

## SOCIAL MEDIA BELIEFS AND USAGE AMONG ORTHODONTIC POSTGRADUATE STUDENTS AND QUALIFIED ORTHODONTISTS IN SAUDI ARABIA

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### ABSTRACT

**Objectives:** This study investigated whether orthodontic experience influences orthodontists' social media (SM) beliefs and use, and whether professional SM training during undergraduate or postgraduate education is needed.

**Materials and Methods:** Orthodontists and orthodontic postgraduate students were invited to participate in a 27-question online cross-sectional survey. Participants were recruited via the Saudi Orthodontic Society's email list in addition to WhatsApp, Twitter, LinkedIn, Facebook, and direct email. Participants were divided into three categories (residents, junior, and senior) based on orthodontic experience.

**Results:** Instagram was the most commonly used form of SM (79.6%). Residents used Snapchat ( $p = 0.009$ ) and Twitter ( $p = 0.011$ ) significantly more than junior and senior orthodontists. Only 38% of participants had a workplace SM policy. Most orthodontists used SM to obtain orthodontic information (67%); residents used it significantly more for this purpose than junior and senior orthodontists ( $p = 0.03$ ). Most orthodontists believe SM is beneficial for patient care (83%). Residents were significantly more likely to have had training in SM use in dentistry than junior and senior orthodontists.

**Conclusion:** Use of SM can be a beneficial addition to orthodontic education. Orthodontists of all experience levels would benefit from formal training in SM use. Clear workplace SM policies are needed in Saudi Arabia.

### INTRODUCTION

Social media (SM) use is prevalent amongst healthcare professionals for a plethora of applications. Part of the SM allure is that most applications are free, easy to use, and need little, if any, training. Generally, SM refers to online

tools that enable users to network and rapidly communicate with large audiences, establish groups, and exchange knowledge, opinions, and various media in real-time with like-minded people. These tools allow for effective marketing of products or services.<sup>1</sup>

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Facebook, YouTube, Instagram, Snapchat, and Twitter are the most common SM applications and can be used for multiple purposes.<sup>2-5</sup> According to a 2019 Pew survey, 72% of American adults use some form of SM,<sup>6</sup> with Facebook and YouTube being the most extensively used.<sup>6</sup>

Facebook can also be used by orthodontists for various purposes, the most common being: (a) to promote their practices and educate and interact with patients; and (b) to form focused professional groups for orthodontics. Some of these groups allow members to share clinical tips, network, view updates on recent research and case reports, discuss controversial issues, and seek second opinions or “curbside” on de-identified clinical cases. For example, “The Orthodontic Mastery Group” arranged live webinars presented by international leaders during the COVID-19 lockdown period.<sup>7</sup>

YouTube is another popular platform where videos for orthodontists and dentists are posted. Video content includes educational lectures, treated cases, promotional videos about postgraduate orthodontic institutions, how to become an orthodontist, and orthodontic products. Material targeting patients largely consists of general orthodontic information, including bracket placement and removal, adjustment of appliances, and home care of braces. There are also many videos of patients sharing their treatment experiences.

Instagram is an image-sharing application that uses hashtags to arrange posts by category. When searching for “orthodontics,” the “top” findings include a list of orthodontic practices and an orthodontic society. The most common themes are before and after photos of treated teeth, patient testimonials, answers to patients’ questions, patient education, and some non-orthodontic photos of social events which add an element of fun. Orthodontists mainly use this platform to promote their practices and showcase their work.

Snapchat is a media-sharing mobile application.

The unique feature of Snapchat is that it allows users to share media that disappear within seconds after being opened by the recipient.<sup>8</sup> Searching for “orthodontics” will return a list of orthodontic practices/orthodontists’ names.

Twitter is a microblogging application that enables users to “tweet” or post short messages that can be read by fellow users. Searching for “orthodontics” returns posts promoting orthodontic practices, information about orthodontic products, and links to dental literature and short-courses.

Use of SM in dentistry and health care carries risks related to difficulty in ascertaining the validity of information, harm to professional reputation, and patient consent and privacy issues.<sup>9</sup> This has resulted in the implementation of SM laws, such as the Health Insurance Portability and Accountability Act (HIPAA) in the US and other SM guidelines,<sup>10-14</sup> by various international healthcare regulatory bodies and academic institutions.<sup>15,16</sup> This study assesses orthodontists’ and orthodontic residents’ attitudes to SM and SM use in Saudi Arabia, relative to clinical experience.

