



Research article

Evolving perspectives in dental marketing: A study of Jordanian dentists' attitudes towards advertising and practice promotion

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ABSTRACT

Advertising for dental services in Jordan is subject to regulation. Dental professionals must obtain approval from their respective councils before initiating any advertising campaigns to ensure compliance with ethical and professional standards. Although the dental advertising landscape in Jordan has made considerable progress, research on dentists' perspectives regarding advertising in the country remains limited. This preliminary research specifically evaluates four factors: dentists' perspectives on advertising, the correlation between dentists' demographics and their viewpoints, their preferred advertising channels, and the prevalence of dental advertising. Additionally, it aims to address the rationale behind certain restrictions on dental advertising. A comprehensive online survey was conducted among a simple random sample of 206 Jordanian dentists, focusing on their attitudes toward various aspects of dental advertising. The attitude of dentists toward advertising has become increasingly favourable compared to the past. The study revealed a general acceptance of dental advertising, with 79.1 % of dentists considering it appropriate. Proponents of advertising argue that it benefits the community by enhancing the quality of dental services (51.9 %), lowering prices through competition (26.7 %), providing educational information (74.3 %), and assisting the community in making informed choices (59.7 %). Conversely, critics contend that advertising undermines the public's perception of the

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profession (33.9 %) and diminishes the trustworthiness of dentists (24.7 %). Male dentists, senior practitioners, specialists, middle-income professionals, and those with over 10 years of clinical experience were more likely to support advertising practices. Additionally, digital marketing platforms were favoured over traditional advertising channels. The attitudes of Jordanian dentists toward advertising and practice promotion are evolving, with a growing acceptance of marketing as an essential tool for practice growth. However, ethical considerations and regulatory compliance remain paramount, especially in digital marketing.

1. Introduction

Can a dentist claim to be the best in Jordan? Is it legal and ethical for a dental advertisement to state that a dental office is top-ranked in cosmetic dentistry or a pioneer in implant dentistry? Can a dental practice advertise 'painless' dentistry? Should dentists compete on price discounts or split fees? Slogans such as "We guarantee the brightest smile in Amman" may potentially be overly exaggerated, rendering them somewhat gaudy and tasteless.

Dental advertising is defined as "Any information and/or material related to the promotion of dental services by a dental care provider" [1]. It encompasses activities encouraging the public to favour a specific dental facility or dentist [2]. Dental advertising tools can take various forms, including Yellow Pages™, billboards, posters, brochures, flyers, health periodicals, newspapers, advertorials, newsletters, TV commercials, radio ads, dental websites, seminars, search engine optimisation (SEO), pay-per-click (PPC) advertising, social media posts, blogs, business/referral cards, stationery, logos, signage, social couponing, discounts, rebates, offers, testimonials, dental influencers, event sponsorships, and organising dental camps in schools or villages, as well as any announcements or information related to the dentist or dental practice [3].

The terms advertising and marketing are used interchangeably. Advertising is a subset of marketing, which encompasses a broader scope. For example, dental practitioners can effectively market their practices by delivering exceptional services that foster patient loyalty and satisfaction, generating influential word-of-mouth referrals and establishing credibility. Successful dental practice ensures that all operations—from the initial patient encounter through examination, management, discharge, and follow-up—are designed to leave patients feeling valued and highly regarded [4]. An effective combination of a warm reception, a welcoming atmosphere, strong interpersonal rapport, exemplary customer service, and proficient clinical skills is the most advantageous form of promotion for dental practice [5]. So, dental advertising constitutes a specific form of marketing that employs paid promotions disseminated through various media channels [6].

In contrast, dental marketing encompasses a comprehensive business strategy to foster the practice's overall growth while integrating its core values, culture, and philosophy [7]. Furthermore, dental marketing can be categorised into internal and external strategies. Internal marketing pertains to aspects such as the quality of services offered and the availability of modern equipment, whereas external marketing involves outreach beyond the practice's premises to attract patients through advertising and digital marketing initiatives [8]. According to the Fédération Dentaire Internationale (FDI), marketing unifies advertising and promotion; advertising primarily conveys information, while promotion provides strategies to encourage selecting one dental practice over another [9].

