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Article

Perspectives on Ethics Related to Aesthetic Dental Practices Promoted in Social Media—A Cross-Sectional Study

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Abstract

Background/Objectives: Dental practice, particularly aesthetic dentistry, has been extensively promoted through social media. The widespread advertisement of dental procedures via social media may influence young patients' perceptions of the dentist's professional role and potentially alter the dynamics of the doctor–patient relationship. Our study aimed to examine young dentists' perspectives on ethical considerations associated with aesthetic dental procedures marketed on social media, and to identify appropriate professional responses to such situations. Methods: A cross-sectional study was conducted at Iuliu Haţieganu University of Medicine and Pharmacy in Cluj-Napoca, Romania, between July and September 2022. Data was collected using four case-based scenarios designed to elicit ethical reasoning. Results: Around 60% of participants identified ethical concerns related to patient requests for aesthetic dental procedures and demonstrated an ability to determine appropriate professional conduct in these contexts. The shift in the dentist's role—from health care provider to service provider—driven by patient demands for cosmetic treatments was the primary concern perceived by the participants. Conclusions: Most participating young dentists were able to recognize ethical issues surrounding aesthetic dental requests influenced by social media and to adopt a considered professional response. Our findings highlight the need for reinforced ethics education and guidance in navigating social media's influence on dental practice.

Keywords: esthetics; dental; social media; ethics; dental; professional–patient relation

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1. Introduction

1.1. Aesthetic and Cosmetic Dentistry

Aesthetic dentistry encompasses all types of dental treatments designed to enhance a patient's smile. It can affect the teeth, gingiva, and extra-oral features, predominantly the lips [1]. The primary aesthetic treatments include bleaching, bonding, veneers, reshaping, orthodontics, and implants [2]. The most popular aesthetic procedures among social media users [3] were teeth whitening (54.7%), Hollywood smile (17.1%), dental veneers (11.9%), and Invisalign (10.4%). These procedures are in high demand because they are trending on social media platforms.

Cosmetic dentistry is used as a synonym for aesthetic dentistry, defined as „services provided by dentists solely for the purpose of improving the appearance when form and function are satisfactory, and no pathologic conditions exist" [4].

The difference between aesthetic and cosmetic dentistry is the invasiveness of the procedure [5]. Thus, cosmetic dentistry focuses on procedures such as tooth whitening and veneers, whereas aesthetic dentistry is more comprehensive than cosmetic dentistry in routine cleanings, root canal therapy, and tooth restoration with fillings or bridges. Aesthetic dentistry purposes are healthy and functional teeth, and cosmetic dentistry goals are picture-perfect teeth that are bright, white, and straight.

Aesthetic and cosmetic dental procedures have been growing in recent decades, and patients are becoming increasingly interested in them. In the 1980s, the dentist's goal was defined by Dr. Paul Miara as only to remove pain and to rehabilitate tooth function [6].

1.2. Social Media and Aesthetic Dentistry

Social media became accessible to an increasingly young and poorly informed population, considering that between 95% [7] and 98% of young population constantly use social media [8]. The young generations are informed about the 'perfect smile' or 'Hollywood smile' on social media platforms, by 'influencers'.

Young users of social media platforms may visit dentists to obtain a standardized smile similar to the one that is seen on the influencers they follow on social media platforms. Studies [3,9–11] have been conducted to evaluate the impact of social media on aesthetic and cosmetic dental procedures. Outcomes from Spain [9] indicated that 29.37% of the respondents were influenced by social media to make a decision in favor of an aesthetic dental treatment. In addition, the review written by Rostamzadeh and Rahimi [12] mentioned the strong influence of social media on patient expectations: aesthetic outcomes are prioritized over health considerations, situations that raise concerns about informed consent, and patient autonomy. Thus, it raises the question of information, informed consent, and the real autonomy of patients in conditions of disinformation, promoted through social media.

1.3. The Nature of Dental Profession

As a branch of medicine, dental practice involves responsibility towards the society in which it serves. The ethical principles promoted by the World Dental Federation (FDI) include safeguarding the oral health of patients, oral health promotion, professional confidentiality, responsibility, and the enhancement of prestige and reputation of the dental profession [13]. Consequently, the dental profession is about promoting patients' interests, telling the truth to patients, and educating them about oral health. Professionalism of dentists requires prioritizing patients' well-being and health and providing them with expert advice on health matters.

If dentistry becomes highly competitive and commercial, there is a risk of limiting the access of patients from less privileged backgrounds. Hoseinzadeh et al. [14] have shown that in areas with a high concentration of dentists, a competitive environment can lead to several dynamics that influence dental practice. Six of the eight dentists [14,15] practicing aesthetic and cosmetic dentistry are located in privileged regions. The society invested in medical and dental professionals with trust, which is the key point of the social contract between medicine and society [16]. Consequently, if patients and society lose trust in dentists, their profession lacks substance, and they risk losing their designation as professionals [17].

