

# The Impact of Social Media on Patients' Selection of Orthodontic Treatment and Orthodontists in Erbil City

Muhamad Tayib Mahroof<sup>(1)</sup>, Shaho Ziyad Al-Talabani<sup>(2)</sup>

## ABSTRACT

**Background and Objectives:** Social media has become a major source of health information, particularly in orthodontics, where visual content such as photos and videos can strongly influence patient perceptions. This study aimed to assess the influence of social media on patients' decisions to initiate orthodontic treatment and select orthodontists in Erbil City, Kurdistan Region, Iraq.

**Methods:** A descriptive cross-sectional study was conducted from February to May 2025 in dental clinics in Erbil. A pretested, structured questionnaire was administered through convenience sampling to 142 orthodontic patients aged  $\geq 18$  years. SPSS version 27 was then used to analyze the data with the use of descriptive statistics, chi-square tests, and binary logistic regression. Statistical significance was defined as  $p < 0.05$ .

**Results:** (54.2%) of the study participants reported that social media influenced their decision to start orthodontic treatment. The factor most associated with an increase of choice was visual content; (67.6%) stated that before-and-after images influenced their decision, and (57.0%) indicated that frequent posting by orthodontists influenced their decision. While (72.5%) used the internet for obtaining orthodontic information and (31.7%) followed orthodontic-related pages on social media, only (62.1%) believed that the information online is accurate. The platform with the highest usage (69.0%) was Instagram.

**Conclusion:** This study indicates that social media does influence orthodontic treatment decisions in Erbil City, and its high impact may be attributed to promoted visual information and provider activity on their pages. Yet the low level of trust in information found online emphasizes that a need exists for increasing the value and trustworthiness of online health information.

**Keywords:** (Social Media, Orthodontics, Health Information-Seeking Behavior, Patient Decision Making, Dental Health Services)

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## Affiliation Info

<sup>(1)</sup>College of Dentistry, Tishk International University, Kurdistan Region, Iraq.

<sup>(2)</sup>College of Dentistry, Hawler Medical University, Kurdistan Region, Iraq.

Corresponding Author: Muhamad Tayib Mahroof

Email: [muhammed.tayib@tiu.edu.iq](mailto:muhammed.tayib@tiu.edu.iq)

ORCID iD: <https://orcid.org/0009-0001-7613-1491>

## INTRODUCTION

The last decade has seen social media evolve into a compelling platform that influences consumer behavior across many domains from retail to real estate and healthcare. Besides changing the habits of communication, widespread use of applications such as Instagram, Snapchat, WhatsApp, and TikTok has changed how people make health matters.<sup>1</sup> This digital transition is most prominent in the field of dentistry but also orthodontics, as more patients use online resources to seek coverage, guide decision-making, and pick providers.<sup>2</sup> Orthodontics has an intrinsic connection to facial aesthetics, and, as such, the visual and interactive aspects of social media platforms suit it well. Such platforms enable orthodontists with treatment outcome images, mostly pre- and postoperative photos of patients, which act as logical proof to build case confidence by visually securing faith in clinical expertise. The authors also found that visual content impacted decision-making, with 41% of orthodontic patients reporting that social media played a direct role in their treatment decision.<sup>3</sup> 44.6% of the patients are looking for treatment, and 30.2% are searching for cost information online.<sup>4</sup>

Social media is increasingly a prominent way to seek health information in Iraq, especially in Erbil City. This transition was further sped up by the COVID-19 pandemic, during which patients have turned to digital platforms instead of traditional in-clinic consultations.<sup>5</sup> Additionally, the exposure to aspirational media images and aesthetic-generated social media content has resulted in the prioritization of 'aesthetics,' leading patients to expect and prefer certain orthodontic treatment outcomes.<sup>6</sup>

One other significant benefit of social media is that it helps patients and healthcare providers communicate directly and interactively. Such enhanced accessibility contributes significantly to the overall professional image and approachability of orthodontists. Be ready to help patients have all their questions answered and then quickly follow up, as well as schedule first appointments online.<sup>7</sup> However, despite these benefits, social media presents important challenges in terms of being a main source for health information. The unregulated and non-evidence-based content can lead to misinformation, unrealistic expectations, and self-diagnosis.<sup>8</sup> Also, patients may be unable to differentiate between promotional content and evidence

-based medical advice, resulting in an adverse impact on clinical decision-making.<sup>9</sup> These issues emphasize an essential requirement for orthodontists to provide accurate, ethical, and evidence-based information on digital platforms.

