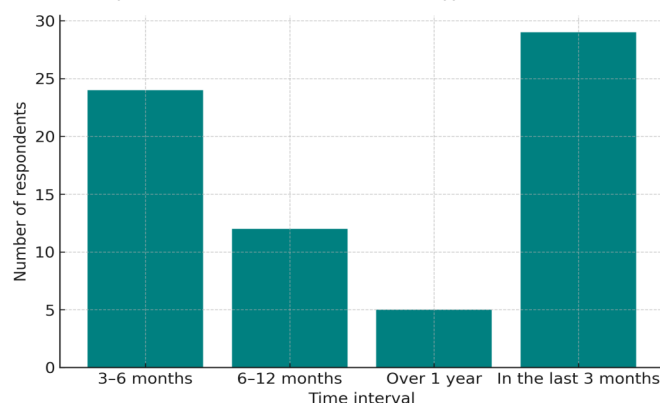
Figure 3 – Distribution of the study group according to the living environment of the participants



Descriptive and correlational analyses

The majority of respondents stated that they had been to the dentist in the last 3 months, followed by the 3–6 months category. Only a small percentage reported a visit more than a year ago. This shows a relatively high level of awareness regarding oral health among the participants. (Figure 4)

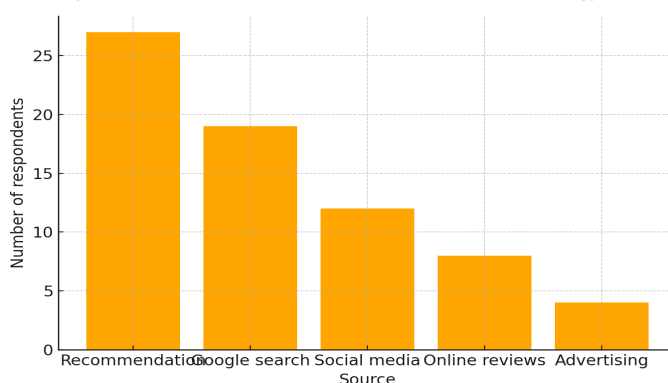
Figure 4 – Distribution of the study group according to the date of the last visit to the dental office



Analysis of information sources and educational content followed

Common sources of information identified by respondents are social platforms, online reviews and the Google search engine. Online reviews and traditional advertising were mentioned less frequently, suggesting a general preference for intentional information through person-to-person relationships or digital means.(Figure 5)

Figure 5 – Distribution of the study group according to the information sources used to choose a dental office



Analysis of dental practice website usage

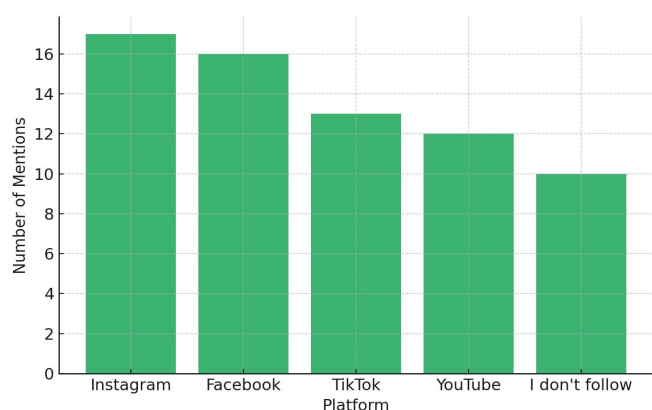
Respondents reported using the dental practice website primarily to check reviews (17 people, 24.3%), learn about services (27 people, 38.6%), and make online appointments (5 people, 7.1%). However, a significant portion of respondents (21 people, 30%) said they do not use the clinic website at all, highlighting an area of untapped potential in digital communication.

Analysis of the use of social media platforms and the perception of their usefulness

The data shows that the most frequently followed platforms for dental information are Facebook

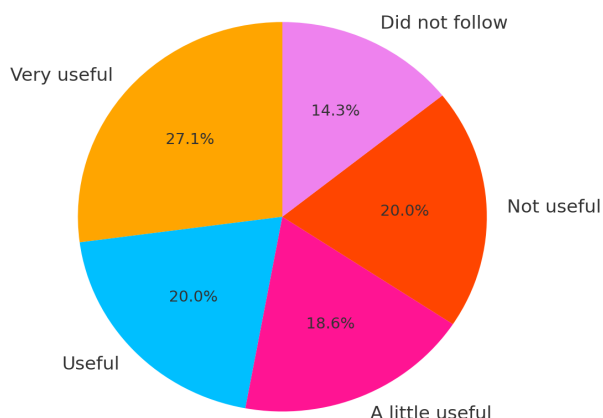
(16 responses) and Instagram (17 responses), followed by TikTok (13 responses) and YouTube (12 people). This distribution indicates a preference for visual and interactive content, characteristic of modern platforms. At the level of correlations, we will try to identify certain links between the variables of age, gender or living environment with the preference for a particular media platform. (Figure 6)