The analysis of the scientific literature reveals that aesthetic procedures in dentistry are very fashionable among young people [18]; aesthetic/cosmetic dentistry is expected to expand until 2030 by 13% [19], and there are different ethical challenges related to the in-

crease in aesthetic dentistry [20]. A key area of underexplored ethical reasoning in aesthetic dentistry, particularly among young dentists, is the impact of social media on patient expectations and the subsequent pressure on dentists to deliver cosmetic outcomes, potentially with consequences for the overall health and well-being of patients [12,21–25]. Complex ethical challenges require careful consideration and ongoing exploration, particularly in the context of evolving patient expectations, technological advancement, and especially the impact on social media. Our study explores some ethical issues, placing participants in realistic scenarios they are likely to face in their professional lives. Its contribution to the field lies in moving beyond abstract theoretical questions to examine how theoretical knowledge would be practically applied in real-world contexts.

2. Materials and Methods

2.1. Study Design

A cross-sectional study was designed in accordance with the CROSS checklist [26]. An exploratory study was conducted using a mixed qualitative–quantitative methodology based on a questionnaire. The applied approach was chosen for its capacity to (1) provide nuanced insights into professional behavior within authentic clinical contexts; (2) support the exploration of evolving professional norms over time; and (3) ensure high internal validity by presenting phenomena that closely reflect actual practice [27].

2.2. Survey Instrument

The questionnaire comprised four case-based scenarios, each inspired by real-world situations encountered in dental practice. Scenarios were used as a methodological tool to enable a deeper contextual understanding of ethical challenges.

The initial draft of the questionnaire was developed and evaluated through two focus group discussions, applying qualitative research methods. One group consisted of residents in General Stomatology, and the second included final-year dental students. Participants were selected using a non-probabilistic convenience sampling method. Thirty-three residents with prior bioethics training and 90 sixth-year students with practical instruction in bioethics and deontology were invited to participate. The first focus group was held on 28 January 2022 (n = 9), and the second on 29 March 2022 (n = 12). The first author moderated both sessions. The discussions focused on the relevance and clarity of the case scenarios and response options. Feedback was incorporated to refine the final version of the survey, which consisted of four case scenarios. Each scenario included three structured response options and one open-ended question, aimed at eliciting ethical reasoning and decision-making. The focus group served as a means of content validation for the questionnaire, enabling participants to assess the clarity, realism, and ethical relevance of the scenarios before administering the final version.

The questionnaire was written in English, as all participants—dental students and residents at the institution—possessed sufficient proficiency in English.

All four scenarios were selected to illustrate different dimensions of the same core ethical challenges, including the risk of overtreatment, the provision of unnecessary procedures, the potential oversight of underlying medical conditions, difficulties in truth-telling, and tensions between protecting the patients and promoting their wellbeing. The objectives for all four scenarios were as follows:

a. To identify the risk of overtreatment, unnecessary procedures, or underdiagnosed diseases related to aesthetic treatments;
b. To highlight difficulties in truth-telling patients;
c. To explore participants' understanding of the duty to promote the patient's good (exception, case 3).

The final case-based scenarios were as follows:

- Case Scenario 1: An 18-year-old patient, Alice, presents to the dental clinic requesting a cosmetic dental treatment. She shows the dentist a photo of a well-known social media influencer—who is also a patient of the clinic—and expresses her desire to achieve the same smile. However, her dental anatomy is markedly different, and the proposed treatment is contraindicated at her age due to both functional and developmental concerns. When asked about her motivation, Alice says she wants to look like her favorite Instagram celebrity and is willing to pay any amount to achieve this outcome. How should this case be approached?
  - A. Proceed with the treatment, as the patient is insistent and able to pay.
  - B. Refuse the treatment, explain the patient's young age and the associated risks, and provide a rationale for the refusal.
  - C. Inform the patient's parents about the aesthetic request, along with the risks and benefits of the proposed treatment.
  - D. Choose an alternative option and describe it in one sentence.
- Case Scenario 2: Cecily, a 23-year-old patient, visits the clinic to receive a free tooth whitening treatment offered during a promotional campaign advertised on social media. During the consultation, the dentist observes that Cecily appears underweight and exhibits signs of severe enamel erosion, consistent with bulimia. The dentist explains that the yellowing of her teeth may be due to repeated vomiting and that this underlying issue must be addressed before any aesthetic treatment can be effective. Cecily denies any such habit and insists her teeth have always looked that way.
  How should this case be approached?
  - A. Proceed with the whitening treatment, as it was the reason for her visit and is offered free of charge.
  - B. Refuse the treatment, explaining that it would not be effective.
  - C. Refuse the treatment unless the patient provides evidence of receiving appropriate care, assuring her that she will still be eligible for the promotional offer at a later time.
  - D. Choose an alternative option and describe it in one sentence.
- Case Scenario 3: Anna, a 20-year-old patient, arrives for a dental appointment and is greeted warmly by the dentist, who acknowledges her role in promoting the clinic on Instagram. As part of a referral incentive, the dentist pays Anna €50 for every five new patients she refers. The clinic's social media following, and patient base have expanded significantly as a result. After eight months, Anna returns to request veneers for both her upper and lower front teeth, referencing their earlier informal agreement.
  How should this case be approached?
  - A. Proceed with the veneers as previously discussed.
  - B. Decline the request, as the treatment is too invasive for a 21-year-old.
  - C. Refuse the veneers, explain the associated risks and long-term consequences, and propose less invasive alternatives, such as whitening or orthodontic correction.
  - D. Choose an alternative option and describe it in one sentence.
- Case Scenario 4: Lucy, a 34-year-old public figure known for her presence on social media, attends a dental clinic for scaling. During the visit, the dentist notices a mild vestibulo-version of her upper central incisors. Although this issue is not severe, the patient may benefit from an orthodontic consultation. Lucy does not raise any aesthetic concerns during the appointment.
  How should this case be approached?