However, the rise of social media has resulted in negligible empirical evidence addressing its role in orthodontic decision-making in the Kurdistan Region of Iraq. Hence, the objective of this study was to evaluate the effect of social media on orthodontic treatment acceptance and choosing an orthodontist among patients in Erbil City. It examines patients' awareness of what type of use in social media and online interactions and preference practices with visual content to information. We anticipate that the findings will help enhance patient education, inform professional communication approaches, and support ethical digital practices in orthodontic care.

## METHODS

### Study Design and Setting

The study was a cross-sectional design, conducted in various dental clinics in Erbil City from February to May 2025.

### Participants

The study targeted individuals who were currently undergoing or had previously undergone orthodontic treatment in Erbil City. Eligible participants were adults aged 18 years and above who were using orthodontic appliances (e.g., braces), were residents of Erbil, actively used at least one social media platform, and were willing to provide informed consent.

Exclusion criteria included individuals with communication difficulties, those older than 70 years, non-users of social media, and those who declined to participate.

### Sample Size and Sampling Technique

Cochran's formula ( $n = Z^2pq / d^2$ ) was used to determine the sample size. ( $Z=1.96$ ,  $P=0.5$ ,  $D=0.05$ ). Based on these assumptions, the estimated sample size was 384 participants. However, 142 patients agreed to participate in the result.

### Data Collection Tool and Procedure

Data were collected using a structured and pretested questionnaire adapted from previously validated studies. The questionnaire consisted of sections covering demographic characteristics, social media use, information-seeking behavior, perceptions, and orthodontic knowledge.

Face-to-face interviews were conducted with par-

ticipants by a trained data collector to ensure consistency and completeness of responses. Participants were asked about the influence of social media on their decision to initiate orthodontic treatment, selection of orthodontists, exposure to visual content (e.g., before-and-after images), and perceived credibility of online information. Knowledge-related items assessed awareness of orthodontic treatment timing and early intervention.

The questionnaire was pretested on 10 individuals to assess clarity, relevance, and reliability, and minor modifications were made prior to the main data collection.

**Ethical Considerations**

Ethical approval was obtained prior to data collection from the Scientific Research Ethics Committee of the College of Dentistry, Hawler Medical University, (Date:26/10/2025, No:2425163). Written informed consent was obtained from all participants. Participants were assured of confidentiality, anonymity, and their right to withdraw at any stage without any consequences.

**Data Analysis**

To summarize the information related to the participants, frequency, percentage, mean, and standard deviation were used. Furthermore, to determine the associations between categorical variables, a chi-square test was used. A p-value of <0.05 was considered statistically significant. All the analysis was done through SPSS version 27.

**RESULTS**

The study included 142 participants. (69.7%) of the participants were female, while (30.3%) of them were male. Regarding their employment status, (59.2%) were unemployed and (40.8%) employed. The mean ± standard deviation (SD) was (24.57 ± 6.18) years (Table 1).