Figure 6 – Distribution of the study group according to the main media platform used



Respondents rated the content published by dental practices on social media as mostly useful or very useful. However, a portion of participants either do not consider the content relevant or do not actively follow it. This suggests the need for personalization and adaptation of messages to increase informational impact. (Figure 7)

Figure 7– Distribution of responses regarding the usefulness of online content



We did not identify any significant associations between living environment and preference for a specific digital platform or between people's gender. Age, on the other hand, has a particular importance in the preference for a specific social media platform. Analyzing the data, we could observe that the age segment between 18-25 years old prefers TikTok, those between 26-35 years old, Instagram, those between 36-45 years old Facebook and those over 46 years old use YouTube as their main source of information. The sample of those who do not use the online environment is evenly distributed across these age categories.

The results obtained highlight the existence of significant correlations between age and certain sources of information or social platforms. Also, the interdependence between social platforms and sources of information suggests a convergence in patients' digital behaviors. This information can be used to adapt the messages and communication channels of dental offices according to the age segments and preferred environments.

Analyzing the Influence of reviews and patient referral behavior

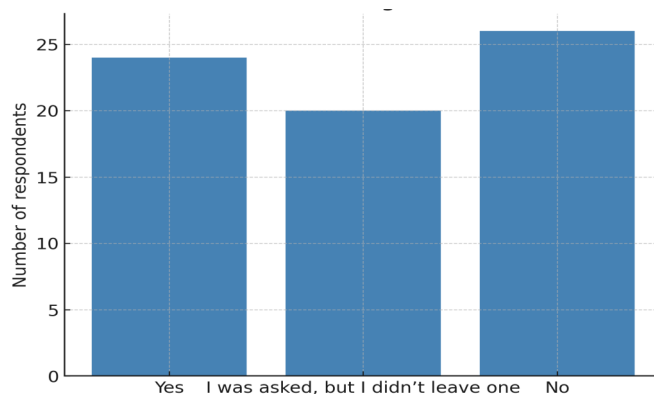
The majority of patients stated that online reviews had a significant impact on their decision to choose a dental office. Only a minority stated that they did not read reviews at all. This data confirms the crucial role of online reputation in attracting patients.(Figure 8)

Figure 8 – Distribution of responses regarding the degree of influence of online reviews in making a decision



A significant number of patients say they have left a review, while others say they were asked to but did not actually write one. This behavior highlights the untapped potential of satisfied patients in actively promoting the practice through positive reviews. (Figure 9)

Figure 9 – Distribution of responses regarding the degree to which people leave reviews regarding the dental services received



We did not identify a significant correlation between the preferences or not to read a review or to write one and the age of the study participants, their gender or their living environment. Thus, there is no significant correlation between the tendency to read and the tendency to

write reviews. This supports the hypothesis that informed patients contribute more feedback online than an uninformed patient. The results indicate that age group can influence review behavior, especially in terms of the tendency to write them. Young patients are more active in the digital environment and more likely to interact through online reviews. The results highlight a possible influence of age on digital behavior in relation to dental reviews, while gender does not seem to significantly influence this behavior.

Correlation analysis between social media platform use and review behavior

This analysis aims to determine whether there is a significant relationship between the use of certain social media platforms and patients' behavior in reading or writing online reviews about dental practices. The most popular platforms reported in the sample were analyzed: Facebook, Instagram, and TikTok. No significant association was identified with regard to review writing. The results obtained indicate that there may be relevant associations between certain social platforms and patients' digital review behavior. For example, Facebook appears to more actively support the information process through reviews, while TikTok may favor other forms of visual engagement.

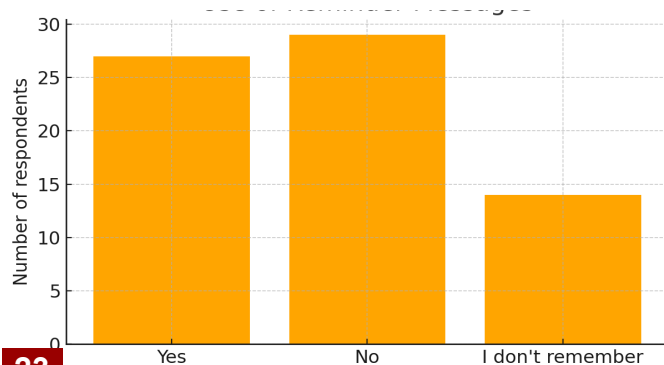
Use of reminder messages

Respondents were asked whether they had received reminder messages from the dental office. A considerable proportion of patients confirmed receiving these notifications, while others either did not receive them or did not clearly remember this. This indicates a partial but important application of digital technologies in maintaining the ongoing relationship with the patient.

