

An Evaluation of the Current Oral Hygiene Practices and Attitude toward Oral Health in the Population of HAIL, KSA

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Abstract: The main propose of this study was to evaluate the oral health awareness and knowledge of hygiene practices and attitude among population of Hail region in north part of Kingdom of Saudi Arabia toward the general oral health. A cross-sectional questionnaire survey was conducted among Hail region population in Saudi Arabia. A 16 multiple-choice questionnaire was provided online to patients attending dental clinics in Hail region, KSA. A total of 400 individuals participated in the study of which 27.2% were males and 73.8% were females. The results of our research provide essential info about oral health-related knowledge, attitude and methods among population sample of Hail, KSA. The information provided in this research contributes to our understanding of the common dental hygiene practices which are executed among population. Understanding of the oral healthcare expert's in the area they are practicing. Hence we advise that oral health awareness should be enhanced among dental populace.

Keywords: oral health awareness, Hail region population, cross-sectional questionnaire survey.

1. INTRODUCTION

Dental diseases make up public health issue in establishing nations due to their high prevalence, economic effects, as well as negative impact on the lifestyle of afflicted people ⁽¹⁾. Oral diseases negatively impact concentration, interpersonal connection, and productivity because of the detailed connection between dental health and wellness and also general wellness. Prevention of dental condition can be accomplished by maximizing the oral health methods in the form of appropriate tooth brushing, use dental floss, dental sees at routine periods, and also correct nutritional practices ⁽²⁾.

Oral care, as part of general health and wellness self-care, comprises vast spectrum of activities ranging from avoidance, medical diagnosis, as well as care to looking for professional care. Dental self-care methods have been confirmed to be a reliable preventive measure at specific level for keeping great oral health and wellness as a part of basic health ⁽³⁾. To boost the oral health of population, the WHO has actually set the promotion of self-care as one of the goals for the year 2020 ⁽⁴⁾.

The understanding of real practices in maintaining the oral health at basic based upon individuals' understandings of dental healthcare is vital. Dental wellness is about more than beaming white teeth and also pleasant breath. The methods as well as viewed gain access to barriers have actually been associated with dental wellness ⁽⁵⁾. Person's assumption of the top quality of oral care arrangement as well as their intent on re-accessing an oral solution could be connected with a specialist's expertise, compassion, and also distribution of dental hygiene recommendations ⁽⁶⁾. Person's concerns and knowledge relating to dental wellness affect the oral health and wellness status of a particular individual. It is expected that the problem of private towards his/her mouth and also the mindset to dentists that give routine in addition to emergency dental care would play a crucial duty in establishing their dental wellness condition ⁽⁷⁾.

The dental health and wellness specialists could play a vital function in the dental health education of their good friends, people, as well as households; as well as at the community levels. Nevertheless, before dental health and wellness experts play a role as oral health educators, it is essential to understand the degree of their own understanding, mindset, as well as actions toward oral health and wellness ^(8,9).

The main propose of this study was to evaluate the oral health awareness and knowledge of hygiene practices and attitude among population of Hail region in north part of Kingdom of Saudi Arabia toward the general oral health.

2. METHODOLOGY

Study design:

A cross-sectional questionnaire survey was conducted among Hail region population in Saudi Arabia

Data collection:

A 16 multiple-choice questionnaire was provided online to patients attending dental clinics in Hail region, KSA. A total of 400 individuals participated in the study of which 27.2% were males and 73.8% were females. The questionnaire included basic information related to the patient’s name, age, sex, education. The questions then categorized later on according to analysis to three groups by Gender, age and level of education. to see whether any of these factors have a significant on awareness and attitude toward oral health.

Statistical analysis:

The data obtained in this manner from questionnaires were analyzed statistically to obtain the results in terms of percentages and significances. Chi-square analyses were conducted using the SPSS version 21. Analysis were performed comparative to three groups A. Gender, B. Age, C. Level of education.

3. RESULTS

The population under study consisted mainly of individuals living in among general population of Hail city or region in Saudi Arabia. A total of 16 subjects were examined via self-administrating questionnaire and 400 participants performed self-evaluation to our study. Of these 109 (27.3%) were males, 219 (72.8%) were females (**Table 1**).

Table1: Gender destruction among study

Frequency	Percent	Valid Percent	Cumulative Percent
109	27.3	27.3	27.3
291	72.8	72.8	100.0
400	100.0	100.0	

(**Figure 1**) shows the distribution of educational level. Majority of participants 221 (55.3%), were carrying bachelor degree, followed by 78 (19.5%) who have attended up to high school, Other education levels were count as primary education which were only 11 participants in this study, however, mid school education level with diploma were 22.6% count as 11.3% for each level. The difference in the distribution of educational level among population was statistically significant.