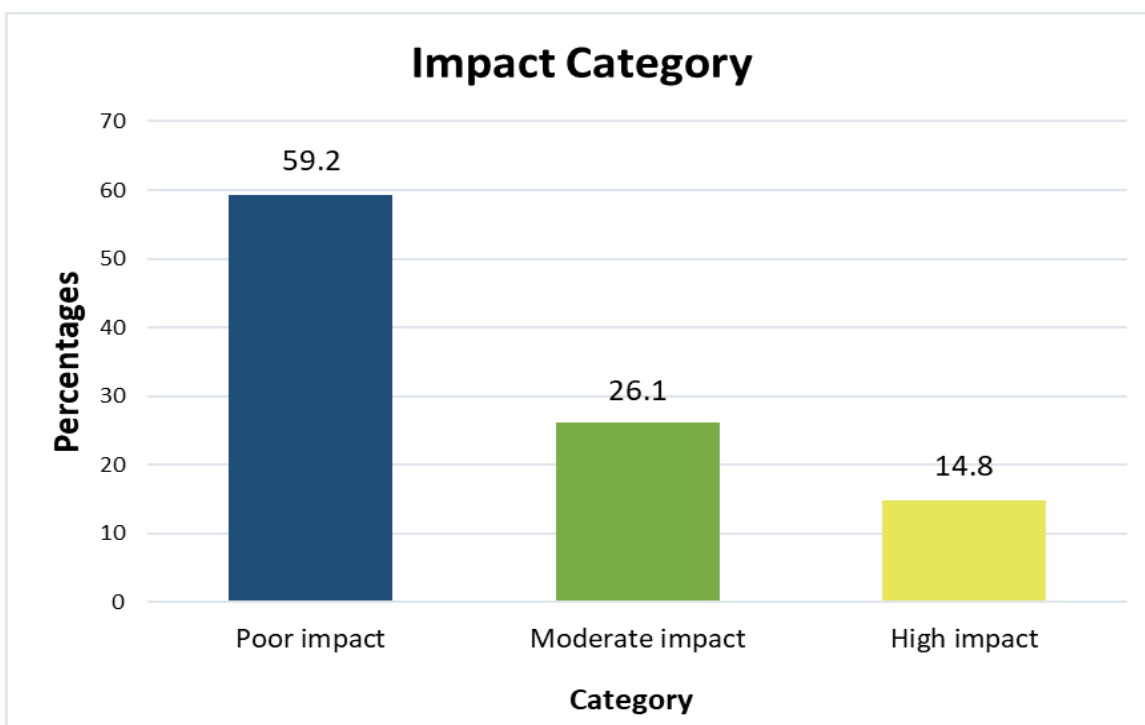
**Table 1.** Demographic Characteristics of the Participants

Variable	Frequency	Percentage
Gender		
Female	99	69.7
Male	43	30.3
Employee		
No	84	59.2
Yes	58	40.8
Mean of Age ±S.D	24.57 ± 6.18	

Social media influenced more than half (54.2%) of respondents in their decision to begin orthodontic treatment. Furthermore, (30.3%) stated they chose an orthodontic treatment based on social media trends. Of them, (67.6%) reported that while selecting treatment images both prior to and following treatment helped in increasing their choice, and (57.0%) acknowledged in favor of proving the success rate following treatment along with the number of orthodontists posted as influencers in their choice too (Table2).

**Table 2.** The Impact of Social Media on Participants’ Decisions

Question	Frequency	Percentage
Was social media a reason in making your decision start treatment?		
Yes	77	54.2
No	65	45.8
Have you ever selected a treatment based on trends on social media?		
Yes	43	30.3
No	99	69.7
Do before-and-after photos help you decide that is treatment to choose?		
Yes	96	67.6
No	46	32.4
Does the frequency of an orthodontist’s posts impact your decision?		
Yes	81	57.0%
No	61	43.0%



**Figure 1.** Perceived impact of social media on orthodontic treatment decisions among participants

Regarding the perception of social media, most of the participants (59.2%) stated low or poor impact (Figure 1).