## MATERIALS AND METHODS

A 27-question survey was based on a survey by Klee et al.<sup>17</sup> After obtaining permission from the primary investigator, the questions were modified to suit orthodontics and then peer-reviewed by six orthodontic consultants at King Fahad General Hospital, Jeddah. The rights of the participants were protected. Ethical approval was obtained from the Saudi Ministry of Health, Institutional Review Board (registration number KACST:H-02-J-002, research number 01197). The survey comprised demographic information (4 questions), current SM utilization (6 questions), and items based on five themes:

1. Opinions on the usefulness of SM in orthodontics (7 questions),

2. SM relationship boundaries (7 questions),
3. Level of training in SM (1 question),
4. Opinions on whether SM use should be taught in undergraduate or postgraduate programs. (1 question)
5. Interest in a one-hour SM training (1 question).

The survey was prepared using Google forms and initially circulated to members on the email list of the Saudi Orthodontic Society in July 2020. However, few responses were obtained ( $n = 17$ ) so the survey was further distributed a month later via WhatsApp within Saudi orthodontist social circles. A week later, a Google search was done for orthodontists in Saudi dental schools, and 40 emails were sent directly. The following week, a Facebook search was done with the keywords "Orthodontist" and "Saudi Arabia," following which the survey was sent as a private Facebook message to 45 orthodontists whose privacy settings allowed messages from "non-friends." Another week was allowed before posting the survey on the Saudi Orthodontic Society's Twitter page and a search was done of the 9,240 followers. The survey was sent as a private Twitter message to 259 followers who mentioned that they were orthodontists practicing in Saudi Arabia, either in Arabic or English. A search was also carried out on LinkedIn using the key words "Orthodontist" and "Saudi Arabia." The survey was sent to a maximum of 30 orthodontists using Recruiter Lite, reaching a total of 105 responses. One week was allowed between the use of Twitter and LinkedIn to monitor the increase in the responses. Overall, responses were highest on the first day and leveled off to zero by the end of the week.

### Data analysis

Data were analyzed using SPSS version 26.0 statistical software (IBM Inc., Chicago USA.) Descriptive statistics (frequencies and percentages) were used to describe the categorical variables.

A Pearson's Chi-square test was used to compare the distribution of attitudes, perceptions, and other questions related to the position (residents, junior, and senior orthodontists) of study subjects. A  $p$ -value of  $\leq 0.05$  was set for the statistical significance of the results.

### RESULTS

Of the 105 orthodontists, 58 (55.2%) were women. The age groups of the participants were evenly distributed between 25-29 and >50 years with 27.6% aged 30-34 years. More than 50% were senior orthodontists and 43% worked in the government sector (Table 1).

TABLE (1): Distribution of demographic and professional characteristics of study subjects ( $n=105$ )

Characteristics	No.(%)
<b>Age group</b>	
25-29	18(17.1)
30-34	29(27.6)
35-39	14(13.3)
40-44	17(16.2)
45-49	14(13.3)
>50	13(12.4)
<b>Gender</b>	
Male	47(44.8)
Female	58(55.2)
<b>Orthodontic experience</b>	
Resident	28(26.7)
Junior orthodontist	22(21.0)
Senior orthodontist	55(52.4)
<b>Working sector</b>	
Government	45(42.9)
Private	15(14.3)
Educational institutions	15(14.3)
Government with private	19(18.1)
Educational institutions with private	11(10.6)

Most participants (98%) had SM accounts. Facebook had the lowest percentage of users at 40.8% compared to 79.6% using Instagram, 72.8% using Snapchat, and 76.7% using Twitter. A higher proportion of residents had Snapchat (92.9%,  $p = 0.009$ ) and Twitter (96.4%,  $p = 0.011$ ) accounts compared to junior and senior orthodontists. More than 85% of subjects accessed their SM accounts 1

to 2 times daily and 3 or more times a day, during the past 30 days. Only 33.3% had SM accounts exclusively for orthodontic use. About 57.1% of participants used Instagram, 20% used Facebook, 13.3% used Snapchat, and 17.1% used Twitter for orthodontic-related purposes. Only 38.1% of participants indicated that their hospital/clinic had an SM policy (Table 2).