1.1. Advocate or adversary of dental services advertising?

Advertising in dentistry has historically been a contentious topic [10]. Numerous countries acknowledge the right of dentists to conditionally promote their practices, albeit within certain legal restraints and ethical constraints. The policies governing dental advertising exhibit significant variation across different nations, ranging from stringent regulations to more lenient approaches. Some dental regulatory bodies prohibit advertising entirely, while others are more indifferent. In between these extremes, some jurisdictions implement specific restrictions on advertising practices. Generally, the United States adopts a more liberal and overt stance towards advertising compared to European countries [11]. Dental advertising is entirely prohibited in nations such as India, Turkey, Hong Kong, and China [12,13]. In Ireland, dental advertising was previously limited to basic listings in directories, such as the Golden Pages, which provided only the practitioner's name, address, and telephone contact [14]. However, the Dental Council of Ireland has lifted unnecessary restrictions on advertising, allowing Irish dentists to distribute promotional leaflets and advertise their prices [15]. Similarly, Brazil's Federal Council of Dentistry (CFO) has recently rescinded the ban on dentists posting selfies with or without their patients. It has also permitted clinical pre- and post-treatment photographs in advertising [16]. The Australian Health Practitioner Regulation Agency and its Dental Board have provided examples of non-compliant advertising practices and guidance on rectifying them on their official websites [17]. In Switzerland, dental advertising is allowed as long as it remains transparent and not misleading. However, in Hungary, it is limited to essential information like the practitioner's name, title, address, area of specialisation, and consultation hours [18]. Countries such as Germany, Italy, New Zealand, South Africa, and the United Kingdom have lifted the restrictions on advertising for dental practitioners [13].

Jordanian dental professionals must adhere to the advertising standards established by the Dental Council's Media and Advertising Law [19]. The Supplementary Table (Appendix I) details a selection of these current regulations.

Proponents of dental advertising argue that effective marketing fosters competitive advantage, enhances the quality of dental services without imposing excessive fees, and contributes to market expansion. Such advertising enables patients to make informed

choices regarding their dental healthcare providers, increases dental health awareness, and facilitates comparisons of services and prices [7]. Historically, many prohibitions against dental advertising have been lifted, as they were deemed to hinder dental care providers from adequately informing patients about their services, unjustly limit competition, and infringe upon principles of free trade and commercial free speech [20,21]. Conversely, critics of dental advertising argue that dental care should be regarded as a public service rather than a commercial commodity, suggesting that advertising can compromise the profession's integrity [22]. Concerns have been raised regarding misleading advertisements that could devalue the profession and mislead vulnerable patients [23]. Additionally, critics warn that advertising may lead to unhealthy competition, manifested in increased marketing expenditures and a decline in the quality of care [24]. One study indicated that dentists who engage in advertising charge higher fees than their non-advertising counterparts [25]. If dental services become "commercialised" with substantial profit margins as the primary goal instead of care, patients' trust and faith in dentists will be jeopardised [26].

The ethical objections to certain dental advertising practices are grounded in substantial justifications. For instance, numerous dental professionals assert that the pervasive use of marketing strategies centred on discounts is repulsive and compromises the quality of care in favour of profit maximisation [27]. Promoting incentives, dental packages, and other "dentist shopping" forms feature a commercial view of the profession [28]. Furthermore, compelling arguments exist for prohibiting tender rebates, fee splitting, kick-backs, and social coupons. Fee splitting occurs when one dentist compensates another dental specialist with a portion of a patient's fee, typically in exchange for a referral [29]. This practice may incentivise dental providers to refer patients to specific specialists to receive rebates rather than directing patients to the most appropriate specialists who can effectively address their dental needs [30]. Such fee splitting prioritises a dentist's self-interest over the patient's welfare, and it is essential to note that patients are often unaware that a rebate has taken place without their consent [31]. Additionally, many marketing strategies based on social coupons for dental procedures are perceived as a form of fee splitting, wherein the coupon-issuing company collects a fee from prospective patients, retains a percentage of the payment, and subsequently remits the remaining amount to the dentists [32].

