

Utilization of Social Media in Orthodontic Practice: Practitioner's Perspective

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ABSTRACT

The objectives of this study were to assess how social media is being utilized by orthodontists, examine orthodontists' preferences regarding social media sites and apps, and to investigate the potential benefits of Internet-based social media sites in improving patient motivation and co-operation, and in enhancing the marketing and communication strategies of orthodontic practices among orthodontists in Riyadh and other cities of Saudi Arabia. Cross-sectional study was performed by utilizing survey research techniques. The participants in this study included orthodontists currently working in private and government dental hospitals in Saudi Arabia. Participants were asked to answer a questionnaire related to their use of social media platforms as a marketing and educational tools in their orthodontic practices. The objectives were thoroughly explained to all participants and an informed consent form was obtained. 31% of orthodontists used social media in their practice while the majority (69%) are not using any form of social media. The highest use of social networking sites were found among those practicing for 6-10 years (40%), the percentage decreases with the age increase. The most commonly used social media platforms among Saudi orthodontists was Instagram (34.6%), followed by Twitter (18.8%). Moreover, the particular purpose for using social media was for education purposes (41%). In addition, there was a reported increase in patients' flow and monthly income among orthodontists using social media in Riyadh and other cities (40.4% and 61.5%, respectively). Most orthodontists have used social media for education and communication purposes. Even though social media should be used to its full capacity as a marketing tool for orthodontists in order to market new materials and techniques to their patients instead of using traditional means of media advertisement to keep their competitiveness with other practices.

KEY WORDS: EDUCATION, MARKETING, ORTHODONTISTS, ORTHODONTIC PRACTICE, PLATFORMS, SOCIAL MEDIA.

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INTRODUCTION

In the present great revolution of technology, men and women of all ages and professions are consumed in social media and eager to become meaningful parts of such a revolution. Social media was defined by Kaplan and Haenlein, 2010 as “a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0 and that allow the creation and exchanges of user-generated content” (Kaplan and Haenlein, 2010). The use of social media diverts people away from the traditional ways of communication and, hence; making obtaining information totally dependent on internet based networks (Nelson et al., 2015, Akram and Kumar, 2017). Examples of social media websites that most societies use are Facebook and Twitter, with more than 1.2 billion users worldwide (Shabnoor and Tajinder, 2016). Beyond using social media for mere entertainment, these technologies can be used in businesses where they can provide consumers with a variety of products and further allow for their feedbacks (Andzulis et al., 2012).

They can offer many advantages that are cost effective, cost reducing, efficient, and fast in providing customers with information about products and services. This role of social media was not only limited to the realm of business but was also extended to the field of health care, where an increasing number of people worldwide are using social media applications for health-related issues. The use of social media applications has become popular amongst healthcare professionals to communicate with their patients for instructions, medication prescriptions, and health updates. In addition, health care professionals can conduct campaigns for the promotion of health and behavioral changes (Smailhodzic et al., 2016, De Angelis et al., 2018).

The field of dentistry is of no exception, where social media applications initially used by dental schools to promote courses and communication with students by using YouTube and blogs to enhance classrooms experience and interactive learning. Additionally, social media is widely utilized for advertising by private dental clinics, as well as for sharing of dental research through confidential web engines (Neville and Waylen, 2015). This use of social media in dentistry has become of increasing interest and special importance for field of orthodontic practices. Patients’ compliance throughout orthodontic treatment course and effective communications are considered among the most important steps toward achieving favorable treatment outcomes. In this context, a study was conducted to assess the effectiveness of YouTube audiovisual information on orthodontic patients with fixed appliances. On average, the result was positive in showing improvement in the patients’ knowledge of the dentition and the appliances, especially when compared with the standard methods of instructions (Al-Silwadi et al., 2015).

However, there has been limited research conducted to further explore the widespread and effectiveness of social

media usage in the field of orthodontics and, hence; the aim of this study is to assess how social media is being utilized by orthodontists, examine orthodontists’ preferences regarding social media sites and apps, and to investigate the potential benefits of Internet-based social media sites in improving patient motivation and co-operation, and in enhancing the marketing and communication strategies of orthodontic practices in Riyadh and other cities of Saudi Arabia.