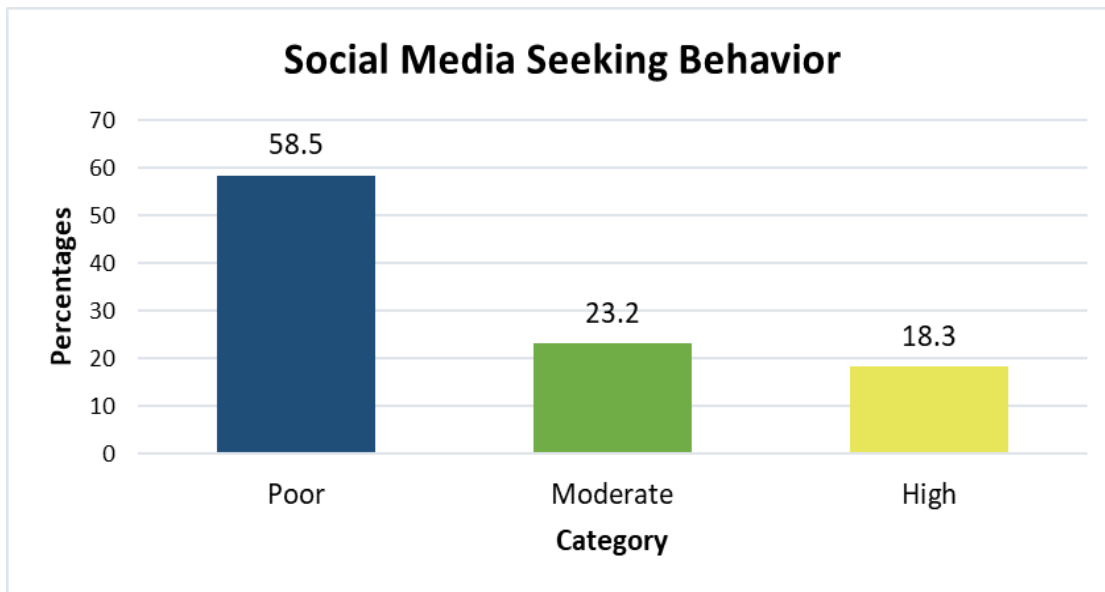
With respect to information-seeking behavior, most participants (68.3%) did not follow pages related to orthodontics, and (31.7%) indicated they follow pages related to orthodontics. But 36.6%

deemed these pages helpful even if they were not actively engaging with them. Additionally, (72.5%) indicated using social media as a resource to learn about orthodontics (Table 3).

In general, the prevalence of low, moderate, and high seeking behavior was (58.5%, 23.2% and 18.3%), respectively (Figure 2).

**Table 3.** Participants’ Seeking Behavior

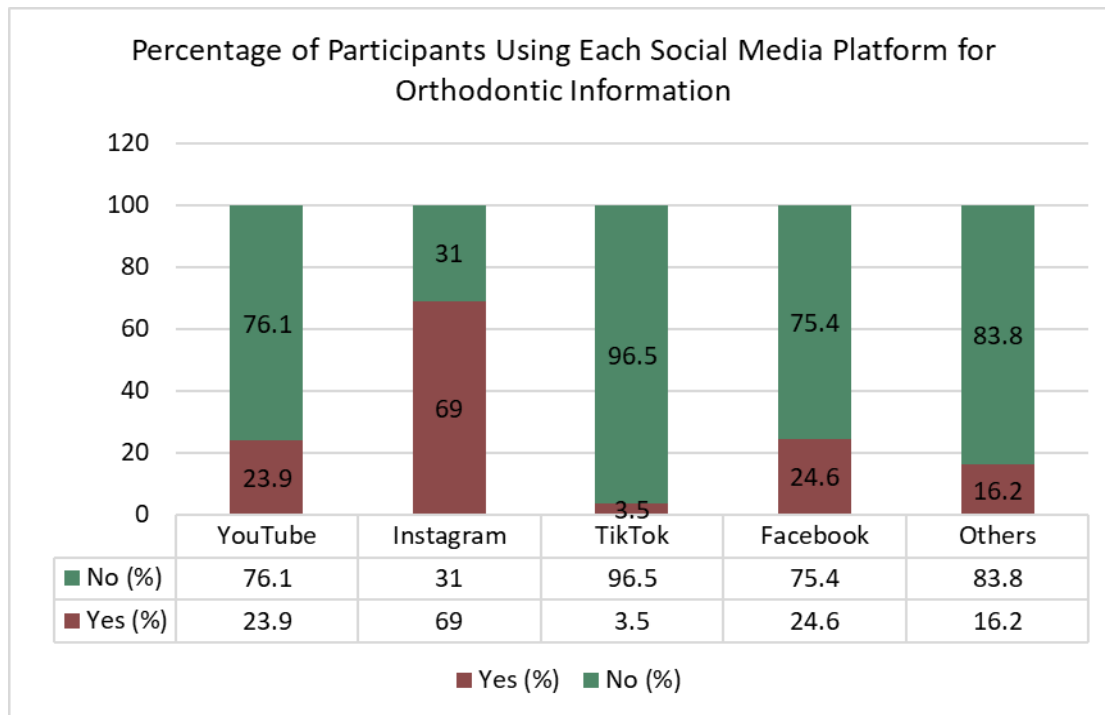
Question	Frequency	Percentage
Do you follow orthodontic-related pages on social media?		
Yes	45	31.7%
No	97	68.3%
Were these pages/accounts helpful in your opinion?		
Yes	52	36.6%
No	90	63.4%
Do you use social media to obtain orthodontic information?		
Yes	103	72.5%
No	39	27.5%