The results suggest that age may influence the likelihood of receiving or withholding a reminder message, while gender differences do not appear to have a significant impact on this behavior.

The analysis shows that the use of reminder messages is a positively perceived and relevant service, but with uneven implementation. Integrating reminders with patients' preferred channels, such as social media applications, could increase the efficiency of digital communication between the practice and the patient. (Figure 10)

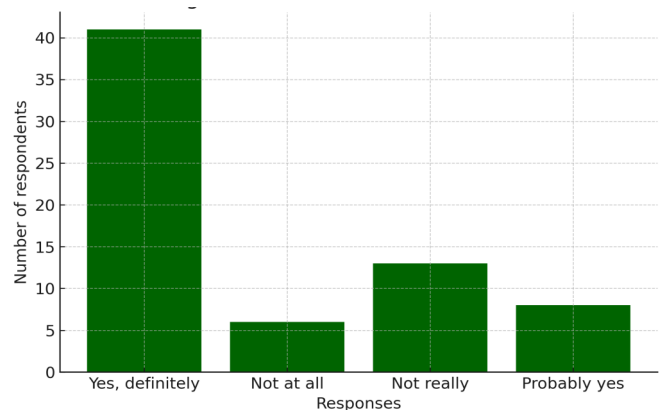
Figure 10 – Distribution of responses regarding the degree to which people use the reminder service (appointment management) offered by dental clinics



Analysis of dental practice recommendation and demographic and digital correlations

When asked if they would recommend the dental practice to others, the majority of respondents were willing to do so (41 – “Yes, definitely” and 9 – “Probably yes”, 71% of the total), indicating a high level of satisfaction and trust in the services received. However, some patients expressed reservations, either expressing hesitation (18.6%) or stating that they would not recommend the clinic (10.4%), which may indicate areas that need improvement. (Figure 11)

Figure 11 – Distribution of responses regarding participants' predisposition to recommend the dental clinic based on their experience.



The results suggest that the predisposition to recommend the clinic may vary by age, indicating differences in perception or loyalty across generations. On the other hand, gender does not seem to significantly influence this behavioral variable. Similarly, the use of certain social platforms does not seem to significantly influence future recommendation of the dental clinic.

Analysis of the impact of online campaigns and important elements for a dental website

Patients were asked if they were influenced by online campaigns (e.g. discounts, special offers). A significant proportion admitted that these campaigns had a positive impact on the decision to contact the clinic. However, there are also patients who either did not notice the campaigns or considered them irrelevant. This indicates a need for more effective personalization and targeting of the target audience in the digital environment. (Figure 12)

Social media users indicated a significant influence of online campaigns practiced by dental clinics on them.

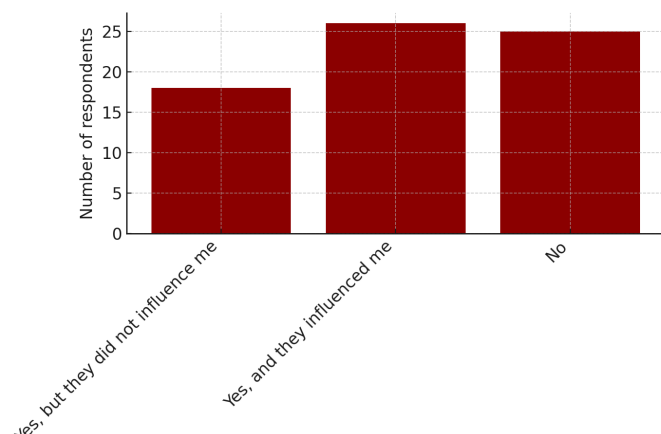
Online campaigns have considerable potential to influence patient decision-making, but their effectiveness depends on the personalization of the message, the channel used and the explicit expectations of the target audience. The results obtained emphasize the importance of adapting the clinic's website to clearly and effectively respond to the information and scheduling needs of modern patients.

V. DISCUSSIONS

Expert opinions on online promotion and communication strategies in dentistry



Figure 12 – Distribution of responses regarding the influence of online campaigns on patients



In the context of the accelerated digitalization of medical services, online promotion and communication strategies have become essential for dental practices. This synthesis reflects the opinions and conclusions formulated by specialists with over 20 years of experience in dentistry in Romania, who have observed the evolution of the market and the profound transformations in patient behavior.