MATERIAL AND METHODS

This cross-sectional study was performed by utilizing survey research techniques. The study was approved by the Institutional Review Board (IRB) at the College of Dentistry, King Saud University [E-18-3428], and the objectives were thoroughly explained to all participants and an informed consent form was obtained. A self-administered questionnaire was derived from a previous study conducted in Saudi Arabia and modified according to the present study population and aims (Hamasha et al., 2019).

The questionnaire comprised of two sections; the first section consisted of eight questions related to the demographic information of the participants. The second part of the questionnaire consisted of 16 questions related to the use of social media platforms as a marketing and educational tools. The participants in this study included orthodontists currently working in private and government dental hospitals in Saudi Arabia. General dentists, orthodontic residents, retired orthodontists and students were excluded from the study. A list of orthodontists practicing in Saudi Arabia was obtained from the Saudi Orthodontic Society, and an electronic version of the questionnaire was sent through email to all registered orthodontists in Riyadh and Jeddah for a period between January, 2019 to April, 2019.

A Pilot study consisting of 20 participants was conducted to validate the questionnaire and modifications were done accordingly and was assessed by an orthodontist. The questionnaire was prepared in both an electronic format as well as in a printed form. The data was recorded and analyzed using the SPSS software package (Version 23, SPSS Inc., Chicago, IL, USA). Descriptive statistics were calculated and Data analysis was undertaken using Pearson’s Chi-square test to compare the association between utilization of social media as a marketing tool and demographic variables with a p-value set at 0.05 for statistically significant associations.

RESULTS AND DISCUSSION

A total of 251 Orthodontists participated in this study consisting of 138 males and 113 females, with a response rate of 76%. Demographic characteristics of the participants were presented in Table 1. More than half of the participants were in the age group of 31-40 (52.2%) and almost three out of four participants were from the city of Riyadh (73.3%). The private sector was the main practice area of the participants (34.3%). Results

shows that 31% of orthodontists used social media in their practice. Only 52 orthodontists in Riyadh are using social media with no significant difference between gender (p -value = 0.095); however, there was a small but statistically significant difference between male and female orthodontists using social media in other cities (p -value = 0.021) (Table 2).

Table 1. Demographic characteristics of the participants

Socio-demographic Characteristics		N	%
Gender	Male	138	55
	Female	113	45
Age Groups	20 – 30	15	6
	31 – 40	131	52.2
	41 – 50	76	30.3
	51 – 61	26	10.4
	Above 60	3	1.2
Nationality	Saudi	163	65
	Non-Saudi	88	35
Region	Riyadh	184	73.3
	Others	67	26.7
Working Sector	Academic	28	11.1
	Academic, Governmental	18	7.2
	Academic, Private	9	3.6
	Academic, Governmental, Private	31	12.3
	Governmental	58	23.1
	Governmental, Private	21	8.4
	Private	86	34.3
	Private	86	34.3
Income per month	Less than 20,000 SR	30	12
	20,000 – 30,000 SR	94	37.4
	31,000 – 40,000 SR	60	24
	More than 40,000 SR	67	26.6

Furthermore, participants were categorized according to the number of years they have been practicing orthodontics as shown in Figure 1. Thus, those who have been practicing for 6-10 years were the highest group in using social media (40%). On the other hand, orthodontists with an experience of more than 10 years had the highest percentage of not using social media in their practice (42.2%). Table 3 presented the frequency distribution of social media use by orthodontists in their practice in relation to social variables and the impact of this utilization on their dental practice. The main social media platform utilized by the participants was Instagram (34.6%), followed by Twitter (18.8%) and Snapchat (15.7%). Moreover, the particular purpose for using social media was for education purposes (41%).