**Figure 2.** Distribution of Participants by Level of Social Media Seeking Behavior for Orthodontic Information

With respect to platform utilization, Instagram was the most frequently utilized channel (69.0%) for information retrieval regarding orthodontics.

Less frequently used: Facebook (24.6%), YouTube (23.9%), TikTok (3.5%) and other (16.2%) (Figure 3).



**Figure 3.** Using social media by the participants

The majority (61.3%) doubted the orthodontic information presented on social media platforms, whereas (38.7%) of the participants regarded it as accurate. (43.0%) of them thought that orthodontic

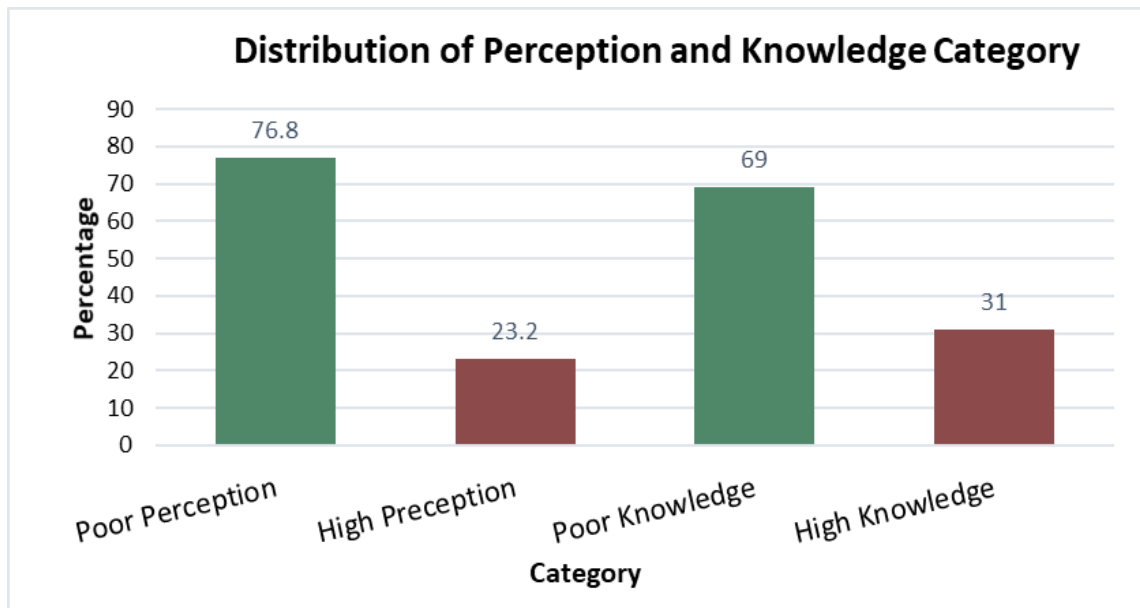
treatment is invariant before and after puberty as compared to (57.0%) who recognized that it is not ( $P < 0.001$ ) (Table 4).