The Jordan Dental Council has issued a warning to citizens regarding the use of "misleading" insurance cards and "fraudulent" coupons provided by companies that promote dental services without the necessary licensing to conduct insurance business [33]. This situation raises numerous ethical and legal concerns, including the potential for unforeseen fee structures, the risk of insurance scams, misrepresentation of fees charged, the performance of unnecessary dental procedures, the discontinuation of patient care, and the detrimental impact on dental professionalism and the quality of care provided [34]. These practices violate legal and ethical standards, undermine the reputation of the dental profession, and result in patients receiving incomplete treatments.

Numerous dental practices seek to attract patients by claiming "superior," "pain-free," or "bloodless" treatment, but such advertising strategies can lead to disparaging solicitation and generate misleading impressions [35]. Any advertising practices must refrain from guaranteeing outcomes or fostering unrealistic expectations regarding the results [36].

The stance on banning patient testimonials may stem from the potential for misuse on and off social media, regardless of whether these testimonials are solicited [37]. Numerous patient testimonials primarily intended for promotional purposes often contain questionable educational value and erroneous information [38]. Such testimonials could be supplanted by information sourced from clinicians, which would better inform the public about specific treatments [39]. Clinicians must supervise the content associated with their names or dental practices to avoid disseminating misleading information [40]. Certain online platforms, such as Google Reviews, frequently host unverified content, which can lead to the proliferation of false patient reviews or testimonials that may be misleadingly favourable, potentially originating from dishonest dentists. Conversely, these dentists may dismiss negative anonymous reviews by asserting that they cannot verify any record of the patient visiting their practice, thus rejecting any unfavourable feedback or publicity.

Dentists frequently use before-and-after treatment photographs to attract potential patients to their practices. This practice can be understood as a form of self-marketing or personal promotion [41]. Using such photographs, like patient testimonials, necessitates patients' consent [42]. Failure to obtain this consent would result in a violation of patient confidentiality. When patients consent to the use of clinical photographs, they grant explicit permission for publication, educational purposes, and advertising. While before-and-after treatment photographs serve as valuable resources for the dental profession—offering insights for educational purposes, inspiration for exemplary dental practices, and a means of demonstrating clinical improvements for patients—they are not devoid of ethical pitfalls when employed for advertising purposes [43]. Potential drawbacks include privacy issues, a lack of knowledge, unhealthy professional comparisons, the risk of overpromising unrealistic cosmetic outcomes, image manipulation, and shameless showing off [44].

This research aimed to examine the perspectives of dentists in Jordan concerning dental advertising. Specifically, it investigated four variables: the stance of dentists on advertising, the correlation between dentists' demographics and their perspectives, the preferred advertising channels if permitted by the organisational authority, and the prevalence of dental advertising. The research addresses several questions, such as whether younger professionals hold a more favourable view of advertising than their senior counterparts, whether general practitioners regard advertising more positively than specialists, whether there is an income-based discrepancy in attitudes, and whether any significant gender-based differences exist.

The null hypothesis posits no correlation between the variables, while the alternative hypothesis indicates the existence of some form of association.

2. Methodology

2.1. Study design

The research protocol underwent review by the Ethics Committee for Scientific Research at the Department of Health Services Management and Hospitals, College of Business Rabigh, King Abdulaziz University (KAU). Ethical approval was granted under reference number COB/2022/9 on October 10, 2022. The survey was conducted from December 2022 to October 2023. An a priori analysis was conducted using G*Power software to ascertain the sample size and statistical power for the various tests employed in this study, including F-tests, t-tests, and chi-squared tests (χ^2). An online survey was disseminated via a Google Forms link to a sample of practising dentists in Jordan ($n = 206$). Simple random sampling was employed to select the sample data, which comprised practising dental professionals and clinics from various regions in Jordan. Mailing lists were randomly extracted from the Yellow Pages™ (JordanYP) business directory, which contains listings for 1023 dentists. Of the selected sample, 206 individuals responded, yielding a response rate of 20.1 %. The online survey followed the Checklist for Reporting Results of Internet E-Surveys (CHERRIES), as detailed in Appendix II.

