



Preferences and attitudes of Orthodontic Patients on use of Social Media in Saudi Arabia

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Abstract: Background: The objective of the study was to find out how orthodontic patients use social media sites to share their treatment-related experiences and attitudes, whether orthodontic patients use the Internet and social media sites as a source for orthodontic information and to investigate the expectations patients have from orthodontists regarding in-corporation of social media applications that would help in improving collaboration with the use of orthodontic appliances. **Materials and Methods:** E-Questionnaire was shared on various social media accounts. The questionnaire included questions pertaining to socio-demographic characteristics, availability of social media accounts, whether the patients follow any oral health related accounts; and, whether their reliability on those accounts depends on the number of followers, the comments, before and after photos or the reliability of the account owner. **Results:** Of the surveyed sample, 86.80% of males said that they have never shared their orthodontic experience online, 87.20% of females said that they rely on the information if the owner of the account was an orthodontist. A small percentage of patients (23.4%) said they rely on information available to them on social media. The reason of reliance was that the owner of that social media account is an orthodontist. Only 6% of the participants stated they followed the account because of the number of followers. **Discussion:** Twitter was the most used social networking site among orthodontic patients, followed by Instagram. The majority of patients had never shared their Orthodontic experience on social networking sites and most patients would like their healthcare providers to communicate with them, providing the information via videos.

[Rabia Bilal. **Preferences and attitudes of Orthodontic Patients on use of Social Media in Saudi Arabia.** *Biomedicine and Nursing* 2021;7(3):74-79]. ISSN 2379-8211 (print); ISSN 2379-8203 (online). <http://www.nbmedicine.org> 10. doi:[10.7537/marsbnj070321.10](https://doi.org/10.7537/marsbnj070321.10).

Key words: Social media, orthodontic treatment, twitter, Instagram, face book

Introduction:

Social Media sites have recently increased in popularity and it is changing the behavior of society in many different ways. Application of these sites allows new forms of interactions with others, and modify how people consume products and services. This phenomenon permits people to be connected with others all the time and anywhere. Also, it is often used to share thoughts, experiences, and opinions and seek support about patient's health issues. Although some health professionals remain resistant to new technologies, the reality is that more than 1 billion people have an account just on Facebook, which is the most used social media site worldwide; also, there are many other social media platforms, such as YouTube, Twitter and Instagram⁽¹⁾⁽²⁾. Twitter is an example of a new means for the public to communicate health concerns with each other and with their health care

professionals⁽³⁾. Facebook and YouTube may be more efficient media outlets for oral health literacy promotion and education among adolescent school children when compared to twitter⁽⁴⁾. These sites have recently been used to evaluate the experiences of dental patients. Heavilin and colleagues found that nearly 14% of Internet-based social media users sought advice on dental pain from the Twitter community, with 15% describing its impact on their daily lives⁽⁵⁾. With such a wide breadth of users and an information-rich database, could these sites provide the dental profession with insight into the problems and issues experienced by orthodontic patients?⁽⁵⁾⁽⁶⁾

The increasing dependence of patients on social media websites as a source of health care information indicates a need for future studies to assess their impact on health care utilization and outcomes⁽⁷⁾. The aim of this study was whether orthodontic patients use

the Internet and social media sites as a source of orthodontic information and, a tool to share their orthodontic experience. Also, to investigate the reasons to rely or not to rely on social media applications for the orthodontic information.

Materials and Methods:

This was a cross-sectional descriptive study. Convenience sampling technique was used and e-questionnaire was filled by a total of 1880 individuals comprising of 25.2% males and 74.8% of females. The sample covered the whole Kingdom, as there was a good representation from all the regions of Kingdom. The questionnaire consisted of 8 items close ended instruments developed by the author of the study. The following variables were included in the questionnaire:

Demographic data.

Social media account availability.

The use of social media to share experience related to orthodontic treatment.

Whether they follow any dental/orthodontic related social media accounts and if it is their first choice to gather orthodontic health information.

Preference of gathering dental health care information through social media sites or dentists themselves.

Whether they rely on social media dental health accounts and if depends on the number of followers, the comments, before and after photos or the reliability of the account owner.

The need of dental healthcare providers with patients through social media.

Sharing of information preference via texts, photos or videos.

