Patient Preference and Adherence

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ORIGINAL RESEARCH

Factors That Affect Saudi Population Preferences Toward Their Dentist

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Objective: To explore the preference of Saudi population when selecting their dentist.

Design: Cross-sectional observational study.

Methods: An online questionnaire was distributed in Arabic language. The inclusion criteria were Saudi participants, aged 18 years or above. The questionnaire was divided into four sections that included participants' demographic data, preferred criteria on dentists and dental office design, and table for the importance of each of the factors studied.

Results: A sample size of 5317 participants completed the questionnaire with a mean age of 30.5 ± 11.6 years old, 57% were females. Most of the participants had no preference on their dentist's nationality (63%) or gender (44%). There was a preference for dentists who are consultants (38%), well known (83%), and has an explanatory-style consultation (78%). Participants preferred scrub and lab coat attires for their male (41%) and female (38%) dentists. Less than half of the participants (44.8%) preferred the dentist to have a social media account. Of all social media platforms, Twitter was the most preferred one (37%). White clinic color was more preferable than other colors (56%). Of all the factors studied, dentist's reputation, clinical rank and cost of treatment were considered very important for most of the participants when selecting their dentist.

Conclusion: Overall, Saudi participants have specific preferences on their dentists and dental office design. Dentists might consider these factors to improve their dental practice and their patients' experience.

Keywords: patients' preferences, dentistry, private practice, Saudi population, marketing

Introduction

The process of choosing a dentist for a dental treatment is influenced by multiple factors and differs between different populations.[1–8] Hence, it is challenging for dentists to attract patients and deliver the required effective dental treatment without prior knowledge of the factors that affect patients' preference. To solve this, an evaluation tool could be implemented to study the contributing factors in patients' preferences of their dentists, such as age, sex, and educational level, as this will help dentists in forming a better understanding of the patients' choices.

A British study conducted on a sample of 257 participants has shown that patients preferred younger dentists to older ones and locally trained dentists over internationally trained.[2] In terms of dentists' gender, a study conducted in Riyadh, Saudi Arabia on a sample of 445 participants concluded that male participants had a preference for male dentist, while female participants had no specific preference on dentists' gender.[3] In regard to dentists' attire, multiple studies showed a general preference for scrub and white coat.[4–8] Moreover, a study conducted in 2015 on

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a sample of 445 participants investigated the preference of patients on dentists' nationality. Most participants (66%) did not have any preference for the nationality of the dentist, while 19% preferred Saudi and 14% preferred non-Saudi dentist.[3]

However, no studies in the Kingdom of Saudi Arabia have examined whether the educational level, income level or insurance status of the patients contribute to their dentists' preference. Moreover, previous studies in Saudi Arabia were limited by small sample size, and focused on few variables. The aim of this study was to compensate for the limitations of previous studies by studying multiple factors, on a large sample size across Saudi Arabia, that could affect the Saudi population's preferences in choosing their dentists, in terms of sex, nationality, professional degree, social media page, reputation, dentist's communication styles (listener or explanatory), attire and dental office-related factors, such as clinic design and colors, and to study how the patient's demographic data affect their opinions.

Methodology

Ethical approval of the study was obtained from the research ethics Committee of King Abdullah International Medical Research Centre (KAIMRC), Ministry of National Guard, Saudi Arabia (IRB\SP20\322\R). The study was conducted in accordance with the Declaration of Helsinki, with informed consent gathered from all participants.

This cross-sectional observational study was carried out in September 2020 in Saudi Arabia. The targeted sample was Saudi population aged 18 years and above. The sample size was calculated based on a confidence interval of 95% and estimated population response distribution of 50%, which yielded a total of 385 subjects required from each of the five main regions of the Kingdom of Saudi Arabia (KSA), which equals a total of 1925 subjects.[9,10] A stratified sampling technique was used to obtain the sample in the five main regions of KSA. The questionnaire was developed by the research team and was written in Arabic language.