2.2. Survey instrument

The questionnaire employed in this study replicates the instrument that Hite, Bellizzi, and Andrus [45] used, which aimed to investigate the perspectives of both consumers and dentists regarding dental advertising [45]. In the present research, however, the target sample was exclusively composed of dental professionals. The questionnaire was conducted in English and modified to incorporate two additional dimensions: first, the assessment of the Internet and social media as platforms for dental advertising, and second, whether respondents have encountered dental advertisements. The revised version of the 1988 survey seeks to determine whether trends in dental marketing are likely to experience significant growth despite existing restrictions. Moreover, the Internet and social media have emerged as prevalent resources for online marketing, contrasting with the reliance on word-of-mouth advertising and telephone directories that characterised the 1980s [46]. A notable advantage of integrating original survey questions is that they have been extensively examined in prior research, conserving time and analytical resources.

The pre-tested questionnaire ensures high validity, ultimately facilitating the collection of accurate and high-quality data [47,62]. In two additional studies, the Hite, Bellizzi, and Andrus [45] survey investigated variations in attitudes toward advertising professional services. These studies specifically addressed differences in attitudes between consumers and psychiatrists regarding psychiatric advertising and consumer perceptions of advertising for professional services provided by accountants, lawyers, and physicians [48, 63]. In their original investigations, the research instrument underwent pre-testing with a sample group and was then iteratively refined, computing Cronbach's alpha for the questionnaire items [49].

The survey consisted of a scored set of twenty-nine Likert scale attitudinal questions, one dichotomous yes/no question, and one multiple-answer question, followed by five items that elicited demographic attributes. The five-point Likert rating scale allowed respondents to indicate their level of agreement or disagreement with a specific advertising perspective, using the following options: (1 = Strongly Disagree), (2 = Disagree), (3 = Neutral), (4 = Agree), and (5 = Strongly Agree). The questions gauge means of dental promotion, dentists' perspectives on advertising, and their future appraisal of advertising regulations.

2.3. Data analysis

The data were collected and analysed utilising SPSS version 28. Descriptive statistics were presented through frequency tables and

Table 1
Demographic characteristics of respondents.

Demographic Profile	No.	%
Age		
Below 30	126	61.2
30–49	70	34.0
50–65	10	4.9
Gender		
Male	101	49
Female	105	51
Specialty		
General Practitioner	158	76.7
Specialist	48	23.3
Clinical Experience (Years)		
0–5	136	66.0
6–10	17	8.3
Over 10	53	25.8
Monthly Income (JOD)		
Under 1000	129	62.6
1001–2000	50	24.3
Above 2000	27	13.1

histograms. The paired-sample *t*-test, Analysis of Variance (ANOVA), and Chi-squared association tests were used to analyse the data and compare between variables at a 5 % significance level (i.e., *p*-value = 0.05).

3. Results

The analysis was conducted on the completed questionnaires (n = 206) submitted by practising dentists. The largest proportion of respondents consisted of dentists under 30 years (61.2 %), while the smallest was those aged between 50 and 65 years (4.9 %). Among the 206 practising dentists, 101 (49 %) were males, and 105 (51 %) were females; 158 respondents (76.7 %) were general practitioners, whereas 48 (23.3 %) were specialists. Most participants had been practising for less than five years (66 %), followed by 25.8 % who had been practising for more than 15 years. Most respondents reported a personal monthly income of less than 1000 Jordanian Dinars (JOD) (62.6 %), 24.3 % reported incomes ranging from 1001 to 2000 JOD, and 13.1 % of participants earned more than 3000 JOD monthly. Table 1 presents a summary of the sociodemographic backgrounds of the respondents.