A. Avoid recommending orthodontic treatment, as aesthetic requests should be initiated by the patient.
B. Recommend an orthodontic consultation within the same clinic, assuming she may wish to continue treatment there.
C. Recommend an orthodontic evaluation, while leaving the decision about whether and where to proceed entirely to the patient.
D. Choose an alternative option and describe it in one sentence.

The correct answers and their justifications for each scenario are summarized in Table 1. The process of establishing the correct answer to each scenario was done in two steps: through two focus group discussions, applying qualitative research methods, and through experts' discussions (authors). We used the value-maximizing method [28] following five steps: (1) identify available choices in the situation; (2) determine what is professionally at stake; (3) determine what else is ethically relevant; (4) rank choices and determine what ought to be done; and (5) justify your rankings and choose a course of action. In the first focus group meeting, we presented each case and asked participants to identify alternatives, debated how these alternatives impacted the dental profession, and focused the discussion on the ethical issues they could identify for each alternative they proposed. At the end of the meeting, participants were asked to rank the other options and determine what should be done, justifying their choices. At the second meeting, which included a group discussion, we presented the questionnaire draft and focused the debate on possible answers, retaining the most frequently mentioned options by participants. During the experts' meeting (authors: two ethicists, a statistician, one dental student, and one dentist with a dental practice for over 20 years) we verified the questionnaire draft and we decided to keep three options for each case and an open question to give participants the possibility to express their personal opinions on addressing the case's issues. The correct answer was established taken into consideration the first three central values of the dental profession proposed by Ozar et al. [28]: the overall health of the patient; the oral health of the patient; and the patient's autonomy.

Table 1. Summary of responses and ethical rationale for each clinical scenario.

Scenario	Correct Answer	Rationale for the Correct Approach
1	B	The correct approach is based on the principle of valid informed consent, which requires an assessment of risks and benefits. Ethical concerns include overtreatment, the provision of unnecessary dental interventions, and the obligation to act in the best interest of the patient.
2	C	This case raises concerns regarding informed consent, professional integrity, and patient wellbeing. Treating without addressing the underlying condition may constitute overtreatment. Ethical practice requires ensuring the patient's best interests are prioritized and that the intervention is appropriate and beneficial.
3	C	This scenario involves ethical issues related to inducement and professionalism. Performing irreversible treatment based on a promotional agreement compromises informed consent. The dentist must act in the patient's best interest and offer evidence-based, minimally invasive options.
4	C	Recommendations should be made in the patient's interest while avoiding coercion. Ethical concerns include maintaining the integrity of informed consent and respecting patient autonomy. The clinician's role is to inform and advise, not to influence decisions based on commercial or aesthetic assumptions.

Four questions were used to collect the respondents' characteristics: sex, generation (millennials (born between 1981 and 1996; age in 2022: between 26 and 40/Z generation (born after 1997; age in 2022: 18–25)), country of origin, and status (last-year student

(6th)/dental resident). The participants were recruited by non-probabilistic convenient sampling using acceptability as the main selection criterion.

The survey was digitized and administered using Google Forms® (see Supplementary Materials), with data collected anonymously between July and September 2022.

2.3. Setting and Participants

The eligible populations were dental students (about 500) and dental residents (about 50) within Iuliu Haţieganu University of Medicine and Pharmacy, Clui-Napoca, Romania. All participants followed relevant training in Bioethics, Ethics and Integrity, Deontology, and Legislation, as outlined in their respective academic curricula. Individuals not meeting these criteria—such as dental assistants, dental technicians, administrative staff, and senior dentists—were excluded from the study.

Participants were invited to take part in the survey via email, WhatsApp, and closed Facebook groups dedicated to students and professionals. They were also encouraged to share the invitation with eligible peers. The survey began with an introductory section explaining the study's purpose, the nature of the questions, instructions for completion, and the estimated time required. Anonymity of responses was explicitly assured. To ensure data completeness, all questions were mandatory, and the survey interface was configured to display one question per page.

2.4. Data Analysis

Data was managed, cleaned, validated, and initially analyzed using Microsoft Excel 365. Open-ended responses were not formally analyzed using qualitative methods; instead, they were examined descriptively to illustrate participants' reasoning. Further statistical analysis was performed using Statistica software, version 13 (StatSoft, Tulsa, OK, USA). Categorical variables were summarized as absolute frequencies and percentages. Categorical data were compared using chi-squared test according to theoretical frequencies. All statistical tests were two-tailed, with a significance threshold set at $p < 0.05$.