Validity

A pilot study of 25 participants was conducted for validation purposes. Their comments were recorded and reviewed to improve the clarity of the questionnaire.

The questionnaire was divided into four main sections (demographic data of the participants, preferred criteria on dentists and dental offices, and table for the importance of each of the factors studied; Appendix). An electronic version of the questionnaire (Google Forms®) was used and distributed throughout hospital waiting areas and social media platforms (Twitter, Instagram, and WhatsApp). Collected data were entered in Microsoft Excel. JMP® was used for statistical analysis. Statistical significance was set to 0.05 or less.

Chi-square test and Fisher's exact test were used to compare the proportions between categorical variables.

Results

Demographic Data

A total of 5317 Saudis responded to the questionnaire with a mean age of 30.5 ± 11.6 years old, 57% were females. The majority of the participants (43%) were from the central region, 66% had bachelor's degrees, and 57% had income less than 8999 SR. The majority of the participants (76%) had no insurance, and 80% stated that most of their dental visits were in private clinics (see Table 1) shows the detailed presentation of participants' demographic data.

Dentist-Related Factors

Nationality of the Dentist

The majority of the participants (63%) had no preference on the nationality of the dentist, while 30% preferred Saudi dentists, and only 7% preferred non-Saudi (see Table 2). There were no significant differences between the different demographic types of the participants in regard to their preference of dentist's nationality. Most of the participants (60%) rated this variable as not important when choosing their dentists (see Table 3).

Sex of the Dentist

The preference on the dentists' gender differed between different specialties. For general practitioners (GPs), 44% of the participants did not matter to them the gender of GP, while 36% for pediatric dentistry (PDs); 42% of the participants did not matter to them the gender of the PD, while 23% preferred male PD and 34% preferred female PD (see Table 2).

There was no effect of most of the demographic data on the gender preference of GPs or PDs, except the age of the participants. The majority of the participants, aged 32 years old and older, preferred male gender for their GPs, but female gender for PDs (see Table 4).

In regard to the preferred gender of oral and maxillofacial surgeon (OMFS), there was more preference for male OMFS (47%) over females (12%), while 41% had no specific preference (see Table 2). There was significantly ($p< 0.0001$)

Table 1 Demographic Data of the Participants (N = 5317)

Variable	N (%)
Sex	
Male	2298 (43%)
Female	3019 (57%)
Age	N = 5315
<21 years old	1339 (25%)
22–25 years old	1242 (23%)
26–31 years old	808 (15%)
32–41 years old	944 (18%)
>42 years old	982 (18%)
Region	
Northern region	875 (16%)
Western region	826 (16%)
Central region	2264 (43%)
Eastern region	734 (14%)
Southern region	618 (12%)
Educational Level	N = 5316
High School	1279 (24%)
Bachelor's degree	3491(66%)
Master's degree	236 (4%)
PhD's degree	74 (1.3%)
Less than high school	32 (1%)
Diploma	194 (4%)
Academic training institution	10 (0.1%)
Income	
<8999 SR	3750 (57%)
9000–14,900 SR	1404 (26%)
>15,000 SR	856 (16%)
Clinic type	
Governmental	1044 (20%)
Private	4273 (80%)
Insurance	N= 4237
Yes, I do have	1018 (24%)
No, I do not have	3255 (76%)
Insurance price	N = 1018
<2000 sr	292 (29%)
2000–4000 sr	391 (38%)
4000–6000 sr	170 (17%)
>6000 sr	165 (16%)

more participants of the group who aged 32 years old or older (57%) who preferred male OMFS. See Table 4.

However, most of the participants (52%) rated dentists' gender as not important when choosing their dentists (see Table 3).