Fig. 1 presents a stacked horizontal bar chart illustrating the dispositional responses of dental professionals. Respondents generally expressed a favourable attitude towards dental services advertising. Statistical significance was established for attitudinal disparities at the *p*-value of 0.05 across 30 correlations. The findings indicate that over three-quarters (79.1 %) of dental professionals support advertising and advocate alleviating restrictions. More than half of the respondents opposed the notion that advertising could compromise the profession’s integrity or diminish the morality of dentists who engage in advertising. Most dentists (65.1 %) believed that advertising can be refined and professional. Conversely, opponents of advertising argued that it negatively impacts the profession’s public image (33.9 %) and undermines the credibility of the dentist (24.7 %). However, advertising proponents contested these claims, with 47 % and 56.8 % disputing the negative perceptions. Dentists who endorse advertising and marketing assert that it benefits the community by enhancing the overall quality of dental services (51.9 %), reducing prices through competition (26.7 %), providing informative insights (74.3 %), and assisting the community in making informed choices in dental care (59.7 %). However, dentists with unfavourable stances on advertising expressed concerns about misleading advertisements that could ultimately undermine their professional reputation. Additionally, they recognised the potential adverse effects of advertising on competition, which signified dental services with reduced charges, substandard quality, or both. Regardless of their stance on the issue, there appears to be a significant consensus among respondents that dental advertising is anticipated to increase substantially in the future, with a growing number of dentists expected to engage in advertising practices. Notably, 84.5 % of participants conveyed positive expectations regarding the future rise of professional advertising, while 43.2 % expressed a desire for enhanced advertising initiatives by dentists (see Fig. 1).

Fig. 2 illustrates a horizontal bar chart that presents dentists’ perspectives regarding the appropriateness of eight dental advertising mediums, contingent upon approval from the regulatory body in Jordan. Respondents were permitted to endorse multiple advertising channels. The findings indicate a preference for Internet communication tools and social media platforms over traditional advertising methods. This trend aligns with the global increase in the utilisation of social media for dental marketing [50]. The data reflect a notable transition away from conventional advertising systems, such as Yellow Pages™ and billboard advertising, which are permitted in Jordan. When allowed to select from various media, Jordanian dentists strongly preferred Internet advertising, with 88.8 % identifying it as their primary choice. This was followed by magazines at 32.5 %, television at 27.7 %, newspapers at 24.3 %, telephone at 15 %, radio at 12.1 %, Yellow Pages™ at 11.7 %, and billboards, which received the lowest preference at 9.7 %. Notably, a large

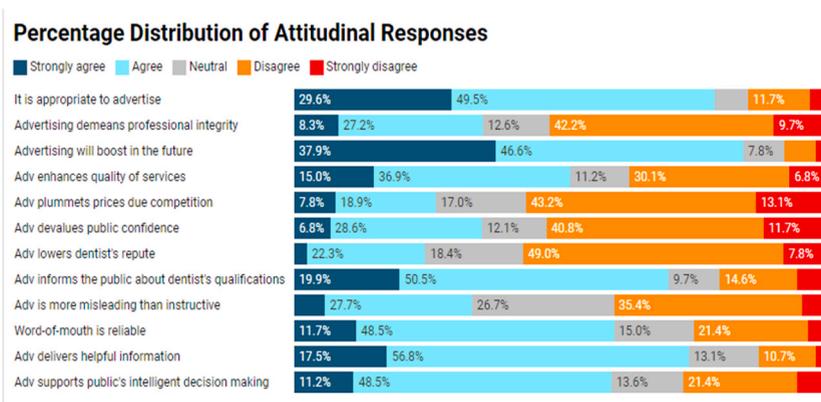


Fig. 1. shows a stacked horizontal bar chart revealing some of the dispositional responses attained by dental professionals. Respondents were generally favorable towards dental services advertising. Statistical significance of attitudinal disparities at the (*p*-value = 0.05) level was established in 26 correlations. Dentists rendered advertising as appropriate (79.1%) and that it can be executed in a refined and professional manner (65.1%). Adversaries of advertising felt that it lowered the public image of the profession (33.9%) and lowered the dentist’s credibility (24.7%); still, advocates disputed these assumptions (47%) and (56.8%) respectively. Dentists who approved advertising and marketing claim that it serves the community by improving the overall quality of dental services (51.9%), lowering the prices due to competition (26.7%), providing informative enlightenment (74.3%), and helping the community make intelligent choices between dentists (59.7%).