TABLE (2): Distribution of responses to social media accounts

Items	Position No(%)			Total	X <sup>2</sup> value	p- value
	Resident	Junior orthodontist	Senior orthodontist			
<b>Do you currently have any social media accounts?</b>						
Yes	28(100)	21(95.5)	54(98.2)	103(98.0)	--	--
No	0	1(4.5)	1(1.8)	2(2.0)		
<b>Type of social media for general use:</b>						
Facebook (Yes/No)	9(32.1)/19(67.9)	9(45.0)/11(55.0)	24(43.6)/31(56.4)	42(40.8)/61(59.2)	1.03	0.597
Instagram (Yes/No)	24(85.7)/4(14.3)	19(86.4)/3(13.6)	39(73.6)/14(26.4)	82(79.6)/21(20.4)	2.15	0.341
Snapchat (Yes/No)	26(92.9)/2(7.1)	17(77.3)/5(22.7)	32(60.4)/21(39.6)	75(72.8)/28(27.2)	9.36	0.009
Twitter (Yes/No)	27(96.4)/1(3.6)	17(77.3)/5(22.7)	35(66.0)/18(34.0)	79(76.7)/24(23.3)	8.94	0.011
<b>During the past 30 days, how often have you accessed a social media account?</b>						
Once in the past 30 days	1(3.6)	0	1(1.9)	2(1.9)	--	--
2-3 times in the past 30 days	0	0	3(5.5)	3(2.9)		
1-2 times a week	0	0	1(1.9)	1(1.0)		
3-4 times a week	3(10.7)	1(4.5)	3(5.5)	6(5.8)		
1-2 times a day	3(10.7)	5(22.7)	19(35.2)	27(26.2)		
3 or more times a day	21(75.0)	16(72.8)	27(50.0)	64(62.1)		
<b>Do you have social media exclusively for orthodontic use?</b>						
Yes	10(35.7)	6(27.3)	19(34.5)	35(33.3)	0.47	0.790
No	18(64.3)	16(72.7)	36(65.5)	70(66.7)		
<b>Type of social media for orthodontics-related purposes:</b>						
Facebook(Yes/No)	2(7.1)/26(92.9)	5(22.7)/17(77.3)	14(25.5)/41(74.5)	21(20.0)/84(80.0)	4.02	0.134
Instagram(Yes/No)	16(57.1)/12(42.9)	12(54.5)/10(45.5)	32(58.2)/23(41.8)	60(57.1)/45(42.9)	0.08	0.958
Snapchat(Yes/No)	5(17.9)/23(82.1)	1(4.5)/21(95.5)	8(14.5)/47(85.5)	14(13.3)/91(86.7)	2.04	0.361
Twitter(Yes/No)	6(21.4)/22(78.6)	3(13.6)/19(86.4)	19(34.5)/36(65.5)	18(17.1)/77(82.9)	4.05	0.132
<b>Does your hospital or clinic have a social media policy?</b>						
Yes	9(32.1)	8(36.4)	23(41.8)	40(38.1)	3.52	0.474
No	7(25.0)	6(27.3)	19(34.5)	32(30.5)		
I don't know	12(42.9)	8(36.4)	13(23.6)	33(31.4)		

The distribution and comparison of participants' responses toward SM use in orthodontic practices are shown in Table 3. About 67% of the participants use SM as a source of orthodontic news and there were significant differences in the responses between the different levels of orthodontists. Moreover, 31.1% admitted that they would use a social network private message system to consult other orthodontists regarding a patient case. Only

25.2% stated that they would use a closed Facebook group exclusively for orthodontists to consult regarding a patient case. About 47.6% have not been "friend requested" by patients via SM, and only 27.2% stated that they would add a patient as a friend on Facebook if approached. Almost 72.8% have never attempted to contact a patient via SM and 85.4% have not visited any of their patients' Facebook pages.