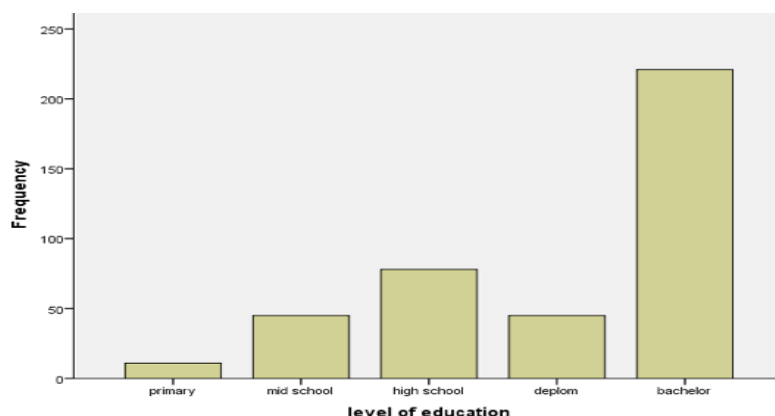


Figure 1: Education levels among population of this study

The third group distribution of our studies were Age group, and this was arranged into age intervals as shown in (Table 2), showing the highest age group were between (21-30 years old) with (43.3%) which means 173 out of 400 participants of this study populations, followed by young participants (10-20 years old) with (29%) meaning 116 participants.

Table 2: Participants age distribution

Age	Frequency	Percent	Valid Percent	Cumulative Percent
10-20	116	29.0	29.0	29.0
21-30	173	43.3	43.3	72.3
31-40	61	15.3	15.3	87.5
41-50	44	11.0	11.0	98.5
more than 50	6	1.5	1.5	100.0
Total	400	100.0	100.0	

A large proportion of participants ($n = 356, 89\%$) reported with positive knowledge toward oral hygiene practices (Table 3), however, there was no statically significant different between males and females when comparing genders knowledge towards previous knowledge toward oral hygiene practices (Table 4). According the education levels there were no significant differences between level of education in reporting their previous awareness and knowledge toward this matter.

Table 3: Previous knowledge of oral hygiene practice among study population

	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	356	89.0	89.0	89.0
No	44	11.0	11.0	100.0
Total	400	100.0	100.0	

Table 4: Previous knowledge of oral hygiene practice among participants according to their Gender

Gender	previous knowledge of oral hygiene practices		Total
	yes	no	
Male	88	21	109
Female	268	23	291
Total	356	44	400

Most of the patients ($n = 178, 44.5\%$) reported cleaning their teeth twice daily followed by those who only clean their teeth once a day ($n = 166, 41.5\%$), but only 55 (13.8%) participant out of 400 they clean their teeth three time daily. Majority of the males ($n = 50$) reported once daily oral hygiene practice whereas twice daily oral hygiene practice was more common among females ($n = 132$). There were highly statistically significant ($P < 0.225$) according to Chi-Square Tests differences between females and males with respect to the frequency of cleaning teeth (Table 5&6). Moreover, there was also highly significant different between level of education and the times of daily teeth cleaning since the ($P < 0.001$), as well as in correlation to the age group Chi-Square Tests showed that the P value is significant higher as the age group increases (Table 7&8).

Table 5: Daily teeth cleaning among study population

	Frequency	Percent	Valid Percent	Cumulative Percent
Once	166	41.5	41.5	41.5
Twice	178	44.5	44.5	86.0
Three	55	13.8	13.8	99.8
Four	1	.3	.3	100.0
Total	400	100.0	100.0	

Table 6: Daily teeth cleaning among study population (Gender distributions)

Gender	Time of cleaning teeth per day				Total
	one	twice	three	4	
male	50	46	12	1	109
female	116	132	43	0	291
Total	166	178	55	1	400

Table 7: Daily teeth cleaning among study population according to level of education

level of education	Time of cleaning teeth per day				Total
	one	twice	three	4	
primary	5	5	1	0	11
mid school	19	22	3	1	45
high school	38	28	12	0	78
diploma	24	16	5	0	45
bachelor	80	107	34	0	221
Total	166	178	55	1	400

Table 8: Daily teeth cleaning among study population according to Age group

Age Group	Time of cleaning teeth per day				Total
	one	twice	three	4	
10-20	40	63	12	1	116
21-30	78	74	21	0	173
31-40	24	24	13	0	61
41-50	21	15	8	0	44
more than 50	3	2	1	0	6
Total	166	178	55	1	400

The use of toothpaste and toothbrush ($n = 374, 93.5\%$) was reported to be the most common cleaning aid for oral hygiene among the study population (**Table 9**). There were statistically significant gender differences with regards to the use of cleaning aids among the study participants so females were significantly higher ($P < 0.159$), and due to the participants are mostly female, reported use of toothbrush in comparison to males. Whereas the use of Finger and toothpowder/toothpaste was the same among males when compared to females (**Table 10**). However, there was no significant difference between the population with different education level in using the toothbrush as the most commonly use Oral hygienic aid (**Table 11**)