The data were transferred to the computer for analysis using SPSS program for Windows (version 17). Descriptive statistics (percentage and frequency) of different variables of cancelled and missed appointments were assessed. Statistically significant difference was evaluated using the Chi-square at significance level set at $P < 0.05$.

Results:

The demographic data for age and gender is presented in Table 1. The highest number of individuals who participated in the questionnaire ranged between 18 to 23 years. The demographic data for regional distribution amongst different regions across kingdom is presented in Table 2. Most number of responses were collected from central province. Table 3 represents the percentage distribution of various social media sites. Most used social media platform was twitter (98.2%). 84.5% of the participants said that they have never shared their orthodontic experience online (Table 4) Significant number of patients said that they do not follow any dental health related accounts ($p= 0.001$) (Table 5). 85% of the patients said that they followed a dental health related account because the owner was a dentist and almost 6% said that followed the account because of the number of the followers. (Table 6). Most patients stated that they wanted dental health providers to communicate with them through social media accounts (90.3%). (Table 7) About half of the patients (51.8%) wanted the information to be viewed to them via videos (Table 8).

Table 1: Descriptive statistics for the demographic data (age and gender)

Age	Male		Female	
	No.	%	No.	%
12-17 years	42	8.9%	109	7.8%
18-23	193	40.7%	731	52.0%
24-29 years	168	35.4%	435	31.0%
30 years or above	71	15.0%	130	9.3%
Total	474	100.0%	1405	100.0%

Table 2: Descriptive statistics and demographic data for regional distribution in different provinces

Province	Number	Percentage %
Central	948	50.5%
Eastern	243	12.9%
Western	540	28.7%
Northern	82	4.4%
Southern	66	3.5%

Table 3: % distribution of social media accounts and comparison between gender & social media used

Social Media	Gender:						P value
	Male		Female		Total		
	No.	%	No.	%	No.	%	
Twitter	468	98.7%	1377	98.0%	1845	98.2%	0.304
Instagram	384	81.0%	1270	90.4%	1654	88.0%	0.001*
Facebook	215	45.4%	551	39.2%	766	40.8%	0.019*
You tube	306	64.6%	736	52.4%	1042	55.5%	0.001*

Table 4: Shared their orthodontic experience online

Shared your experience?	Gender:						
	Male		Female		Total		
	No.	%	No.	%	No.	%	
	NO	412	86.9%	1176	83.7%	1588	84.5%
YES	62	13.1%	229	16.3%	291	15.5%	

Table 5: Patients following dental health related accounts.

Do you follow any dental health related accounts on social media?	Gender:						P Value
	Male		Female		Total		
	No.	%	No.	%	No.	%	
NO	326	68.8%	747	53.2%	1073	57.1%	0.001*
YES	68	14.3%	371	26.4%	439	23.4%	
Maybe	80	16.9%	287	20.4%	367	19.5%	

Table 6: Reason behind following the account

Cause to follow	2- Gender:						P value
	Male		Female		Total		
	No.	%	No.	%	No.	%	
No. of followers	50	10.5%	64	4.6%	114	6.1%	P<0.001*
Fol. Comments	131	27.6%	467	33.2%	598	31.8%	0.024*
Before and After	100	21.1%	394	28.0%	494	26.3%	P=0.003*
Owner is Dentist	373	78.7%	1225	87.2%	1598	85.0%	P<0.001*

Table 7: Patients wanting health providers to communicate with them through social media

Providers – communicate with patient	2- Gender:						P Value
	Male		Female		Total		
	No.	%	No.	%	No.	%	
No	51	10.8%	131	9.3%	182	9.7%	0.361
Yes	423	89.2%	1274	90.7%	1697	90.3%	

Table 8: Patients respond to the reasonable prior notice period for changing or cancelling an appointment

How would you prefer to receive dental information during treatment	2- Gender:						P value
	Male		Female		Total		
	No.	%	No.	%	No.	%	
Text	86	18.1%	292	20.8%	378	20.1%	0.367
Photos	131	27.6%	397	28.3%	528	28.1%	
Videos	257	54.2%	716	51.0%	973	51.8%	

Discussion:

This article sheds light on the demographic data related to use of social media when it comes to their dental/orthodontic health. It also discusses the impact of social media and its possible role in influencing the general public for trends and tendencies in health care profession.