TABLE (3): Distribution of responses towards use of social media in orthodontic practices

Items	Position No(%)			Total	$\chi^2$ value	p-value
	Resident	Junior Orthodontist	Senior Orthodontist			
<b>Currently, or in the past, have you used social media as a source of orthodontic news?</b>						
Yes	26(92.9)	11(52.4)	32(59.3)	69(67)	11.96	0.003
No	2(7.1)	10(47.6)	22(40.7)	34(33)		
<b>Would you use a social network private message system to consult another orthodontist regarding a patient case?</b>						
Yes	10(35.7)	7(33.3)	15(27.8)	32(31.1)	7.66	0.105
No	8(28.6)	12(57.1)	29(53.7)	49(47.6)		
I would consider it	10(35.7)	2(9.5)	10(18.5)	22(21.4)		
<b>Would you use a closed Facebook group exclusively for orthodontists to consult other orthodontists regarding a patient case after concealing the patient's identity and obtaining the patient's written consent?</b>						
Yes	6(21.4)	4(19.0)	16(29.6)	26(25.2)	1.83	0.768
No	14(50.0)	11(52.4)	21(38.9)	46(44.7)		
I would consider it	8(28.6)	6(28.6)	17(31.5)	31(30.1)		
<b>How many times in the past year have you been contacted or "friend requested" by a patient via social media?</b>						
Never	8(28.6)	11(52.4)	30(55.6)	49(47.6)	--	--
Once in the past year	4(14.3)	2(9.5)	3(5.6)	9(8.7)		
2-3 times in the past year	6(21.4)	4(19.0)	6(11.1)	16(15.5)		
1-2 times a month	6(21.4)	2(9.5)	7(13.0)	15(14.6)		
3-4 times a month	4(14.3)	2(9.5)	3(5.6)	9(8.7)		
1-2 times a week	0	0	1(1.9)	1(1.0)		
3 or more times a week	0	0	4(7.4)	4(3.9)		
<b>If a patient found you on a social network, would you add them as a friend?</b>						
Yes	8(28.6)	7(33.3)	13(24.1)	28(27.2)	0.69	0.707
No	20(71.4)	14(66.7)	41(75.9)	75(72.8)		

Items	Position No(%)			Total	$\chi^2$ value	p-value
	Resident	Junior Orthodontist	Senior Orthodontist			
<b>How many times in the past year have you attempted to contact a patient via social media?</b>						
Never	17(60.7)	20(95.2)	38(70.4)	75(72.8)	--	--
Once in the past year	2(7.1)	0	1(1.9)	3(2.9)		
2-3 times in the past year	3(10.7)	0	7(13.0)	10(9.7)		
1-2 times a month	4(14.3)	0	1(1.9)	5(4.9)		
3-4 times a month	2(7.1)	0	4(7.4)	6(5.8)		
1-2 times a week	0	1(4.8)	1(1.9)	2(1.9)		
3 or more times a week	0	0	2(3.7)	2(1.9)		
<b>How many times in the past year have you attempted to gather information about a patient by "visiting" their social media page?</b>						
Never	23(82.1)	17(81.0)	48(88.9)	88(85.4)	--	--
Once in the past year	2(7.1)	0	2(3.7)	4(3.9)		
2-3 times in the past year	0	1(4.8)	3(5.6)	4(3.9)		
1-2 times a month	1(3.6)	2(9.5)	0	3(2.9)		
3-4 times a month	1(3.6)	0	1(1.9)	2(1.9)		
1-2 times a week	0	1(4.8)	0	1(1.0)		
3 or more times a week	1(3.6)	0	0	1(1.0)		

The distribution and comparison of participants' attitudes and perceptions toward SM use in orthodontic practices in relation to their position are shown in Table 4. About 66% of participants responded that their orthodontic decision-making is unaffected by patient information on SM. Additionally, 58.3% of the participants would accept a friend request from a colleague. Of the participants, 64.1% were "neutral" to the question: "Do you think it is ethical to be 'friends' with patients on social media?" Furthermore, 83.5% of

the participants agreed that SM use in orthodontics can be beneficial to patient care while 49.5% plan on using SM in their practices. Many participants (64.1%) were interested in a one-hour training course in SM use in orthodontics. A significantly higher proportion of residents (32.1%) had training in SM use in dentistry ( $p = 0.005$ ). Most participants (69.5%) agreed that SM use in dentistry should be taught during undergraduate and postgraduate levels.