Nonetheless, the analysis of the data shows that the majority of participants were not using social media in their practices (69%) (Table 2). Figure 2 summarizes the main reasons for not using social media among orthodontists. These reasons were related to time consumption (38.3%), concerns about ethical issues (24.3%), as well lack of technical knowledge necessary for using such applications (18%).

According to the survey, utilizing social media in orthodontic practice showed an increase in patients' flow in Riyadh and other cities (52% and 65.4%, respectively). In addition, there was a reported increase of individual's monthly income among orthodontists using social media in Riyadh and other cities (40.4% and 61.5%, respectively). However, no statistically significant difference between gender within Riyadh and other cities were found with p -value > 0.05 (Table 4). Many of orthodontists participated in the survey claimed that there was a relationship between patients' unrealistic expectations and the use of social media, which was statistically significant ($P=0.009$, $P<0.05$) as shown in Table 4.

Table 2. Frequency distribution of the social media use relative to the gender and regions.

Gender	Utilizing social media in practice						
	Yes (%)				Total	No (%)	Total (%)
	Riyadh (%)	P.value	Others	P.value			
Male	35 (67.3%)		17 (32.7%)		52 (37.7%)	86 (62.3%)	138 (55%)
Female	17 (65.4%)	0.095	9 (34.6%)	0.021	26 (23%)	87 (77%)	113 (45%)
Total	52 (28.3)		26 (38.8%)			173 (69%)	251
Overall total			78 (31%)				

As reported in several literatures, social media has become widely utilized in health care related practices for the past few years (Kaplan and Haenlein, 2010, Hamasha et al., 2019, Binalrimal, 2019). The purpose of the present study was to assess how orthodontists use social media,

and to investigate the benefits of social media in the marketing and communication strategies of orthodontic practice. Most studies have investigated the use of social media among orthodontic patients (Nelson et al., 2015, Papadimitriou et al., 2020).

However, only limited number of researches dealt with the use of social media in orthodontic practice among orthodontists. This study found that only 31% of orthodontists used social media in their practice while the majority (69%) are not using any form of social media. Similar study was conducted to assess the use of social media among dental practitioners working in Saudi Arabia. The authors found that 52% of dentists were using social media in their practices (Hamasha et al.,2019). Another study conducted on the use of social media among orthodontists within the United States showed that 76% of the participants actually use social media (Nelson et al., 2015). In the present study, the respondents were almost equally males and females with the majority of both not using social media (62% and 77%, respectively).

Figure 1: Frequency distribution of the social media use relative to the number of years in orthodontic practice.

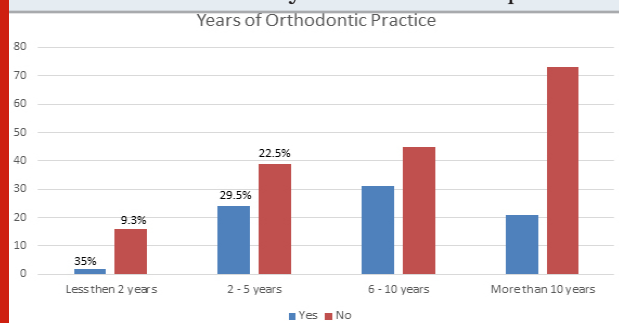


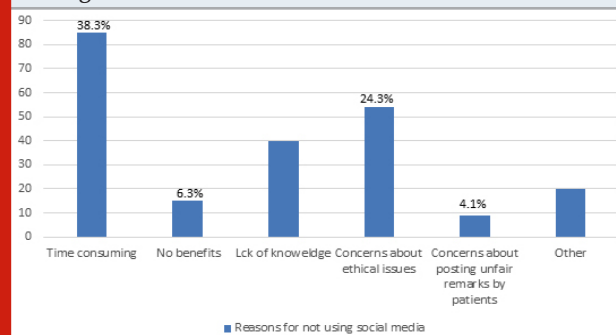
Table 3. The frequency distribution of social media use among orthodontists in their practice.