2.5. Ethical Approval

The Iuliu Haţieganu University of Medicine and Pharmacy Research Ethics Committee approved this research proposal (approval number 20/06.07.2022).

3. Results

Two hundred and forty-two responses were collected, with a participation rate of 90%. Most participants were female students or residents from Romania (Table 2). The Z generation showed a homogeneous participation of the Romanian and French respondents but Romanian millennials were predominant (Table 2). As expected, a higher percentage of millennials were residents, while most of the respondents from the Z generation were students (Table 2).

The correct answers were correctly identified by at least 50% of respondents in each group, with slightly different patterns per case (Table 3). The percentages of correct answers given by millennials and the Z generation were similar for the first and second cases (Table 3), with a statistically significantly higher percentage of correct answers for case three given by the Z generation compared to millennials, accounting for a difference of 15%. Although more millennials provided a correct answer to the fourth case compared to the Z generation, the difference between generations did not reach the significance level (Table 3).

Table 2. Demographic characteristics of the participants by groups.

Characteristic	All (*n* = 242)	Millennials (*n* = 136)	Z Generation (*n* = 106)	Stat. (*p*-Value)
Sex				
Female	147 (60.7)	88 (64.7)	59 (55.7)	1.8 (0.1830) *
Male	92 (38)	47 (34.6)	45 (42.5)	
I prefer not to say	3 (1.2)	1 (0.7)	2 (1.9)	
Citizenship				
Romania	132 (54.5)	91 (66.9)	41 (38.7)	20.9 (<0.0001)
French	78 (32.2)	35 (25.7)	43 (40.6)	
Other #	32 (13.2)	10 (7.4)	22 (20.8)	
Professional status				
Dental resident	85 (35.1)	80 (58.8)	5 (4.7)	76.5 (<0.0001)
Student	157 (64.9)	56 (41.2)	101 (95.3)	

Stat.: statistics of the test; *p*-value: probability associated with test statistics. * Chi-squared test with inclusion of participants who declared sex. # Other countries include Germany, Belgium, Greece, Hungary, Jordan, Israel, Italy, Morocco, Martinique, Russia, Tunisia, and Ukraine.

Table 3. Distribution of responses to scenarios by groups.

Case	All (*n* = 242)	Millennials (*n* = 136)	Z Generation (*n* = 106)	Stat. (*p*-Value)
First				
A	9 (3.7)	6 (4.4)	3 (2.8)	
B	160 (66.1)	91 (66.9)	69 (65.1)	0.1 (0.7670)
C	61 (25.2)	34 (25.0)	27 (25.5)	
Other	12 (5.0)	5 (3.7)	7 (6.6)	
Second				
A	12 (5)	8 (5.9)	4 (3.8)	
B	69 (28.5)	40 (29.4)	29 (27.4)	1.1 (0.2845)
C	153 (63.2)	82 (60.3)	71 (67.0)	
Other	8 (3.3)	6 (4.4)	2 (1.9)	
Third				
A	67 (27.7)	42 (30.9)	25 (23.6)	
B	23 (9.5)	17 (12.5)	6 (5.7)	5.5 (0.0187)
C	137 (56.6)	68 (50.0)	69 (65.1)	
Other	8 (3.3)	6 (4.4)	2 (1.9)	
Forth				
A	15 (6.2)	5 (3.7)	10 (9.4)	
B	59 (24.4)	31 (22.8)	28 (26.4)	1.7 (0.1885)
C	166 (68.6)	98 (72.1)	68 (64.2)	
Other	2 (0.8)	2 (1.5)	0 (0)	

χ^2 = Chi-squared statistics; data are reported as absolute frequencies (%). Comparisons between groups were made considering correct vs. incorrect answers using the chi-squared test.

The responses filled by the respondents when they chose the "Other" option are provided in the Supplementary Material.

Females identified the correct answer in a higher percentage than males for the third case (female vs. male: 42/147 (28.6) vs. 1/92 (1.1), $\chi^2 = 29.0$, *p*-value < 0.0001) and fourth case (female vs. male: 113 (76.9) vs. 50 (54.3), $\chi^2 = 13.2$, *p*-value = 0.0003) (Figure 1).

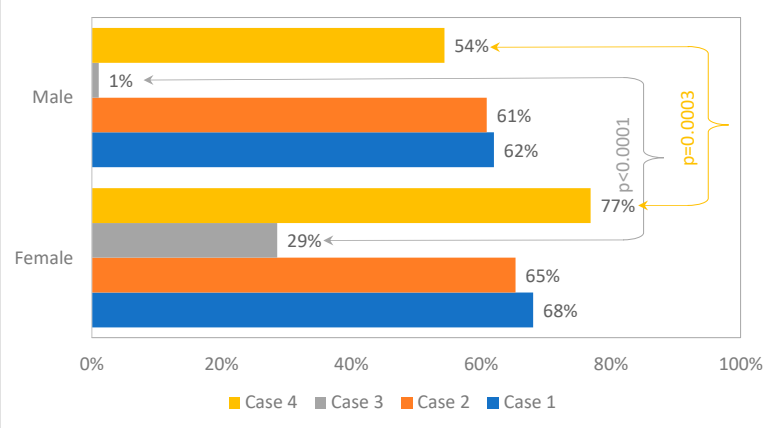

Figure 1. Comparison of correct response rates between female and male participants.

