Oral Hygiene Knowledge, Practice, and Awareness among Jazan Population of Saudi Arabia

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Abstract

Objectives The aim of this study was to assess the knowledge and awareness of oral hygiene among individuals of Jazan, Southern Saudi Arabia using a well-designed questionnaire.

Materials and Methods This prospective study was conducted on 1,000 study subjects using a self-constructed 16-item close-ended questionnaire in English and the reply was recorded by a single investigator. Both the genders were compared in terms of awareness regarding their oral health by evaluating responses to the questions asked.

Statistical Analysis Data collected was subjected to statistical analysis using IBM SPSS 20.0 version.

Results A total of 1000 study subjects were assessed, out of which equal distribution (50%) was seen among both the genders. Statistically a significant difference (p-value < 0.05) was observed between both the genders in relation to most of the questions, with females being more aware as compared with males regarding oral hygiene practices.

Conclusion This study revealed that although females were more aware of maintaining oral health practices than males, still lack of knowledge and awareness was observed among both the genders in Jazan region. Thus, it is essential to implement various educational and awareness programs regarding oral hygiene practices, so that oral health-related quality of life can be improved.

Keywords
- awareness
- Jazan
- knowledge
- oral hygiene

Introduction

For maintaining the well-being of dentition, teeth play a key role in one's life. Healthy dentition is essential for sustaining esthetics and function. Loss of teeth due to periodontal diseases, dental caries, congenital loss, and trauma can cause various deleterious effects like impaired mastication, loss of esthetics, and altered speech. These effects can cause malocclusion and various temporomandibular joint disorders, thus impacting self-confidence, and rising concerns about the look of an individual. Hence, it is essential to maintain the health of oral

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tissues and stomatognathic system, thus improving the quality of life.[1–3]

It has been observed that in many countries, a large number of individuals are ignorant about the prevalence, causes, and prevention of most of the oral diseases. For prevention of various dental ailments, routine dental check-ups are required, so that dental diseases can be taken care off at the earliest. American Dental Association and other dental organizations advise that one should thoroughly brush and floss their teeth at least once a day and get their routine regular oral check-ups done.[4] Chances of progression of oral diseases get increased if gap between dental visits is more, thus leading to various irreversible and painful damage to oral health.[5]

Various researchers have found that the requirement for routine dental check-ups and appropriate use of brushing and flossing are not being promoted in many regions of the world. This lack of awareness and knowledge among people can cause deleterious effects of oral health as well as oral health-related quality of life. It has been found that educated individuals have better oral health condition as they are aware of role of routine dental check-ups. They also follow and implement oral hygiene practices routinely. Routine oral examinations help to detect dental problems at early stages, prevent oral health from getting deteriorating, and also increase awareness about oral health.[6,7]

In Saudi Arabia, in spite of accessibility of free dental services to all Saudi citizens, only 54% individuals seek out emergency treatment.[8] This might be because of dissatisfying public services and lack of awareness and knowledge among citizens. Thus, this study was conducted to assess the knowledge and awareness of oral hygiene among individuals of Jazan, Southern Saudi Arabia using a well-designed questionnaire.

Materials and Methods

This prospective study was conducted in the Department of Oral Maxillofacial Diagnostic Sciences, College of Dentistry, Jazan University, Saudi Arabia, to evaluate the oral hygiene awareness among 1,000 study subjects (500 males and 500 females) aged above 18 years, from 2017 to 2022. Before starting study, the ethical approval was taken from institutional ethical committee (REC42/1/054). Healthy individuals either male or female, with Status I (American Society of Anaesthesiologists), were selected for the study, whereas individuals who are developmentally delayed or congenitally impaired were excluded from the study. Included subjects were explained about the study and a written informed consent was taken.

A self-constructed 16-item close-ended questionnaire was asked to all subjects above in English and the reply was recorded by a single investigator. Validity of questionnaire was assessed and found to be appropriate ($\alpha = 0.85$). The study was done to assess awareness among individuals related to maintenance of oral health by evaluating responses to the questions asked. Both the genders were compared in terms of awareness regarding their oral health.