In the 2000s, communication between doctor and patient was achieved almost exclusively directly or through personal recommendations. Advertisements were limited by strict regulations, and promotion through posters or leaflets was the main information channel. After 2010, with the spread of the internet and the emergence of social media, a major change occurred: patients began to actively search for information online, and the reputation of the practice began to be defined by reviews and digital presence.

Experts point out that this transition has forced practitioners to rethink their approach, to become more transparent, more visible and more reactive to public feedback. The need for a modern, well-structured and updated website, along with active social media profiles, has emerged.

Experienced doctors have noted that digital promotion brings direct and quantifiable benefits to the practice. These include: increasing the visibility of services, attracting new patients from outside the traditional network, strengthening patient trust through transparency and education, and building loyalty through continuous communication. Another important aspect is the ability to differentiate the clinic through quality content, real images and visible professionalism online.

Especially in large cities, competition is high, and the lack of an online presence is interpreted by patients as a lack of professionalism. The doctors interviewed say that investing in a well-optimized website and strategic communication on Facebook and Instagram led to an increase of over 30% in the number of appointments within a year.

Although the advantages are obvious, dentists also reported multiple challenges: lack of time to manage social accounts, difficulty in creating relevant content, exposure to negative reviews and the risk of resorting to marketing agencies that do not understand the medical specifics.

Among the common mistakes identified are: excessive use of commercial promises, ignoring patients' questions and comments, copying content from other clinics and the absence of a human and professional tone. Also, promotion without respecting ethical norms can attract sanctions from the College of Dentists.

The consulted specialists claim that a successful strategy in the digital environment must be based on several clear principles:

- Active and consistent presence on 1-2 social platforms relevant to the target audience (e.g. Facebook for families, Instagram for young people);
- Transparent information on the website: services, prices, team, location, online appointments;
- Constant publication of educational content: videos, tips, case studies;
- Personalized answers to patients' questions and reviews;
- Collaboration with medical marketing specialists to maintain a professional and ethical image.

VI. CONCLUSIONS

One of the major conclusions of the study is the profound change in the paradigm of communication between the dentist and the patient. In the last 10–15 years, we have witnessed the transition from an exclusively direct and physical relationship to a complementary relationship, which integrates digital channels: website, social media, e-mail, online reviews. This evolution is not a simple effect of technology, but reflects a structural change in the behavior of the contemporary patient – more informed, more selective, more connected and more sensitive to the digital reputation of a medical office.

The results of the study demonstrate that patients attach significant importance to the communication elements presented on websites and in online campaigns. They primarily look for clear information about services and prices, the possibility of making online appointments, educational content and authentic reviews. The perceived usefulness of these elements increases with the digital age of the patient, being more pronounced in the younger generations (18–35 years old), but also relevant for more mature categories.

Facebook, Instagram, and TikTok have become the primary platforms through which patients interact with medical brands. Dentists who are active and authentic on these platforms benefit from increased visibility and a closer relationship with patients. The platforms allow not only for promoting services, but also for educating the public, providing quick responses, and reinforcing a credible professional identity.

Patient reviews play a central role in choosing a practice. The study reveals that the majority of respondents state that they decisively influence the decision to schedule an appointment. Also, patients who read reviews are more likely to leave feedback online. This circular

relationship between reputation and experience requires professional and transparent management of online feedback – an aspect that should be included in the continuing education of doctors and in university curricula, it is recommended to introduce applied modules on online communication, ethical medical marketing, review management and professional use of social media in dental practice.

The correlations identified between demographic variables (age, gender, location) and digital behaviors show that digitalization is not uniform. Younger patients and those from urban areas are more receptive to digital communication, while older people or those from rural areas require complementary approaches. The recommendation is that communication strategies be adapted to the demographic and cultural specificities of each clinic.

The College of Dentists and academic authorities must update the guidelines and deontological codes to include the specificities of the online environment: the veracity of messages, data protection, respect for the dignity of the patient, as online promotion becomes a common work tool, it becomes increasingly necessary to clarify the ethical framework in which it must be carried out.

Strategic recommendations for the sustainable development of dental practice

Based on the findings, the following recommendations can be formulated for practitioners and decision-makers:

- Developing a professional digital identity through website, SEO and authentic content;
- Integrating online appointments and communication through automated messages (reminder, follow-up);
- Active monitoring and professional response to reviews;

- Audience segmentation and adapting content according to the patient's demographic profile;
- Training staff for effective digital communication.

In dentistry, online communication and promotion is no longer an accessory, but an indispensable component of modern practice. In order to meet the demands of the contemporary patient and to guarantee the quality of the medical act in a transparent and ethical framework, collaboration between academia, practitioners and regulatory authorities is essential. The present study provides a solid basis for the development of educational and professional policies aimed at supporting the sustainable digital transformation of the dental field in Romania.

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