4. Discussion

The results of our study that explored the ethical awareness of young dental professionals—millennials and generation Z—regarding aesthetic dental procedures promoted through social media indicate that while a majority (63.6%) of participants were able to identify the ethically appropriate responses to clinical scenarios, a significant proportion demonstrated uncertainty or selected less appropriate approaches.

The increasing demand for aesthetic procedures—driven largely by the influence of social media and celebrity culture [12]—raises critical ethical challenges, including risks of overtreatment [20], commercialization of care [29], and the erosion of core professional values [30].

Participants in our study were aware of the main ethical issues, particularly those related to informed consent, truth-telling, and the duty to promote patient well-being. Notably, no substantial differences were observed between millennials and the Z generation in their ability to identify ethical concerns, suggesting a broadly shared perception across these cohorts.

The following frequency responses were more concerning: In the first case, 25% of millennials and 25.5% of the Z generation disregard the confidentiality and privacy ethical and legal requirements, considering they should involve parents in the dental treatment of a patient who is already 18 years (the age at which a person is no longer a minor and there is no legal obligation to involve her parents), with the purpose to find a better resolution to this situation. But neglecting adult patient autonomy in dental treatment raises more ethical concerns. First, the non-respect of patients' rights to be informed and asked if she would prefer to involve parents to help with this decision. Second, the non-respect of patient's well-being, the beneficence, and non-maleficence—the dentist must not presume the parents can handle the situation better than a professional and, in addition, this involvement can lead to more discomfort for the patient [31]. Ultimately, the goal of a dentist is to balance respect for patient autonomy with ethical and legal obligations to provide safe and effective care. This requires careful consideration, open communication, and a willingness to adapt to the patient's individual needs and preferences [32].

Millennials' comments to the case seem to be more focused on providing details, informing and convincing the patient that what she is asking for, may not be the proper treatment at this time: "We can do a digital smile design to make her realize that the treatment she desires does not go well with her features and we present her with a personalized version of a cosmetic treatment taking into account her other functional problems." This is a common misconception, mentioned in the literature [33–35]. But, it is not accurate to say that patients are solely responsible for outcomes after signing the consent form. Instead,

informed consent is a communication process where patients make decisions based on the information provided, and doctors retain responsibility for providing appropriate medical care. The comment is not in accordance with the meaning of informed consent, which is a complex communication process where patients make decisions based on the information provided, and doctors retain responsibility for providing appropriate medical care, and not merely a signature on a document [33,36,37]. This is a modern tool used by dentists to improve communication with patients, to reduce chair time, to enhance accuracy and patient satisfaction, and to have more clinical precision on dental treatments [38,39].

Z generation respondents were more concerned about the psychological condition of the patient: "I would consider the current oral situation of the patient. Depending on the dental aesthetic of the patient and how it affects patient psychology, I will consider treatment." This comment is consistent with research findings [40] that mention the relevance of aesthetics dentistry and the psychological well-being of female patients.

In the second case, the most frequent incorrect answer was to refuse to perform the whitening treatment, because it would be a failure if the patient were affected by a food disorder (bulimia). About 29.4% of millennials and 27.4% of Z generation respondents chose to refuse to perform the treatment, but they did not seem concerned about the medical attention the patient needed and about the duty to promote the health of patients and to educate them. In such cases, it is necessary to implement clinical and ethical guidelines to navigate the complex cases and to promote the patient's interest [12]. The French Authority for Health provided in 2019 a toolkit for dentists to handle bulimia nervosa and binge eating disorder [41] in dental offices. One of the millennial respondents considers that if the patient signs the informed consent form, then the dentist has no legal responsibility for the potential harm in patient: "*I inform her that without solving her illness the whitening will only partially and temporarily improve the color of her teeth. I get written consent that says it is understood that. And I do the whitening*.". This comment is superficial and does not align with the meaning of informed consent, which is a complex process, not merely a signature on a document [36,37].

Regarding the third case, the following incorrect most frequent answer raised a complex situation: even if the dental treatment (veneers) was considered by the dentist not appropriate for a 20-year-old patient, 30.9% of Millennials and 23.6% of Z Generation respondents had taken into consideration to perform it, because the dentist made a promise to the patient. Reward schemes for patients related to dental treatments can be seen as a win–win on the surface. Still, they open the door to a complex web of ethical considerations, such as misconception and deception, conflicts of interest, fair communication between dentists and patients, and marketing strategies [42]. Dentists should reflect on professionalism and integrity before proposing to patients' treatment plans.

This case raised some comments. Z generation respondents considered this practice as "unethical" and "unacceptable partnership", and "offering discounts to the patient in exchange for advertisement" is not professional. A sharp comment of millennials consider the dentist's proposal to promote his treatments and to pay her completely wrong: "I would never ever do a deal like that with a patient; I am a doctor, not a commercial". Comments are consistent with the scientific literature [42,43] and ethical principle in dentistry, such as: accountability and veracity, integrity, professionalism, and compassion [13].