TABLE (4): Comparison of attitudes and perceptions towards the use of social media in orthodontic practices in relation to experience

Items	Position No.(%)			Total	X <sup>2</sup> value	p- value
	Resident	Junior orthodontist	Senior orthodontist			
<b>Has your orthodontic decision-making been affected by information you have found out about patients on a social network?</b>						
Strongly agree & agree	5(17.9)	2(9.5)	2(3.7)	9(8.7)	5.18	0.269
Neutral	7(25.0)	4(19.0)	15(27.8)	26(25.3)		
Disagree & strongly disagree	16(57.1)	15(71.4)	37(68.5)	68(66.0)		
<b>If a colleague found you on a social network, would you add them as a friend?</b>						
Yes	13(46.4)	14(66.7)	33(61.1)	60(58.3)	3.52	0.475
No	2(7.1)	0	2(3.7)	4(3.9)		
Depends on the colleague	13(46.4)	7(33.3)	19(35.2)	39(35.2)		
<b>Do you think it is ethical to be “friends” with patients on social media?</b>						
Strongly agree & agree	6(21.4)	1(4.8)	5(9.3)	12(11.7)	7.09	0.131
Neutral	17(60.7)	17(81.0)	32(59.3)	66(64.1)		
Disagree & strongly disagree	5(17.9)	3(14.3)	17(31.5)	25(24.3)		
<b>Can the use of social media in orthodontics be beneficial to patient care?</b>						
Strongly agree & agree	23(82.1)	19(90.5)	44(81.5)	86(83.5)	0.94	0.625
Neutral	5(17.9)	2(9.5)	10(18.5)	17(16.5)		
Disagree & strongly disagree	--	--	--	--		
<b>In the next year, I plan on using social media as an extra tool for patient care in my orthodontic practice.</b>						
Strongly agree & agree	11(39.3)	10(47.6)	30(55.6)	51(49.5)	5.51	0.238
Neutral	12(42.9)	4(19.0)	14(25.9)	30(29.1)		
Disagree & strongly disagree	5(17.9)	7(33.3)	10(18.5)	22(21.4)		
<b>I am interested in a one-hour training course in social media use in dentistry.</b>						
Strongly agree & agree	17(60.7)	11(52.4)	38(70.4)	66(64.1)	7.96	0.093
Neutral	10(35.7)	8(38.1)	8(14.8)	26(25.2)		
Disagree & strongly disagree	1(3.6)	2(9.5)	8(14.8)	11(10.7)		
<b>Have you had any training in social media use in dentistry?</b>						
I had training	9(32.1)	4(18.2)	3(5.5)	16(15.2)	10.42	0.005
I have not had any training	19(67.9)	18(81.8)	52(94.5)	89(84.8)		
<b>Social media use should be taught during which level of study?</b>						
Undergraduate	8(28.6)	0	10(18.2)	18(17.1)	--	--
Postgraduate	0	9(40.9)	5(9.1)	14(13.3)		
Both levels	20(71.4)	13(59.1)	40(72.7)	73(69.5)		

## DISCUSSION

Almost all the orthodontists in this study had SM accounts. Instagram was the most commonly used. This is similar to findings from another Saudi study.<sup>18</sup> Snapchat and Twitter were more popular with residents and junior orthodontists than with senior orthodontists. Residents used Snapchat significantly more than the other categories. This finding concurs with recent US statistics, which showed that 48% of Snapchat users are aged between 15 and 25.<sup>19</sup> Orthodontic residents use SM for orthodontic news and education more frequently than senior orthodontists do. It is apparent from this study that the younger generation of orthodontists has had some training in SM use in dentistry.

Most orthodontists have SM accounts and access them more than three times daily. This is in line with statistics showing that the average person in Saudi Arabia and middle eastern countries spends a little over three hours a day on SM.<sup>20,21</sup>

In this study, over two-thirds of respondents at all levels mentioned not having SM accounts specifically for orthodontic purposes. This finding mirrors a previous finding that 69% of Saudi orthodontists did not use SM in their orthodontic practices<sup>18</sup>. The proportion of participants in this study who had SM accounts dedicated to orthodontics corresponds to the number of orthodontists working in private practice. This could be to assist in marketing their orthodontic practices to attract more patients. According to Alshayea et al.,<sup>18</sup> utilizing SM in orthodontic practices increases both patient flow (from 52% to 65.4%) and monthly income (from 40.4% and 61.5%). Nelson et al.<sup>22</sup> reported that orthodontic clinics with an SM presence had more new patients annually than those that did not.