Age of the Dentist

The majority of the participants (64%) did not matter to them the age of the dentist, while 30% preferred older

Table 2 Descriptive Analysis on Participants' Preferences on Their Dentists

Variable	N (%)
Dentist Nationality	
Saudi	1598 (30%)
Non-Saudi	388 (7%)
Does not matter	3331 (63%)
Specialty/Sex (general)	
Male	1888 (36%)
Female	1078 (20%)
Does not matter	2351 (44%)
Specialty/Sex (pedodontist)	
Male	1247 (23%)
Female	1813 (34%)
Does not matter	2257 (42%)
Specialty/Sex (surgery)	
Male	2508 (47%)
Female	649 (12%)
Does not matter	2160 (41%)
Dentist age	
Young	327 (6%)
Old	1587 (30%)
Does not matter	3403 (64%)
Dentist rank	
General dentist	287 (5%)
Specialist	1722 (32%)
Consultant	2043 (38%)
Does not matter	1265 (24%)
Dentist reputation	
Well known	4428 (83%)
Not known	21 (0.4%)
Does not matter	868 (16%)
Dentist characteristic	
Listener	1163 (22%)
Explanatory	4154 (78%)
Social media	
Yes	2383 (45%)
No	2934 (55%)
Social media application	N = 2374
Twitter	1266 (37%)
Snapchat	734 (22%)
Instagram	1045 (31%)
Other	336 (10%)
Clinic color	
Yellow	248 (5%)
Black	273 (5%)
White	2966 (56%)
Green	232 (4%)
Blue	1598 (30%)

Table 3 Descriptive Analysis on the Importance of the Variables Studied

Variable	N (%)
Importance of dentist nationality	
Very important	942 (18%)
Important	1197 (23%)
Not important	3178 (60%)
Importance of dentist sex	
Very important	998 (19%)
Important	1530 (29%)
Not important	2789 (52%)
Importance of dentist age	
Very important	587 (11%)
Important	1534 (29%)
Not important	3196 (60%)
Importance of dentist rank	
Very important	2753 (52%)
Important	1875 (35%)
Not important	689 (13%)
Importance of dentist reputation	
Very important	3551 (67%)
Important	1458 (27%)
Not important	308 (6%)
Importance of dentist recommendation	
Very important	2620 (49%)
Important	1987 (37%)
Not important	710 (16%)
Importance of dentist characteristics	
Very important	2486 (47%)
Important	2105 (40%)
Not important	726 (14%)
Importance of dentist attire	
Very important	942 (18%)
Important	1861 (35%)
Not important	2514 (47%)
Importance of social media	
Very important	526 (10%)
Important	1232 (23%)
Not important	3559 (67%)
Importance of cost	
Very important	3254 (61%)
Important	1737 (33%)
Not important	326 (6%)
Importance of location	
Very important	2322 (44%)
Important	2081 (39%)
Not important	914 (17%)
Importance of clinic color	
Very important	708 (13%)
Important	1582 (30%)
Not important	3027 (57%)

dentists to younger ones (6%) (see Table 2). There was no effect of the demographic data on the preference of dentist age. Most of the participants (60%) rated this variable as not important when choosing their dentists (see Table 3).

Dentist Rank

Approximately 38% of the participants preferred consultants, while 32% preferred specialists, 24% did not matter to them the dentist rank, and only 5% preferred general dentists (see Table 2). There was no effect of the participants demographic data on the preference of dentist rank, except for the sex and age of the participants, which shows that majority of female participants 44% preferred consultants, while male participants 36% preferred specialists ($p< 0.0001$). Moreover, participants who aged 26 and above preferred consultants whereas participants younger than 25 years preferred specialists. Most of the participants (52%) rated this variable as very important when choosing their dentists (see Table 3).

Dentist Reputation

About 83% of the participants preferred a well-known dentist, while 16% of the participants did not matter to them the dentist's reputation (see Table 2). Most of the participants (67%) rated this variable as very important when choosing their dentists (see Table 3).

Dentist Characteristics

The majority of the participants (78%) stated that they prefer dentists who are explanatory and 22% prefer dentists who are listeners (see Table 2). Most of the participants (47%) rated this variable as very important when choosing their dentists (see Table 3).