Statistical Analysis

Data collected was subjected to statistical analysis using IBM SPSS 20.0 version. Descriptive statistics (frequencies and percentages) were used to describe the categorical variables. Chi-squared test for independent samples was used to compare the qualitative outcome variables.

Results

In this study, a total of 1,000 study subjects were assessed, out of which equal distribution (50%) was seen among both the genders (►**Table 1**). Both the genders were compared in relation to the knowledge regarding frequency and type of brushing using a well-framed 16-item questionnaire. The use, type, and change of tooth brushes and interdental aids were also asked. Study subjects were asked about their practice of oral hygiene and awareness regarding the maintenance of their oral hygiene status. Questions were asked about cleanliness of teeth, tongue, and interdental areas. They were also questioned about their regular visit to dentists. Statistically a significant difference (p-value < 0.05) was observed between both the genders in relation to most of the questions, with females being more aware as compared with males regarding oral hygiene practices (►**Table 2**).

Discussion

Epidemiological data related to awareness and knowledge regarding oral hygiene practices among both male and female residents of Jazan has not been published online previously. This questionnaire-based survey was done to gather such information among the residents to help in establishing various educational and awareness oral health programs. This study revealed that both the genders lack appropriate knowledge and awareness regarding use of oral hygiene measures like tooth brushes and interdental aids. We also observed that individuals were also unaware about frequency and method of tooth brushing. They were also not much aware about when to change tooth brushes and what kind of tooth brushes are best to maintain oral health. Most of the males were suffering from bleeding gums and females from bad breath.

We observed that individuals of both groups visited dentist in case when they encountered dental problems. Similar to our study, Kamil et al[4] observed similar attitude among 58.2% of the student participants of Jazan University, Saudi Arabia, who visited dentist only for getting treatment for pain. This explains the prevalence of common attitude among students and common public, showing lack of awareness among individuals of Jazan. Al-Johani[9] and Sharma

Table 1 Distribution of study subjects according to gender (►**Fig. 1**)

Gender	Frequency (*n*)	Percentage (%)
Female	500	50
Male	500	50
Total	1000	100

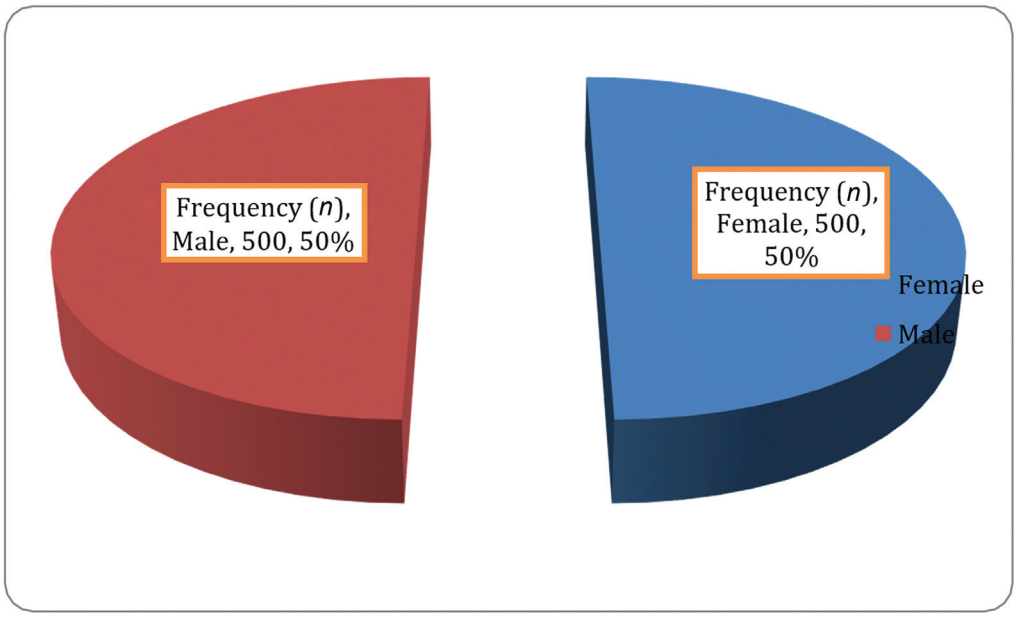

Fig. 1 Distribution of the study subjects according to gender.