The fourth was contemplated to illustrate the conflict between institutional interests and patient-centered care. Patient-centered care is focused on the patient's needs, preferences, and values in treatment decisions. Institutional interests may lead to decisions that benefit the institution, but they are not ideal for the individual patient [44]. The most frequent incorrect response was to recommend to the patient an orthodontist in the same clinic. This answer was chosen by 22.8% of millennials and 26.4% of Z generation

respondents. These respondents did not consider the freedom of patients to choose the opportunity, time, or dentist to undergo cosmetic treatment, if they consider it necessary, when and where. Multi-specialties private dental clinics aim to facilitate patients' access to dental care, by bringing diverse dental specialists in one place. The goal is to enhance patient convenience, improve treatment outcomes, and foster a more efficient and effective approach to oral healthcare [45]. Professional recommendations are rooted in ethical principles, while commercial motivation can lead to ethical dilemmas and breaches of professional conduct, threatening the patients trust [46]. In conclusion, while institutional loyalty is essential for the functioning of dental practices, it should not interfere with the patients' best interests and freedom. Dentists must navigate this tension by prioritizing open communication, transparency, and ultimately, the well-being of their patients [47–49].

Female participants demonstrated higher rates of correct responses in some scenarios (Figure 1), which may reflect gender-based differences in ethical sensitivity or communication approaches—an observation warranting further exploration. Studies in moral psychology, especially the work of Carol Gilligan [50], suggest that women often use care-based ethics (emphasizing empathy, relationships, and context) and men more often use justice-based ethics (emphasizing rules, rights, and abstract principles). In a healthcare context—especially dental care, which is intimate and trust-based—care-based ethics may be more aligned with appropriate ethical responses, making women's answers seem more nuanced or "better." Female dentists differ from their male counterparts in some aspects of the prevention, assessment, and treatment of dental caries, even with significant covariates considered [51].

Overtreatment is the main ethical concern related to aesthetic and cosmetic dental procedures [12,21,52]. The reason for this is that they could harm patients' oral health conditions and health state. As illustrated by all scenarios in this study, marketing practices related to aesthetic dentistry and social pressure could determine patients to pursue unnecessary and risky procedures [12]. All dental interventions are associated with specific risks, complications, and side effects (e.g., pain, infections). They also imply higher costs for patients or health insurers [53] because outcomes can lead to repeated dental treatments, are more invasive, and have an important impact on patients' health.

Aesthetic dental procedures may hide the urgency of diagnosing and treating other underlying health issues, such as bulimia (second scenario). Oral health is connected to overall health, and different medical conditions that dentists observe in patients should be addressed, diagnosed, and treated [54]. Before recommending or performing aesthetic dental procedures, dentists should conduct dental examinations to diagnose dental or medical conditions as trained [41]. Unfortunately, dentistry practice is not uniform; dentists have not implemented ethical guidelines to prioritize patient health over financial gain [12].

By balancing the aesthetic desires of patients with the health necessity, dentists should try to provide patients with appropriate dental care that enhances both function and aesthetic appearance.

The results of our study emphasize directly that most participants identified the correct behavior, which was good news. However, we are concerned about the large number of participants who appear to be unaware of the nuances of ethical issues related to aesthetic dental practices.

Strengths and Limitations

This study provides valuable insights for both dental professionals and patients by highlighting current trends and ethical concerns in aesthetic dentistry, particularly as perceived by young dentists. As the first study conducted in Romania, to the author's knowledge, it offers a unique perspective. The topic is current—the shift in dental practice

priorities influenced by social media and patient demand for cosmetic procedures—and raises concerns about the potential drift from traditional professional values. The use of rigorous, scenario-based methods to explore ethical reasoning is a key strength of our study. The applied design allowed for a nuanced understanding of participants' perceptions and ethical decision-making processes. Despite this, several limitations must be acknowledged. As an exploratory, low-cost, single-center study conducted in Romania using a non-probabilistic sampling method, the findings are not generalizable. The limited sample size and reliance on self-reported data introduce potential biases, including recall bias, social desirability bias, and subjectivity. Additionally, self-reported data and scenario-based responses may not fully reflect actual clinical behaviors. The absence of a test–retest reliability assessment of the questionnaire limits the ability to assess the consistency of responses over time, even if changes over time are expected. Furthermore, the homogeneous distribution of respondents' citizenship in the Z generation group and the heterogeneous distribution in the millennials may be responsible for the reported results, considering cultural differences in ethical perspectives, which were not analyzed in the current study. An analysis stratified by citizenship could be conducted in the context of sample size expansion.

The reported results reflect only the respondents' perceptions of how to respond to aesthetic treatment requests from young patients. These perceptions may change over time and across generations, influenced by the evolution of social media, improvements in ethical education, the development of regulatory guidelines, and the way individual dentists assume their professional responsibilities.