Male Dentists' Attire

The majority of the participants (41%) preferred male dentists in scrubs and lab coats, followed by 32% of scrubs only, while 26% preferred formal and lab coats, and only 1% preferred traditional Saudi clothes (see Figure 1). There was a significant difference between male and

Table 4 Association Between the Preferred Dentist's Specialty and the Sex and Age of the Participants

		Variables	Male Dentist	Female Dentist	Does Not Matter	P value*	Total
General Dentist	Age	<21 years old	31.2%	16.7%	52.1%	0001	5317
		22–25 years old	31.3%	20.3%	48.4%		
		26–31 years old	38.5%	18.8%	42.7%		
		32–41 years old	39.1%	22.3%	38.7%		
		>42 years old	40.7%	24.4%	34.8%		
Pedodontist		<21 years old	16.7%	36.2%	47.1%	0001	
		22–25 years old	20.1%	30.5%	49.4%		
		26–31 years old	24.3%	32.8%	43%		
		32–41 years old	30.2%	35.2%	34.6%		
		>42 years old	29.7%	35.7%	34.5%		
Oral and Maxillofacial Surgeon		<21 years old	34.1%	13.8%	52.1%	0001	
		22–25 years old	39.2%	13.1%	47. 7%		
		26–31 years old	49.5%	10.2%	40.4%		
		32–41 years old	56.7%	12%	31.4%		
		>42 years old	64%	10.7%	25.4%		

Note: *Chi square test was used for categorical association.

female participants towards the preferred attire ($p< 0.0001$), as 39% of male participants preferred scrubs only, while 49% of female participants preferred scrub and lab coats (see Table 5). Also, those who were younger than 31 years preferred scrub and lab coat, while older participants preferred scrubs only (see Table 5).

Female Dentists' Attire

Most of the participants (38%) preferred female dentist attire in scrub and lab coat, 28% preferred black skirt and lab coat, followed by 26% preferred formal and lab coat, and only 8% preferred colored clothes and lab coat (see Figure 2). There was a significant difference between different age groups of the participants towards their preferred female attire ($p< 0.0001$) as 33% of participants who aged 42 years old or older preferred black skirt and lab coat, while younger participants preferred scrub and lab coat (see Table 6). Most of the participants (47%) rated this variable as not important when choosing their dentists (see Table 3).

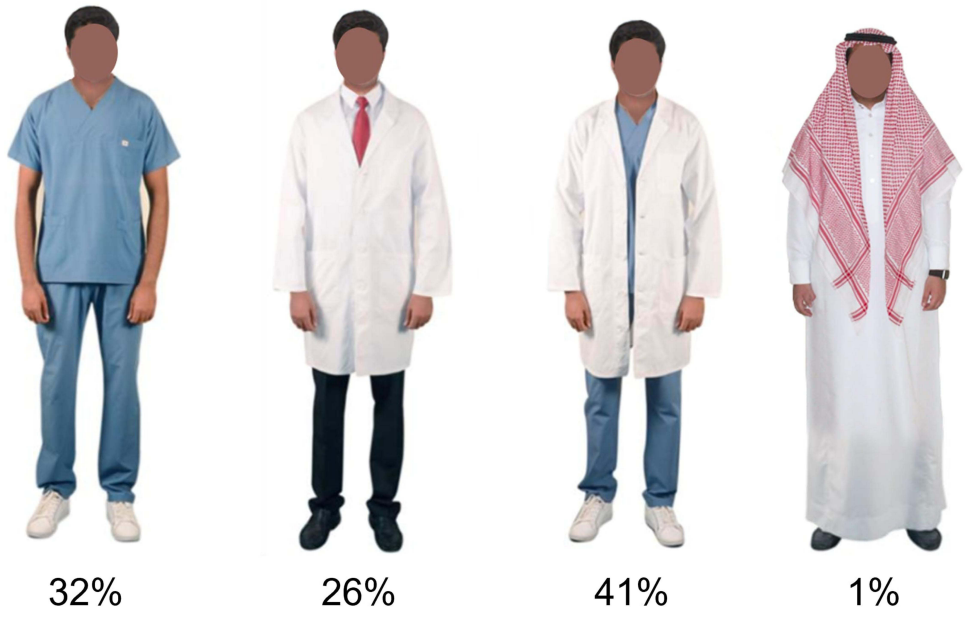

Figure 1 Participants' preferences on male dentist's attire.