et al[10] found that 56.9 and 36% of the individuals of Saudi and Indian community, respectively, report to dentist only in case of pain.

In our study, most of the subjects clean their teeth using brush and paste. It was seen that they brush their teeth only once daily. Similar findings were observed in a study by Jain et al,[11] Dilip,[12] Jiang et al,[13] Al-Shammari et al,[14] and Zhu et al.[15] We also found that most of the male subjects do not even use brush for cleaning their teeth; those who use tooth brush, do brushing with horizontal technique. Similar findings were seen in study by Jain et al,[11] and Zhu et al.[15] Researchers also found that horizontal brushing can cause damage to teeth and periodontal tissues because of harmful abrasive forces.

In this study, most of the males do not brush their teeth and those who brush were even unaware of use of soft brush. They either never noticed what brush they were using and few were using hard bristle tooth brush. A significant difference (p-value < 0.05) was seen in relation to awareness among females, most of them use hard, followed by medium and soft bristle tooth brushes. In accordance with our study, Jain et al,[11] and Zhu et al[15] found that only 10 and 30% of the subjects were using soft brush. In our study, most of the subjects change their tooth brush, once it gets useless. Similar unawareness was seen in an Indian study by Jain et al,[11] who found that maximum subjects change their tooth brush only when it is useless, and 30% change their toothbrush once in 3 months.

We observed that most of the study subjects clean their tongue and rinses their mouth after eating food. In relation to interdental cleaning, most of them were aware of it, but unaware of interdental cleaning aids. It was strange to notice that most of the males used tooth picks as interdental cleaning aid. Both the genders lack awareness about use of dental floss for interdental cleaning. Similar results were seen by Jain et al,[11] and Jamjoom et al[16] who observed a failure in using dental floss as a preventive tool among Indian and Saudi population, respectively.

In our study, both the genders were unaware of the use of mouth washes for oral hygiene. Similarly, Jain et al[11] found that only 10% individuals use mouth washes that too for reducing malodor. We observed that maximum subjects were suffering with malodor and bleeding gum, because of which all of them want to get their teeth cleaned. Jain et al[11] found that 80% subjects reported with halitosis and 40% with bleeding gums. Similar reports were also observed in studies by Buhlin et al[17] and Gilbert and Nuttall.[18] In studies by Nagarajan and Pushpanjali,[19] Tervonen and Knuuttila,[20] and Kallio et al[21] contrasting results were observed showing that most of the subjects did not even noticed bleeding from gums.

Unsurprisingly, oral health standards are very poor in Jazan population, lacking appropriate knowledge and awareness about oral hygiene maintenance. We observed a wide gap in education of public because of missing awareness about the vital role of routine dental checkups to prevent and diagnose the dental ailments at the earliest. This emphasizes an urgent requirement to educate and motivate the public for proper oral health care. Being dental health professionals, it is our basic duty to motivate, educate, and make aware public about oral health maintenance and timely visits to dentist.