Variable	Category	No.	%
Social Media Platforms commonly used	Instagram	66	34.6
	Twitter	36	18.8
	Snapchat	30	15.7
	WhatsApp	24	12.6
	Facebook	22	11.5
	YouTube	9	4.8
	Other	2	1
	Blogs	1	0.5
	Telegram	1	0.5
Purposes of Utilizing Social Media	Education	71	41
	Communication	50	29
	Advertisement or marketing	47	27.2
	Other	5	2.8

The respondents using social media in Riyadh city were 28%, with no significant difference between genders, compared to 38% of respondents using social media in other cities within Saudi Arabia, with statistically significant difference between genders. A similar study was conducted to investigate the influence of social media on the perceptions and demands of aesthetic dentistry among the population and dental practitioners

as well (Binalrimal, 2019). He attributed the large number of respondents from the central region of Saudi Arabia in populations' and dentists' surveys to the fact that clinicians were adapting their services to meet their patients' demands and inquiries regarding many aesthetic dental procedures, which are more available in large cities than in provisional ones. The discrepancy in this finding with Binalrimal's finding can be potentially attributed to small sample size in this study, as well as, to the fact that other cities included in the present study, such as Jeddah and eastern province are considered as large cities as Riyadh.

Figure 2: The main reasons for not using social media among orthodontists



More than half of the respondents in this study with median age group was 31-40 years followed by median age group of 41-50 years, then there was a decline in the number of the survey participants among older age participants. This study has also found that 40% of the respondents who have been in the practice for 6 to 10 years were the highest group using social networking sites and that usage decreased with age and with those who have been practicing orthodontic for more than 10 years to reach 27%. This decrease supports the finding of several studies who reported that social media usage decreased steadily with age (Nelson et al., 2015, Snyman and Visser, 2014).

In the present study, the most commonly used social media platforms among orthodontists in Saudi Arabia were Instagram (34.6%), followed by Twitter (18.8%). Two different studies among Saudi dental practitioners found that Twitter and Snapchat were the most commonly used social media platforms (Hamasha et al.,2019, Binalrimal, 2019). In contrast, several researchers in the United States found that Facebook was the most utilized social media platform followed by YouTube (Nelson et al., 2015, Snyman and Visser, 2014). The discrepancy in this finding among different studies can be potentially attributed to the sample size, different ethnic backgrounds, and individual's preferences.

In terms of the objectives behind utilizing social media among orthodontists in the present study, it was found that the main objective of using social media was for education purposes (41%), to enhance the learning experience for instance, followed by communication purposes with patients (29%), while using social media

as marketing tool comprised 27% of the responses. Similar findings have reported on faculty members and health disciplines professionals efforts to utilize students' efficiency with social media for educational purposes in order to enhance their teaching techniques, communication, collaboration, and learning experiences, (Kind et al., 2014 Hamasha et al 2019).

This contradicts the finding of several researches who found that the primary use of social media was as a marketing tool and as a means of having a more interactive exchanges with consumers (Nelson et al., 2015, Snyman and Visser, 2014). Further, 38.3% of the

respondents in this study attributed the reason for not using social media to the lack of time, pointing to the fact that using networking sites is a time consuming process. On the other hand, 24.3% of the respondents mentioned that the reason for not being active in social media were concerns about ethical issues. This finding is consistent with the conclusion of other researchers, (Binalrimal, 2019, De Angelis et al., 2018). It is also worth noting that, in the field literature, it is argued that behaviors related to professional standards and ethics could present a serious challenge to dental professionals, when using social networking communications (De Angelis et al., 2017).

Table 4. Frequency distribution of social media use among orthodontists in their practice in relation to social variables and its impact on their dental practice.