*Adv: advertising.

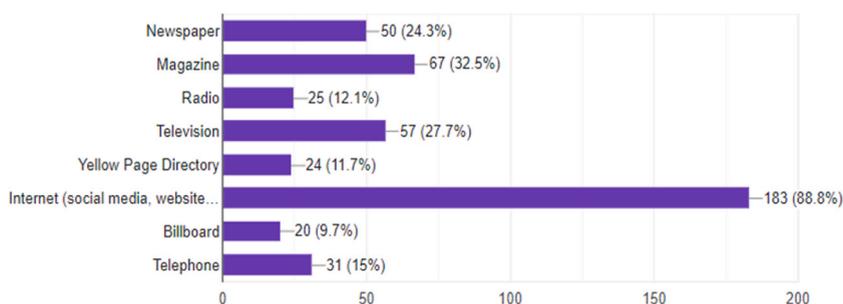


Fig. 2. Advertising media favoured by dentists.

majority of participants, comprising 95.6 %, encountered dental services advertising.

T-tests revealed significant gender differences and highlighted notable associations between specialists and general practitioners in their attitudes toward dental services advertising. Male dentists approved of advertising more than female dentists. They were also more inclined to believe that advertising would make the public more aware of the qualifications of dentists ($p = 0.013$). Female dentists were more prone to presume that most advertising tends to lack dignity ($p = 0.03$). Female dentists were more likely to highly regard word-of-mouth about professional services as a reliable advertising strategy ($p = 0.006$). General practitioners had a more negative standpoint on the effect of advertising on the public's image of the profession ($p = 0.017$). They believed that word-of-mouth is a more effective way of marketing ($p = 0.042$). Dental specialists were more apt to advocate dentists who offer the lowest price for routine services ($p = 0.003$).

An ANOVA was used to determine if there were statistically significant differences among various age, income, and clinical experience groups. Dentists 50 and older were likelier to appreciate word-of-mouth marketing than younger dentists ($p = 0.024$). Middle-income dentists (earning between 1001 and 2000 JOD) expressed a stronger acceptance of employment of services of dentists who offer the lowest prices for routine dental services ($p = 0.002$). Likewise, practitioners with more than 10 years of clinical experience held higher agreement that it is beneficial to choose a dentist who provides the most affordable rates for routine services ($p = 0.001$).

The Chi-square test found several significant associations. Male dentists were more supporters of dental advertising than female dentists. They held more positive views on the effect of advertising on quality, prices, and public awareness. Specialists were more inclined to believe that marketing and advertising tools do not tend to lower the public's esteem for the profession. They tend to be more receptive to using low-cost dental resources for routine services than general practitioners. The senior cohort of dental professionals was more accommodating to advertising than their younger colleagues. Like specialists, senior dentists were more open to using the services of dentists who charge low prices for routine services. The comparative analysis of years of clinical expertise showed that dentists with more than a decade of clinical experience tend to be more supportive of advertising than others. Finally, the middle-income brackets (1001–2000 JOD) had a higher statistically significant approval of dental advertising than the other brackets. When the income exceeded (3000 JOD), respondents' viewpoints rendered advertising more misleading than informative.