Conclusion

This study provides the background data to understand the status of knowledge and awareness of oral hygiene among individuals of Jazan region. The survey revealed that there is lack of knowledge and awareness among both the genders in Jazan region. Government should take necessary steps regarding reducing gaps of lack of education and missing regular dental visits. It is essential to implement various educational and awareness programs regarding oral hygiene

Table 2 Distribution of responses by both the genders in terms of questionnaire

Questionnaire		Male		Female		Statistical analysis	
Questions	Responses	Frequency (*n*)	Percentage (%)	Frequency (*n*)	Percentage (%)	Chi-square	*p*-Value
1) Do you clean your teeth	No	103	20.6	41	8.2	2.229	0.002[a]
	Yes	397	79.4	459	91.8		
2) Do you have bleeding gums	No	40	8.0	64	12.8	1.001	0.042[a]
	Yes	460	92.0	436	87.2		
3) Teeth cleaning method	Does not clean the teeth	103	20.6	41	8.2	2.717	0.037[a]
	Use miswak	152	30.4	111	22.2		
	Use paste and brush	245	49.0	348	69.6		
4) Change of brush	Do not use brush	253	50.6	154	30.8	1.551	0.046[a]
	Once in 3 months	44	8.8	52	10.4		
	Once in 6 months	28	5.6	37	7.4		
	Once in a year	40	8.0	38	7.6		
	Once useless	135	27.0	219	43.8		
5) Cleaning of tongue	No	65	13.0	131	26.2	1.448	0.033[a]
	Yes	435	87.0	369	73.8		
6) Do you change brush	Do not use brush	253	50.6	151	30.2	2.768	0.001[a]
	No	3	0.6	87	17.4		
	Yes	244	48.8	262	52.4		
7) Do you want to get your teeth cleaned	No	0	0	0	0	-	-
	Yes	500	100.0	500	100.0		
8) Frequency of brushing	Do not use brush	103	20.6	41	8.2	2.255	0.038[a]
	More than thrice	17	3.4	0	0		
	Occasionally	130	26.0	62	12.4		
	Once daily	205	41.0	275	55.0		
	Twice daily	45	9.0	122	24.4		
9) Knowledge of interdental aids	No	95	19.0	103	20.6	1.114	0.056
	Yes	405	81.0	397	79.4		
10) Use of mouth wash	No	373	74.6	353	70.6	1.617	0.068
	Yes	127	25.4	147	29.4		
11) Do you rinse your mouth after eating	No	23	4.6	56	11.2	2.660	0.011[a]
	Yes	477	95.4	444	88.8		

Table 2 (*Continued*)

Questionnaire		Male		Female		Statistical analysis	
Questions	Responses	Frequency (*n*)	Percentage (%)	Frequency (*n*)	Percentage (%)	Chi-square	*p*-Value
12) Bad smell from the mouth	No	93	18.6	65	13.0	1.007	0.062
	Yes	407	81.4	435	87.0		
13) Type of brush used	Do not use brush	253	50.6	151	30.2	2.443	0.044[a]
	Hard	78	15.6	185	37.0		
	Medium	13	2.6	25	5.0		
	Soft	0	0	23	4.6		
	Never noticed	156	31.2	116	23.2		
14) Type of brushing technique used	Circular	25	5.0	38	7.6	1.549	0.029[a]
	Combined	7	1.4	41	8.2		
	Do not use brush	253	50.6	151	30.2		
	Horizontal	215	43.0	245	49.0		
	Vertical	0	0	25	5.0		
15) Use of various interdental aids	Dental floss	43	8.6	90	18.0	1.004	0.046[a]
	No idea about the interdental aids	98	19.6	267	53.4		
	Wooden tooth pick	359	71.8	143	28.6		
16) Visit to the dentist	Never	10	2.0	15	3.0	1.223	0.018[a]
	Once in 3 months	0	0	17	3.4		
	Once in 6 months	0	0	8	1.6		
	Once in a year	14	2.8	3	0.6		
	Only in problem	476	95.2	457	91.4		

[a]*p*-Value < 0.05 is significant.

practices. Dental healthcare workers should take keen steps in providing education to common public regarding healthy oral hygiene practices, regular dental checkup visits, and role of early interventions, so that oral health-related quality of life can be improved.

Conflict of Interest
None declared.

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