Since its inception almost a decade ago, social media has taken the world by storm. It has totally changed the way the information is processed, shared, perceived and received. It has huge impact on every aspect of life, and health care is one of it. Use of the Internet for health information continues to grow rapidly, but its impact on health care is still unclear. Concerns include whether patients' access to large volumes of information will improve their health; whether the variable quality of the information will have a deleterious effect; and whether the physician-patient relationship will be improved as patients become more equal partners, or be damaged if physicians have difficulty adjusting to a new role.⁽⁸⁾

This study was done to assess the impact of social media on the dental health of orthodontic patients in Kingdom of Saudi Arabia. Also, to know how positive or negative that impact is. According to this study, twitter is the strongest and widely used social media tool used by the general public to access the orthodontic information, followed by Instagram, YouTube and face book respectively. The comparison between male and female patients showed that there was no significant difference between the males and females users with twitter. It's an equally popular tool amongst both genders. However, there was significant difference between the males and females in using Instagram, females preferred Instagram more over the males. On the other hand, Facebook and YouTube was more popular in males and the difference was statistically significant. A very small percentage of patients shared their experience online. These findings match with the study done by Henzel et al, in which very small number of patients used the social media sites to post their post treatment experience.⁽⁵⁾ This trend highlights that patients in Kingdom are not very

open to sharing their own post treatment experiences. This can be attributed to the religious and sociocultural norms. A small percentage of patients followed the dental health related accounts to gather information about orthodontist and orthodontic care. These findings are also consistent with the findings of Henzel et al,⁽⁵⁾ which concluded that patient preferred to gather treatment related information directly from the orthodontist instead of dental health accounts. Amongst that small percentage, the reason to follow the dental health account was that owner was dentist or orthodontist. Only 6% of the participants stated they followed the account because of the number of followers.

Nowadays the success of an individual or company is measured in terms of his/her Instagram followers or the subscribers to YouTube channels. It's easier for people to log onto social network site and get the free and easy information, rather to actually go to a place/practice or to make a call, which will cost more money and involves complex logistics.^{(9) (10)} These days number of social media followers set the popularity trends for entrepreneurs, fashion houses and brands. The more the number of followers, the more the customers. People of all demographics are embracing these technologies through their computers or smart phones and they are increasingly using the social media for health-related issue.^{(11) (12) (13)} One would expect the same trends in health care profession. But it seems that patients still prefer the direct contact and communication with their doctors and, the satisfaction they get from face to face contact doesn't match the information available on a health blog or social media site.

Nonetheless, interesting fact of the study was that significant number of participants wanted their orthodontist to communicate with them via social media. This finding is consistent with the latest drifts of how the trends of telemedicine are on a rise.⁽¹¹⁾ This can be explained by the readiness of information available on internet and also the ease of availability of internet in every nook and corner of world. Social media communication directly from the doctor brings

lot of ease to the patients. This means less complex logistics, elimination of need of travelling to doctor's office and waiting to get the information.

Although social media has potential as tool for health education and promotion, still both the service providers i.e. the health care professionals/dentists, as well as consumers i.e. the patients, are a long way from embracing it, as in the other walks of life. Same people who are comfortable to trust a blog for beauty or latest fashion trend, are not when it comes to their health. Going to a dentist/orthodontist still stays as an imperative part of total treatment regime. Even if the use of social media increases over the passage of time, both the provider and consumer should have a prudent approach when it comes to the use of this platform. More studies are required to assess the impact of social media in dental health care in general and orthodontic health care in particular. And also, to quantify the precarious bearing of the information associated with it. ^{(14) (15)}

Conclusion:

Twitter was the most used social networking site among orthodontic patients, followed by Instagram. The majority of patients have never shared their Orthodontic experience on social networking sites, nor have they followed any dental care during the orthodontic treatment accounts. Most patients may have trust on the information especially if the user presenting the information was a dentist. Most patients would like their healthcare providers to communicate with them providing the information via videos. The majority of orthodontist have not advised their patients to follow any dental healthcare account during orthodontic treatment on social networking sites, yet most patients would like them to.

Recommendations:

More studies are required consisting of a larger sample. Also, the need of creating more Social Media accounts to provide dental health information, interact with patients and answer their questions to improve their overall dental health.

This original research doesn't have any conflict of interest and the research was not funded by any internal or external source.

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Short Title:

Social Media and Orthodontic Patients in Saudi Arabia

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9/22/2021