Only 40% of practicing orthodontists in this study had clear SM policies at their places of employment. This is contrary to a previous study that reported that 60% of dentists and dental students practicing in Saudi Arabia had SM guidelines.<sup>23</sup> This indicates

a disparity in the presence of SM guidelines. An earlier survey of SM policies in US dental schools showed that only 35% have implemented specific SM policies.<sup>15</sup>

In this study, 67% of orthodontists used SM for educational purposes, especially those who were still in specialty training, which is higher than findings in earlier studies on orthodontists (41%)<sup>18</sup> and dentists (43%).<sup>24</sup> Residents and senior orthodontists' opinions differed significantly concerning SM use for educational purposes, suggesting that SM can be effective in teaching. Using SM for teaching can connect geographically distant students and allow them to share knowledge, experience, and opinions while increasing student engagement.<sup>25</sup> Online lectures and SM can be leveraged for sharing lectures between various dental schools and may facilitate different countries reaching consensus on basic competency internationally.<sup>26</sup>

Almost half the orthodontists in this study opposed the use of closed orthodontic Facebook groups and private messaging on any SM to consult another orthodontist about a case. This could be due to fear of breaching patient confidentiality rules. However, orthodontists could benefit from professional networks like Sermo and Doximity, which are used by medical practitioners. In these networks, credentials are verified and HIPAA compliant images and text can be exchanged.<sup>27</sup>

When asked about their online friending behaviors, most of the orthodontists had not received friend requests from patients, nor would they accept them if they did. They were not interested in contacting patients on SM or gathering information about them to consider during orthodontic treatment. This shows sound judgment, which is in line with a survey of physicians and trainee physicians, as well as recommendations from the Federation of State Medical Boards Special Committee on Ethics and Professionalism that discourages physicians from "interacting with current or past patients on personal social networking sites such as Facebook."<sup>28</sup>



Interestingly, when asked if it was ethical to be friends with a patient on SM, 64% of the respondents in our study were neutral, and almost 12% agreed that it was acceptable. These numbers are slightly higher than those reported in a similar survey of US physicians.<sup>29</sup> This variation could be due to cultural differences. Almost 60% of participants were willing to accept online friend requests from colleagues unconditionally, while 35% chose to be selective as friend requests from orthodontic residents to faculty staff and vice versa were considered unsuitable in an academic environment. A previous study of medical directors showed that the majority thought it was inappropriate to accept a friend request from a current student. However, once the student has graduated, or the faculty member no longer had an evaluative role, it was considered more acceptable.<sup>30</sup>

This study showed that over 80% of orthodontists thought that SM in orthodontics can improve patient care. A similar Saudi study on orthodontists found that SM was used mainly for educational purposes, followed by communication with patients and marketing.<sup>18</sup> Almost half the respondents in this study planned on using SM in the next year for patient care in their orthodontic practices. This would enable them to take advantage of the previously mentioned benefits and may lead to an increase in patient flow and monthly income, as reported by Alshaya et al.<sup>18</sup>

The three levels of orthodontists differed significantly concerning the amount of training in dental applications of SM. Orthodontic residents were the most extensively trained; this is likely due to updates in recent academic curricula. Most orthodontists in this study (64%) were interested in a one-hour training course on SM use in dentistry. Approximately 66% agreed that SM use should be taught at both undergraduate and postgraduate levels. The SM curriculum could be based on existing sources such as the Centers for Disease Control and Prevention's Social Media Guidelines, the Mayo Clinic's Social Media Residency,<sup>14,17,31,32</sup> the Federation of State Medical Board's Model

Policy Guidelines,<sup>13,28</sup> and the Cleveland Clinic's Social Media Policy.<sup>33</sup> Additionally, guidelines from the General Dental Council in the UK<sup>10</sup> and the American Dental Association<sup>11,34</sup> can assist dental schools in complying with Commission on Dental Accreditation standards.<sup>35,36</sup>

This study, however, has some limitations. The use of a self-reported survey could have biased respondents' answers, and the use of a convenience sample can limit the generalizability of the results. The sample size was limited, as a specialized subset of the dental professional community was used.

## CONCLUSIONS

- Orthodontists in Saudi Arabia generally have a positive perception of SM. However, their use of it for professional purposes is limited.
- Snapchat and Twitter are more commonly used by younger resident orthodontists while Instagram is the most popular SM platform for orthodontic purposes at all levels.
- There is a need to establish clear SM workplace guidelines, as well as update existing ethics curricula in undergraduate and postgraduate dental programs.

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