4. Discussion

This research is a pioneering effort to explore the outlooks of Jordanian dentists toward aspects of dental marketing. Evaluating and contrasting other studies assist in drawing comparable inferences. Dable et al. [7] found that more than half of the respondents favoured advertising in India, especially male dentists, younger dentists, and general practitioners [7]. Though Hon et al. concluded that more than half of the dentists were against advertising in Hong Kong, the employed dentists were more open to dental advertising than their autonomous counterparts, and affluent dentists were more supportive of dental advertising as well. Internet and Yellow Pages™ were the preferred advertising means by Hong Kong dentists [24]. Notably, India and Hong Kong prohibit dental advertising. Nayak et al. [51] inferred that senior dentists had less support for advertising. Other studies have also shown that younger practitioners favour professional advertising more than others [52].

Interestingly, advertising advocacy is no longer limited to young dental professionals. The findings of this research, contrary to those studies, suggest that older professionals (above 50 years) held more positive views towards advertising than younger professionals. A plausible explanation of this finding is that senior dentists have been in the field for longer and may recognise the need to adapt to changing trends and technologies, including professional advertising, to showcase their expertise and solid reputation. Another rationale may be that senior dentists may have more financial resources to fund professional advertising campaigns than younger practitioners. The preference for professional advertising could also be linked to a dentist's income. Dentists whose income ranged between (1001–2000 JOD) were more supportive of advertising than dentists in any other income range. A possible analogous explanation is that advertisements might become budget-friendly when income increases. This research result is like Hon et al.'s [24].

The data in the present study also suggests that specialists are more supportive of professional advertising than general practitioners. Davis suspected that specialists either attracted numerous new patients through referrals despite spending minimal on advertising or built a substantial patient base by appealing to particular clientele (such as those seeking cosmetic treatments) and actively advertising in need to expand their practice [53].

The general favourability towards dental service advertising is noteworthy. Many participants have a positive outlook, forecasting

a notable increase in professional advertising and expressing a wish for dentists to enhance their advertising efforts. This positive stance underscores the shift in attitudes over time, moving from a traditional view of dentistry as a purely service-oriented profession to a more modern perspective that acknowledges the role of marketing in enhancing patient awareness and practice growth. The trend is particularly evident among male dentists, senior dentists, specialists, affluent practitioners, and dentists with more clinical years of experience who exhibit a higher tolerance towards advertising practices.

Jordanian dentists preferred Internet advertising as their primary choice. This finding is consistent with research by Saadeh et al., which indicates that Facebook™ was the most popular marketing platform among Jordanian dentists, with 97.6 % of participants using it. Additionally, around one-third (31.2 %) used social media to promote their practices, and many anticipated that social media usage in dental marketing would continue to increase in the near future [54]. This was also consistent with previous studies in the United States and other countries that reported dentists' preference for online advertising [55]. Indeed, all dental marketing strategies have been influenced by social media platforms such as Facebook™, Twitter™, Snapchat Instagram™, and other Internet-based tools [56]. Digital promotion's efficiency, reach, and cost-effectiveness make it an attractive option for many practitioners.

Jordan is predominantly an Islamic country, and Islamic principles allow for promotional activities if they follow four fundamental principles of advertising: truthfulness, unbiased comparisons, protection of modesty, and prohibition of offensive content [57]. These principles mean that advertisements should not contain false claims or exaggerations, should refrain from belittling the services of others, and must use respectful imagery and language. Fundamentally, the law prohibits advertising absolutely. However, previous Dental Councils' farsighted forecasts of the evolution and future development of marketing dental services led to setting rules and standards for regulating and monitoring them. Dental professionals do not provide a commodity but rather a treatment service, and hence, the Dental Council took it upon itself to advance the dental profession and eliminate negative aspects of dental marketing. This foresightedness is especially noteworthy when dental tourism is one of the fastest-growing sectors within medical tourism in Jordan [58]. Advertising of discounts related to dental services, fee-splitting, offensive and distasteful adverts, prepaid dental coupons, lump-sum payment companies, promotional deception, dental title manipulation, patients' testimonials with or without consent, websites with fake content, claiming superiority or uniqueness, TV publicity for dentists and illegal client solicitation are considered among violations. To ensure dental compliance, dental adverts considered admissible will receive a "seal of approval" from the Dental Council.