**Table 4.** Perception and Knowledge Related to Orthodontic Treatment

Question	Frequency	Percentage
Do you think that information on social media is correct?		
Yes	55	38.7
No	87	61.3
Do you believe that more followers mean a good orthodontist?		
Yes	62	43.7
No	80	56.3
Is orthodontic treatment the same before and after puberty?		
Yes	61	43.0
No	81	57.0
Can early treatment solve jawbone (maxilla/mandible) problems?		
Yes	48	33.8
No	94	66.2

In general, only (76.8%) of participants perceived social media content as poor, while (23.2%) had a positive perception of the same. By the same to-

ken, (69.0%) of participants reported poor orthodontic knowledge, while (31.0%) slipped into a high knowledge (Figure4).



**Figure 4.** Distribution of Perception and knowledge category

There were no statistically significant associations between gender and seeking behavior ( $p = 0.208$ ), perception ( $p = 0.389$ ), knowledge ( $p = 0.601$ ), or impact ( $p = 0.281$ ).

A statistically significant difference between employment status and perception ( $p = 0.009$ ) where

31.0% of unemployed participants had high perception, whereas employed participants had low perception (12.1%). Employment status was not significantly associated with seeking behavior ( $p = 0.772$ ), knowledge ( $p = 0.066$ ), or impact ( $p = 0.157$ ) (Table 5).

**Table 5.** Association Between Impact, Seeking, Perception and Knowledge with Gender and Occupation

Variables	Gender		P value
	Male	Female	
Seeking			
Poor seeking	29 (67.4)	54 (54.5)	0.208
Moderate seeking	6 (14)	27 (27.3)	
High seeking	8 (18.6)	18 (18.2)	
Perception			
Poor perception	35 (81.4)	74 (74.7)	0.389
High perception	8 (18.6)	25 (25.3)	
Knowledge			
Poor knowledge	31 (72.1)	67 (67.7)	0.601
High knowledge	12 (27.9)	32 (32.3)	
Impact			
Poor impact	22 (51.2)	62 (62.6)	
Moderate impact	15 (34.9)	22 (22.2)	0.281
High impact	6 (14)	15 (15.2)	
Employee			
Seeking	No	Yes	
Poor seeking	51 (60.7)	32 (55.2)	
Moderate seeking	19 (22.6)	14 (24.1)	0.772
High seeking	14 (16.7)	12 (20.7)	
Perception			
Poor perception	58 (69)	51 (87.9)	0.009
High perception	26 (31)	7 (12.1)	
knowledge			
Poor knowledge	53 (63.1)	45 (77.6)	0.066
High knowledge	31 (36.9)	13 (22.4)	
Impact			
Poor impact	53 (63.1)	31 (53.4)	
Moderate impact	17 (20.2)	20 (34.5)	0.157
High impact	14 (16.7)	7 (12.1)	

**DISCUSSION**

The present investigated the role of social media in decision-making for orthodontic treatment in Erbil City. Among the participants, more than half (54.2%) said that social media influenced their

choice to begin orthodontic therapy; 67.6% were influenced by images and videos (visual content), especially before-and-after specimens, while 57.0% were affected by the frequency of posts from specialists. Importantly, these results under-

score the increasing influence of digital platforms over patients when it comes to their preferences and treatment options.