Our findings underscore the need to strengthen bioethics education in dental curricula, particularly in relation to the implications of aesthetic practices and the influence of social media. Ethical training should not only focus on principles but also prepare future professionals to navigate complex, real-world dilemmas where patient autonomy intersects with professional responsibility.

5. Conclusions

Our research hypotheses were confirmed, with results indicating two important aspects. First, most participants (63.6%)—comprising two generations of young dentists—have identified the ethical and correct behavior to follow in specific clinical cases. Second, a large percentage (36.4%) seem not to go in the right direction, either having omitted or not recognized some ethical issues that may arise from their approach, or having not taken into account the overall health of the patient by choosing to deal only with oral health issues or patient preferences. Our concern pertains to the quality of care provided to patients by this segment of early-career dentists, as well as to the ethical and professional development of these practitioners. As an appropriate response to the identified challenges, the incorporation of longitudinal ethics education throughout the dental career trajectory, with a focus on case-based learning tailored to dental practice, could be a solution. The establishment of dental ethics consultants, analogous to clinical ethics consultants in hospital settings, who can assist practitioners in addressing ethically complex clinical decisions, could be another solution. Furthermore, the formulation and implementation of professional standards, regulatory frameworks, and evidence-based guidelines to support ethical practice in dental settings can establish the frame of the dental profession. Future research should examine the feasibility, relevance, and acceptance of these measures within the dental community and assess their potential impact on clinical practice and patient outcomes.

Supplementary Materials: The following supporting information can be downloaded at: https://www.mdpi.com/article/10.3390/prosthesis7040098/s1, Table S1: Responses filled in by participants when they chose the "Other" option.

Author Contributions: Conceptualization, M.A., R.C.P., B.M.G. and S.D.B.; methodology, M.A. and S.D.B.; validation, O.P.L.; formal analysis, S.D.B.; investigation, M.A., R.C.P. and B.M.G.; resources, M.A.; data curation, S.D.B. and M.A.; writing—original draft preparation, M.A. and S.D.B.; writing—review and editing, R.C.P. and O.P.L.; visualization, S.D.B.; supervision, R.C.P. and O.P.L.; project administration, M.A. All authors have read and agreed to the published version of the manuscript.

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Informed Consent Statement: Informed consent was obtained from all subjects involved in the study. Potential participants who disagreed did not fill out the form.

Data Availability Statement: The original contributions presented in this study are included in the article. Further inquiries can be directed to the corresponding author.

Conflicts of Interest: The authors declare that they have no affiliations with or involvement in any organization or entity with any financial interest in the subject matter or materials discussed in this manuscript.

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QUESTIONNAIRE

PE3(26) Part 1 of 2

Perspectives on Ethics Related to Aesthetic Dental Practices Promoted in Social Media — A Cross-Sectional Study

INSTRUCTIONS

- Read through the article and answer the multiple-choice questions provided below.
- **Some questions may have more than one correct answer;** in which case you must mark **all** the correct answers.

Introduction

Question 1: According to the article, what are the primary aesthetic dental treatments that are most popular among social media users?

A: Bleaching
B: Teeth whitening
C: Hollywood smile
D: Dental veneers

Question 2: Cosmetic dentistry services are provided by dentists .....? (Choose **TWO** options).

A: To restore basic dental health
B: To improve appearance when form and function are satisfactory
C: When no pathologic conditions exist
D: To rehabilitate tooth function after trauma

Question 3: What is the key difference between aesthetic dentistry and cosmetic dentistry?

A: The cost of the procedures
B: The invasiveness of the procedure
C: The qualifications required to perform it
D: The age of patients

Question 4: What percentage of young people constantly use social media?

A: Between 55% and 68%
B: Between 75% and 88%
C: Between 95% and 98%
D: Approximately 85%

Question 5: Fill in the missing number.

"Studies from Spain indicated that .....% of respondents were influenced by social media to make a decision in favour of aesthetic dental treatment?

A: 17.17%
B: 29.37%
C: 54.71%
D: 63.21%

Question 6: What concerns does the influence of social media raise regarding patient autonomy?

A: Patients may not have adequate insurance coverage
B: Questions about informed consent and real autonomy under conditions of disinformation
C: Patients may choose inexperienced dentists
D: Social media platforms may violate privacy laws

Question 7: The ethical principles promoted by the World Dental Federation (FDI) include ……?

A: Professional confidentiality
B: Reasonable profit
C: Fair competition
D: Responsibility
E: Oral health promotion

Question 8: TRUE or **FALSE**?

" If dentistry becomes highly competitive and commercial, there is a risk of limiting access for patients from less privileged backgrounds."

A: TRUE
B: FALSE

Question 9: Aesthetic / cosmetic dentistry is expected to expand by what percentage until 2030?

A: 5%
B: 10%
C: 13%
D: 20%

Question 10: What are **TWO** key areas of underexplored ethical reasoning in aesthetic dentistry?

A: The cost structure of dental procedures
B: The impact of social media on patient expectations
C: Pressure on dentists to deliver cosmetic outcomes
D: The availability of dental insurance
E: The regulation of dental advertising

Question 11: What was the primary aim of this study?