Table 5 Association Between the Preferred Male Attire and the Sex and Age of the Participants

		Scrub Only	Formal and Lab Coats	Scrubs and Lab Coats	Traditional Saudi Clothes	P value*	Total
Sex	Male	38.5%	30%	29.5%	1.9%	0001	5317
	Female	26.3%	23.3%	49.3%	1%		
Age	<21 years old	25.6%	25%	47.7%	1.4%	0001	5315
	22–25 years old	24.4%	31%	43.5%	1%		
	26–31 years old	35.5%	24.8%	38.7%	0.8%		
	32–41 years old	41.7%	20.4%	36.4%	1.3%		
	>42 years old	35.4%	28.5%	33.4%	2.3%		

Note: *Chi square test was used for categorical association.

Dentist Social Media Accounts

The majority of the participants (55%) did not matter to them if their dentist has a social media account, while 45% preferred their dentist to have a social media account (see Table 2). It was found that significantly more male participants did not matter to them dentist's presence on social media (63%), while 50% of females preferred dentist with social media account ($p< 0.0001$) (see Table 7). In case the dentist has a social media account, twitter was the most preferred platform (37%), followed by Instagram (31%) (see Table 2). Most of the participants (67%) rated this variable as not important when choosing their dentists (see Table 3).

Clinic Color

White clinic color was the most preferred among the participants by 56%, followed by 30% blue color, 5% equal for both yellow and black colors, then 4% of green color (see Figure 3). There was no difference between the different demographic types toward the preferred clinic color. Most of the participants (57%) rated this variable as not important when choosing their dentists (see Table 3).

Among the tested variables, the majority of the participants rated that recommendation on dentists, treatment cost and clinic location as very important to them when choosing their dentist (see Table 3).

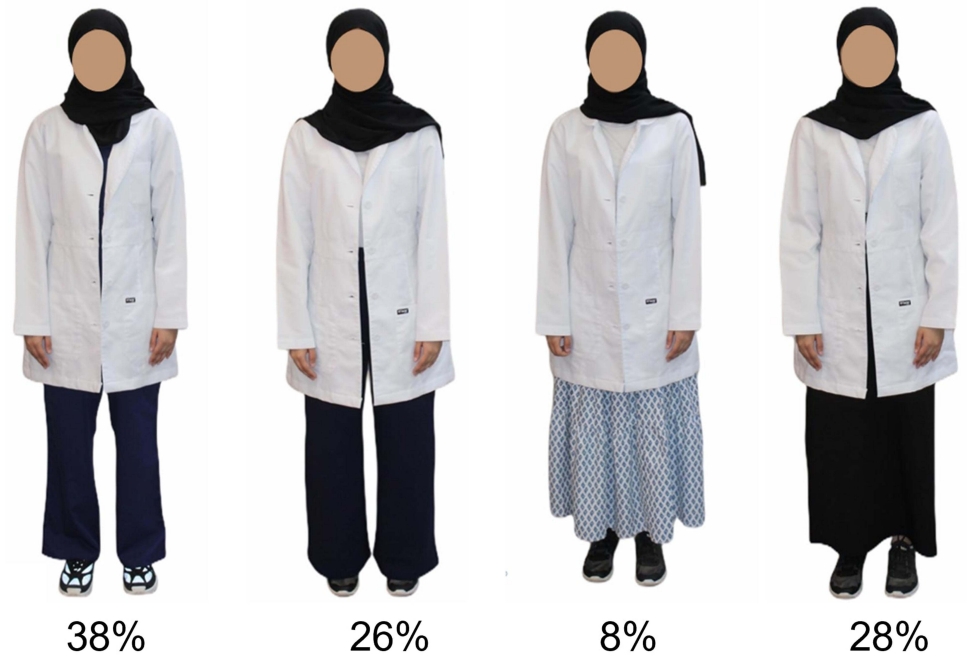

Figure 2 Participants' preferences on female dentist's attire.