Patients' preference for visual social media content related to their choices and treatment preferences also corroborated findings elsewhere in the world,<sup>10,11</sup> where a preference for a given kind of user-friendly information targeting all strata of patients provided through these platforms is suggested, especially for health education. One major point of the study, or perhaps the only real finding, is that visuals have a significant effect on final decisions: visual presentation in orthodontic practice matters a lot for staff.

About 72.5% of these subjects stated to use social media as an information search tool, but only 31.7% of participants followed orthodontic-related pages which indicates that most of the time participants passively received rather than actively searched for information. It could also indicate incidental exposure to ads, shared posts or algorithmic suggestions. Moreover, 61.3% of respondents expressed concern about the reliability of orthodontic data available on social media and trusted digital health resources. These findings are comparable with global evidence of searching concerns about misinformation and the credibility of online health information.<sup>8</sup>

The higher proportion found in this study (54.2%) when compared with studies undertaken in Saudi Arabia and Brazil—where some 41–45% of the patients were apparently influenced by social media is likely to be the result of context-specific factors, such as high dependence on digital platforms among younger populations in Erbil, Iraq, for health information during COVID-19 months due to increased exposure, especially when traditional sources were hardly available.<sup>3,5,12</sup>

This contradiction between information-seeking behavior and active engagement with professional pages has previously been discussed; patients preferred informal or non-professional sources over purely true medical content.<sup>13,14</sup>

In terms of perceived credibility, nearly half of the participants thought that the presence of higher numbers of followers signified a much better orthodontist. This result is aligned with the previous studies, which have indicated that patients usually contact professional persons in their field.<sup>15,16</sup> In contrast, more than half of the patients in the current study rejected this idea. A significant gap has been found, which was awareness towards ortho-

odontic treatment. This can be a sign of inadequate dissemination of clinical information by social media.<sup>14,17</sup> Additionally, most of them received information wrongly. A similar pattern has been found in the other regions around the world.<sup>18,19</sup>

These results focus on posting real and accurate information, especially by orthodontists.

Gender has not any role in the recent study, while other studies have proved that females have much more engagement with digital and social media information.<sup>20</sup> This difference can happen due to cultural effects, especially in Eastern countries such as Iraq.<sup>21</sup> Regarding seekers of information in the recent study was lower than other regions.<sup>22,23</sup> Therefore, this can be a significant gap in digital health engagement within the local context. Instagram was the most common platform that was used by the participants; this is consistent with the previous studies, which demonstrate its impact in the field of orthodontics.<sup>24,25</sup>

There are few strengths of this study, such as it used a pretested questionnaire and the use of multiple dimensions of social media influence in behavior, perception and knowledge. Nevertheless, there are several limitations that should be noted. The choice of employing a convenience sampling approach and having a relatively small sample size ( $n = 142$ ) may pose restrictions on the extent to which the findings can be generalized. Moreover, we acknowledge that the cross-sectional design precludes any causal conclusions. The findings suggest that orthodontists have a role to play in presenting evidence-based accurate treatment and prevention information on social media. Enhancing digital health literacy among patients is also important for them to be able to assess online material critically. We recommend that healthcare institutions and dental professionals in the Kurdistan Region take advantage of popular platforms such as Instagram to educate patients while managing these channels ethically and within the bounds of professional guidance.

## CONCLUSION

This study showed that social media impacted patients' choices of orthodontic treatment and their orthodontist in Erbil City. One important determinant of patient preferences was visual content—especially images before and after the treatment. Although relatively high percentages of respondents are accessing social media for orthodontic information, there is still a limited amount of trust

in the accuracy of the information and passive engagement instead of direct contact. These findings emphasize the inconsistent and potentially low quality of information regarding orthodontics available on the internet.

Orthodontists should ensure that they provide accurate, evidence-based, and ethically responsible content. Second, to help the public make more informed decisions. Further research is recommended to examine the long-term effects of social media on health-related behavior and inform effective patient-centered digital strategies for improving orthodontic care.

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### Conflict of Interest

The authors declare no conflicts of interest.

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