- **A:** To analise the financial impact of social media marketing on dental practices
- **B:** To examine young dentists' perspectives on ethical considerations associated with aesthetic dental procedures marketed on social media
- **C:** To compare treatment outcomes between aesthetic and traditional dentistry
- **D:** To evaluate the effectiveness of social media advertising for dental clinics

Materials and methods

Question 12: What type of study design was used in this research?

- **A:** A longitudinal cohort study
- **B:** A randomized controlled trial
- **C:** A cross-sectional study
- **D:** A case-control study

Question 13: Complete the sentence below.
"The questionnaire used in this study comprised off.....?"

- **A:** Ten theoretical questions about ethics
- **B:** Four case-based scenarios
- **C:** Twenty multiple-choice questions
- **D:** Two focus group discussions

Question 14: What was **NOT** an objective to all four scenarios presented in the study?

- **A:** Identifying risks of overtreatment and unnecessary procedures
- **B:** Highlighting difficulties in truth-telling
- **C:** Exploring understanding of duty to promote patient good
- **D:** Evaluating marketing effectiveness

Results

Question 15: How many responses were collected in the study?

- **A:** 142
- **B:** 242
- **C:** 342
- **D:** 424

THE END

QUESTIONNAIRE

PE3(26) Part 2 of 2

Perspectives on Ethics Related to Aesthetic Dental Practices Promoted in Social Media — A Cross-Sectional Study

INSTRUCTIONS

- Read through the article and answer the multiple-choice questions provided below.
- **Some questions may have more than one correct answer;** in which case you must mark **all** the correct answers.

Discussion

Question 1: What percentage of participants in the study were able to identify ethically appropriate responses to clinical scenarios?

- **A:** 50.0%
- **B:** 56.6%
- **C:** 63.6%
- **D:** 72.1%

Question 2: The increasing demand for aesthetic procedures driven by social media and celebrity culture raises which critical ethical challenges?

- **A:** Risks of overtreatment
- **B:** Commercialization of care
- **C:** Violation of patient privacy laws
- **D:** Erosion of core professional values

Question 3: In Case Scenario 1, what percentage of millennials and Generation Z participants disregarded confidentiality and privacy requirements?

- **A:** 15% of millennials and 20% of Generation Z
- **B:** 25% of millennials and 25.5% of Generation Z
- **C:** 30.9% of millennials and 23.6% of Generation Z
- **D:** 35.4% of millennials and 45.4% of Generation Z

Question 4: What are the ethical concerns when neglecting adult patient autonomy in dental treatment?

- **A:** Not respecting the patient's right to be informed
- **B:** Not respecting of patient's well-being
- **C:** Malpractice risks
- **D:** Parental disagreement and family conflicts

Question 5: TRUE or **FALSE**?

"According to the study, informed consent is merely a signature on a document."

- **A:** TRUE
- **B:** FALSE

Question 6: In Case Scenario 2, what percentage of participants chose to refuse treatment without addressing the patient's need for medical attention?

- **A:** Approximately 25% of millennials and 20% of Generation Z
- **B:** Approximately 29.4% of millennials and 27.4% of Generation Z
- **C:** Approximately 34.9% of millennials and 43.6% of Generation Z
- **D:** Approximately 60.3% of millennials and 67% of Generation Z

Question 7: What is the main ethical concern related to aesthetic and cosmetic dental procedures?

- **A:** Patient privacy violations
- **B:** Psychological vulnerability
- **C:** Unrealistic beauty standards
- **D:** Overtreatment

Question 8: Which of the following are acknowledged as limitations of this study?

- **A:** The study used non-probabilistic sampling methods
- **B:** Self-reported data may introduce potential biases
- **C:** The findings are not generalizable due to single-center design
- **D:** The study included participants from multiple countries

Conclusions

Question 9: According to the conclusions, what percentage of participants identified ethical and correct behavior in clinical cases?

- **A:** 50.0%
- **B:** 56.6%
- **C:** 63.6%
- **D:** 68.6%

Question 10: What does the study recommend as an appropriate response to the identified challenges in aesthetic dentistry ethics?

- **A:** Increasing advertising budgets for dental practices
- **B:** Incorporating longitudinal ethics education
- **C:** Establishing dental ethics consultants
- **D:** Formulating professional standards

THE END

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I hereby declare that the completion of this document is my own effort without any assistance.

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This activity is accredited for **FIVE (5) ETHICS** CEU'S. You have to achieve **70%** to pass this activity.

ANSWER SHEET

PE3(26)

Perspectives on Ethics Related to Aesthetic Dental Practices Promoted in Social Media

— A Cross-Sectional Study

***Time spent on activity** **hour** **min**

You can complete any one, or all the parts of this activity.

PART 1

	A	B	C	D	E		A	B	C	D	E
1						9					
2						10					
3						11					
4						12					
5						13					
6						14					
7						15					
8											

PART 2

	A	B	C	D	E		A	B	C	D	E
1						6					
2						7					
3						8					
4						9					
5						10					

How relevant was the content of this activity to your scope of practice?			
Not at all	Somewhat	Mostly	Extremely

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