Table 6 Association Between the Preferred Female Attire and the Age of the Participants

		Scrub and Lab Coat	Formal and Lab Coat	Colored Clothes and Lab Coat	Black Skirt and Lab Coat	P value*	Total
Age	<21 years old	45.5%	28.8%	2.1%	23.4%	0001	5111
	22–25 years old	42.4%	32.7%	2.8%	21.9%		
	26–31 years old	36.9%	27.5%	4.9%	30.5%		
	32–41 years old	36.9%	19%	10.3%	33.7%		
	>42 years old	25.4%	18.5%	22.8%	33%		

Note: *Chi square test was used for categorical association.

Table 7 Association Between the Preferred Dentist Social Media and the Sex of the Participants

		Prefer Social Media	Does Not Matter	P value*	Total
Sex	Male	36.8%	63%	0001	5317
	Female	50%	49%		

Note: *Chi square test was used for categorical association.

Discussion

This study is one of the first in Saudi Arabia to explore the preference of patients in the selection of their dentists with respect to demographic data of participants. It was conducted on all five regions of Saudi Arabia, and surveyed 5317 participants from different ages, genders, and income levels, aiming to investigate what drives the preference of the Saudi population on their dentists. We found that dentists' nationality and social media interaction are not priority for participants when choosing their dentists. The preferred gender of the dentist differed between different specialties as male OMFS were preferred over female OMFS, while female PDs were preferred over male PDs. We also found that dentists-interaction style, whether explanatory or listener, plays an important role and matters to the patients.

When a patient decides on their treating dentist, they consider different factors such as clinical rank, educational level, years of experience, recommendation from friends or family members and treatment cost.[11] Some of these factors are within the capabilities of a dentist to work on to improve their patients' experience. Understanding these factors is key to the success of dental practices, especially from a business point of view. For instance, clinic location,