Variable		Category				
		Yes (%)	No (%)	I don't know (%)	Total (%)	P-value
Increased Patients' Flow	Male	19 (54.3)	10 (28.6)	6 (17.1)	35 (100)	0.317
	Female	8 (47.1)	3 (17.6)	6 (35.3)	17 (100)	
	Total	27 (52)	13 (25)	12 (23)	52 (100)	
Others	Male	13 (76.5)	3 (17.6)	1 (5.9)	17 (100)	
	Female	4 (44.4)	1 (11.1)	4 (44.4)	9 (100)	
	Total	17 (65.4)	4 (15.4)	5 (19.2)	26 (100)	
Increased monthly Income	Male	16 (45.7)	11 (31.4)	8 (22.9)	35 (100)	0.204
	Female	5 (29.4)	4 (23.5)	8 (47.1)	17 (100)	
	Total	21 (40.4)	15 (28.8)	16 (30.8)	52 (100)	
Others	Male	12 (70.6)	1 (5.9)	4 (23.5)	17 (100)	
	Female	4 (44.4)	1 (11.1)	4 (44.4)	9 (100)	
	Total	16 (61.5)	2 (7.7)	8 (30.8)	26 (100)	
Relationship between patients' unrealistic expectations and using social media						
Gender	Male	93 (67.4)	21 (15.2)	24 (17.4)	138 (100)	0.009*
	Female	86 (76)	4 (3.5)	23 (20.5)	113 (100)	
	Total	179 (71.3)	25 (10)	47 (18.7)	251 (100)	

* Statistically significant using Chi-square test

According to orthodontists' perspective surveyed in the present study, utilizing social media in practice increased their patients' flow in Riyadh and other cities. In addition, an increase of individual's monthly income among orthodontists using social media was reported. Similar finding was illustrated by several researchers (Nelson et al., 2015, Huang and Dunbar, 2013) who concluded that orthodontists using social networking sites had more new patients starts per year than those who had not used such sites. Furthermore, many researchers reported the importance of social media usage, emphasizing that dental practices will not survive without a strong online presence (Nelson et al., 2015, Baker, 2012). Many of orthodontists who participated in this study reported that there was a relationship between patients' unrealistic expectations and social media usage, which proved to be statistically significant. This could be explained by the fact that most of what we see on social media

simply is not real. Many photo editing and enhancement applications and image manipulation techniques are available on all smartphones and laptops, presenting patients with an unrealistic image of a false sense of the possible changes that can be achieved in real life.

Binalrimal found that 63% of Saudi population believe that social media is not a reliable source of information about aesthetic dentistry due to using photo editing and enhancement programs (Binalrimal, 2019). Therefore, a relationship of trust on social media websites should be established between clinicians and their patients to give them the opportunity to read reviews, leave comments, and provide them with a reliable source of photos and evidence-based information. It is noteworthy that about two-thirds of orthodontic patients, surveyed in a previous study, believed that networking applications on cellphones would help as a reminder for wearing

certain orthodontic appliances, such as orthodontic elastics, functional appliances, etc (Leone et al.,2019). Furthermore, Al-Silwadi et al., in single-centre randomized controlled trial, concluded that presenting an audiovisual information via YouTube website could help orthodontic patients by significantly improving patient knowledge when compared with traditional methods of providing information (Al-Silwadi et al., 2015).

Limitations of the study: The present study has some limitations. Most importantly, a small sample size and sample distribution to represent orthodontists' prevalence in social media usage. Further studies are required to increase the sample size and improve sample distribution to include other regions of Saudi Arabia to investigate the impact of social media in orthodontic marketing strategies. In addition, another study is needed to assess how social media is being used by orthodontic patients seeking support regarding their orthodontic treatment, and looking for an orthodontist with good credentials and expertise with different and new orthodontic procedures.

CONCLUSIONS AND RECOMMENDATIONS

- This study concluded that 31% of the orthodontists in Saudi Arabia use social media in their practice. This percentage could be increased in the future by organizing more workshops and enforcing ethical guidelines for using social media.
- The highest use of social networking sites were found among those practicing for 6-10 years, the percentage decreases with the age increase.
- The most commonly used social media platforms among Saudi orthodontists was Instagram and Twitter.
- Social media use was mostly for education and communication purposes. Even though social media should be used to its full capacity as a marketing tool for orthodontists in order to market new materials and techniques to their patients instead of using traditional means of media advertisement to keep their competitiveness with other practices.

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