The influence of digital marketing, particularly through social media, has been a game-changer in dental advertising. Interestingly, Jordanian practitioners traditionally used billboards that only displayed the dentist's name, the institution of graduation, approved certifications by the Dental and Medical Councils, location, contact information, and operating hours. They were also allowed to advertise to announce the opening of a practice, a change of address, a change of ownership, or the addition of a new associate or partner. Such permission also had a limited duration.

Despite the fairly definite regulations against advertising in Jordan, the vast majority of participants were exposed to advertisements related to dentistry. The advertising by dental professionals in Jordan has experienced a significant surge over the past decade, and this trend is expected to persist. This shift in attitude is linked to a slight easing of restrictions. It may also suggest rising competition within the sector, decreased ethical standards, or a greater acceptance of advertising among the dental community [7]. Ultimately, new challenges regarding regulation and ensuring ethical compliance must be tackled [56].

The Dental Council plays a crucial role in shaping the landscape of dental advertising. Its strict guidelines aim to balance the benefits of advertising with the need to maintain professional integrity and public trust. The Dental Council regulates conventional and digital advertising [59]. While there is an increasing trend towards practice promotion, careful oversight is also needed to prevent misuse of marketing strategies that may compromise ethical standards or patient care quality.

This research provides valuable insights but is not without limitations. Its exploratory nature identified associations between different variables implicated in dental services advertising. A regression analysis can be conducted to compare demographics with a specific perspective to uncover cause-and-effect relationships. This analysis would enhance the findings and offer a more solid basis for the study's implications. The research's geographical scope is confined to Jordan, which may not fully represent global perspectives on dental advertising. Additionally, the study relies on self-reported data from a sample of 206 dentists, which may not encompass the full spectrum of opinions within the broader dentist community. The rapid evolution of digital marketing and social media platforms also means that the findings might become outdated quickly, necessitating ongoing research.

Future studies, encompassing a broader geographical scope, diverse methodologies, and focusing on the impact on patient outcomes and digital marketing trends, will be crucial in developing ethical, effective, and patient-centred marketing strategies in dentistry. They should also explore cross-cultural comparative studies to understand how different social and regulatory environments shape dentists' views on advertising. Longitudinal studies would help trace the evolution of these attitudes over time. Incorporating qualitative research could offer more in-depth insights into dentists' perspectives. Another significant area for future research is the direct impact of dental advertising on patient choices, satisfaction, clinical outcomes, and dental tourism. Further research into the specific strategies used in digital marketing within the dental industry and their effectiveness would also be invaluable.

5. Conclusion

This comprehensive study on the attitudes of Jordanian dentists towards professional advertising and practice promotion has illuminated a multifaceted landscape influenced by ethical considerations, regulatory frameworks, and the rapidly evolving world of digital marketing. The findings show a general favourability towards dental services advertising, highlighting a significant shift in attitudes. This shift is more pronounced among male dentists, the senior demographic, specialists, middle-income practitioners, and those with more years of clinical experience. Ethical debates surrounding dental advertising remain significant, with concerns about

the integrity and public image of the profession when tied to commercial marketing tactics. These concerns are prevalent, especially among female dentists, general practitioners, the younger demographic, and the less affluent dental professionals. The ethical concerns stem from the impression that advertising presumes a business-oriented approach to dentistry instead of a more professional one. It also encourages rivalry among dentists instead of promoting shared accountability for the quality of professional dental care [60]. Advertising dental services are not outdated, and the tension between fostering competition in an open market and prioritising the public good through knowledge promotion is evident.

The balance between commercial pursuits and ethical practice will remain critical for ongoing discussion and regulation. Indeed, Welie et al. emphasised this concern of “commercialisation overriding professionalism” [61]. As advertising regulations become more lenient and attitudes toward accepting advertising appear to shift, ethical concerns remain a persistent challenge, especially with the rise of social media.

CRedit authorship contribution statement

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Data availability statement

Data included in article/supplementary material is referenced in the article.

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Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.heliyon.2024.e41143>.

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