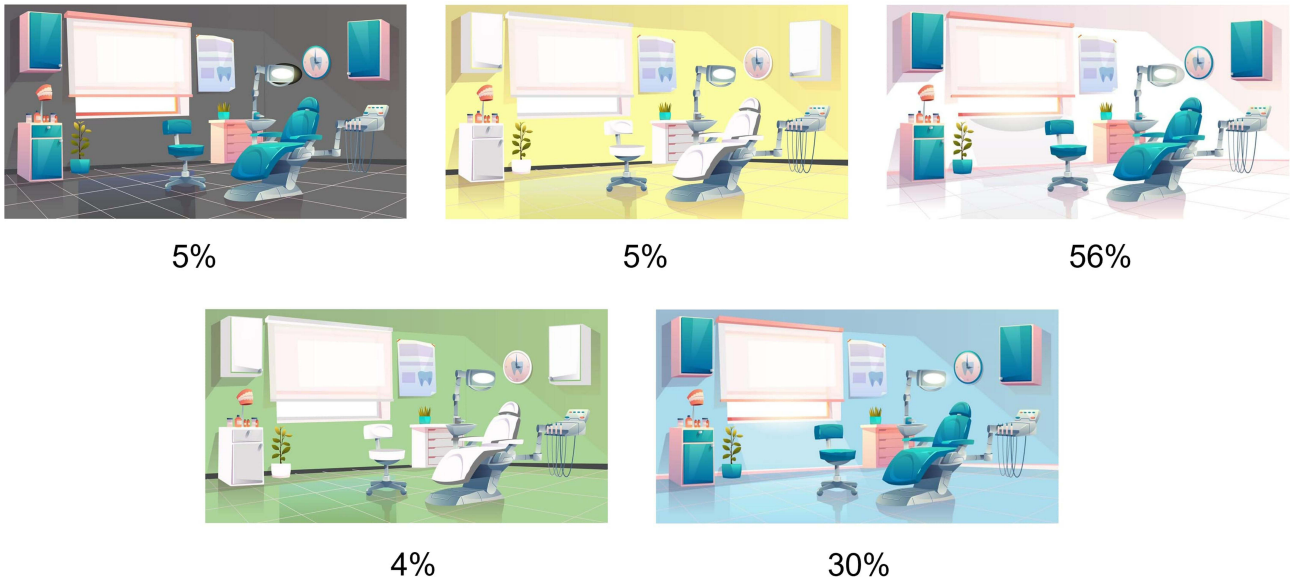

Figure 3 Participants' preferences on different clinic colors.

treatment cost and dentist reputation were found to be very important in our study compared to factors such as presence on social media or the color of the clinic. These results can help dentists to target the areas that matter to patients and hence can improve their financial outcomes.

A previous study conducted in 2014 in Riyadh, Saudi Arabia, investigated the preferences of Saudi population toward the male physician attire. The participants were provided with four pictures of male attire including western dress (shirt, necktie and white coat), surgical scrubs with white coat, surgical scrubs only and the Saudi national dress (thub and shmaq). About 40% preferred western dress, while 33.3% preferred scrubs with a white coat.[12] In contrast, the results in this study showed more preferences toward the scrubs with white coat 41% followed by 32% for the scrubs only and only 26% for the western dress. Moreover, the previous study showed that the attire of the physician was very important for the participants,[12] while in this study, 47.3% of male and 47.2% of female participants did not matter to them the dentist attire, which could reflect the attire is more important for physicians than dentists for Saudi participants.

Recently, many social media platforms were developed, with increasing acceptance by the population. Introducing these social media platforms to market dental services could be beneficial to dental practices. A previous study conducted in Jeddah, Saudi Arabia on a smaller sample (400 participants) found that Snapchat, followed by Instagram, were among the preferred platforms, especially for female patients.[13] In contrast, our study found that Twitter was preferable to other platforms. This could be due to the fact that most of the participants in the previous study were younger than 25 years old and tended to use Snapchat more than other platforms. However, both studies concluded that the presence of dentists on social media is not as important as other factors.[13]

The way dentists communicate with patients during consultation visits plays an important role in the acceptance of patients to their dentists. Almost 90% of the participants in our study rated the personality of the dentists as important to very important when choosing a dentist. A previous study conducted in Jeddah, Saudi Arabia, identified professionalism by four domains according to the patient's perception, of which was practitioners' communication skills.[11] Contributing to that, in the present study, the majority of Saudi prefer explanatory dentists to listeners.

There are few limitations to this study. This research was a cross-sectional study, and such studies are of a low evidence strength. An online survey was used in this study, which could result in a misunderstanding of some questions. We lack information regarding participants who do not respond to this survey and probably have different preferences towards dentist.

Conclusions

Considering the limitations of the study, we concluded that:

1. The dentist's reputation, rank and recommendation are the most important factors for patients selecting their dentist.
2. Social media accounts, dentist age and nationality are the least important factors for patients when selecting a dentist.
3. Most participants preferred dentists who spent more time explaining procedures to their patients.
4. Avoiding dark colors could be considered when designing dental clinics.
5. Wearing scrubs and lab coats and avoiding traditional Saudi clothes might be considered when dental practices plan their attire protocol.
6. The majority of participants preferred specialists and consultants. Hence, further education and postgraduate certificates can benefit dentists in their dental practices.
7. These factors can be considered during the establishment of clinical protocol.

Disclosure

The authors report no conflicts of interest in this work.

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