Table 9: Types of oral hygiene aid used by study population

Oral hygiene aids	Frequency	Percent	Valid Percent	Cumulative Percent
toothbrush	374	93.5	93.5	93.5
miswak	14	3.5	3.5	97.0
finger	6	1.5	1.5	98.5
others	6	1.5	1.5	100.0
Total	400	100.0	100.0	

Table 10: Use of Oral hygiene aid used by study population according to Gender

Gender	Oral hygiene aid				Total
	toothbrush	miswak	finger	others	
Male	97	6	3	3	109
Female	277	8	3	3	291
Total	374	14	6	6	400

Table 11: Use of Oral hygiene aid used by study population according to level of education

Level of education	Oral hygiene aid				Total
	toothbrush	miswak	finger	others	
primary	10	0	0	1	11
mid school	41	2	1	1	45
high school	72	4	2	0	78
diploma	42	2	0	1	45
bachelor	209	6	3	3	221
Total	374	14	6	6	400

Soft type of toothbrush was most commonly reported among the study population as 48.5%, followed by the medium type as 40% (Table 12), results among the three different categories were not interesting and was nor significant differences between the gender not even the level of education has any significant values in choosing the type of toothbrush, moreover, the age group did not show any significant changes between the age intervals.

Table 12: dental brush types used by study participants

	Frequency	Percent	Valid Percent	Cumulative Percent
soft	194	48.5	48.5	48.5
hard	43	10.8	10.8	59.3
medium	160	40.0	40.0	99.3
4	2	.5	.5	99.8
11	1	.3	.3	100.0
Total	400	100.0	100.0	

(Table 13) showing that toothpaste was the most common dentifrice used among this study population from Hail region, since 95% of them reported using toothpaste. However, this study did not find that there is a significant different in any of the three groups (Gender, Level of education, and Age group) using toothpaste.

Table 13: dentifrice use by study population

	Frequency	Percent	Valid Percent	Cumulative Percent
toothpaste	382	95.5	95.5	95.5
charcoal	7	1.8	1.8	97.3
salt and lemon	3	.8	.8	98.0
others	8	2.0	2.0	100.0
Total	400	100.0	100.0	

Majority of participants 166 (41.5%) reported that they change their toothbrush once every 3 month, almost the same percentage (40.8%) are changing the brush when it was useless (Table 14). In this question there was no significant in correlation to any of the three groups (Gender, Level of education, and Age group) as well.

Table 14: Frequency of changing brush

	Frequency	Percent	Valid Percent	Cumulative Percent
when useless	163	40.8	40.8	40.8
every 3 months	166	41.5	41.5	82.3
every 6 months	71	17.8	17.8	100.0
Total	400	100.0	100.0	

Concerning the interdental cleaning, this study showing that floss was the most commonly reported to be used among the population (46.8%), then wooden pick comes next with (35%) (Table 15). In gender group males were significantly higher than females in the use of wooden pick, and floss was more commonly among females rather than males, also the

interdental brush females showed significant differences (Table 16). At the other two groups (level of education and age groups there was no significant differences showing in our results.

Table 15: Types of interdental cleaning were used

	Frequency	Percent	Valid Percent	Cumulative Percent
wooden pick	140	35.0	35.0	35.0
floss	187	46.8	46.8	81.8
interdental brush	67	16.8	16.8	98.5
no use	6	1.5	1.5	100.0
Total	400	100.0	100.0	

Table 16: Type of interdental cleaning used in correlation to gender group

Gender	Type of interdental cleaning used				Total
	wooden pick	floss	interdental brush	no use	
Male	45	47	13	4	109
Female	95	140	54	2	291
Total	140	187	67	6	400

During oral hygiene practices more than 66.5% reported that they don't use the mouthwash, when only 33.5% stated the use of mouthwash (Table 17). There were no significant differences between the males and females in stating that they don't use mouthwash during dental cleaning, the same with other the level of education (Table 18).

Table 17: Use mouthwash during oral hygiene practices

	Frequency	Percent	Valid Percent	Cumulative Percent
yes	134	33.5	33.5	33.5
no	266	66.5	66.5	100.0
Total	400	100.0	100.0	

Table 18: Gender distribution according to the use of mouthwash

level of education	Use of mouthwash		Total
	Yes	No	
primary	4	7	11
mid school	22	23	45
high school	22	56	78
diploma	16	29	45
bachelor	70	151	221
Total	134	266	400

As showing in (Table 19&20) most patients 73% reported visiting dentist was because of feeling pain in their teeth, when only 13.5% visiting dentist only if they have irregular teeth, the opposite were showing in the reasons that they could not visit dentist clinic most of participants 44% mentioned they reason was because they fear the pain caused in the dentist clinic, but 31% showed the lack of time was the reason behind that.

Table 19: Reasons of visiting dentist

	Frequency	Percent	Valid Percent	Cumulative Percent
pain	292	73.0	73.0	73.0
regular checkup	51	12.8	12.8	85.8
irregular teeth	54	13.5	13.5	99.3
friend's advice	3	.8	.8	100.0
Total	400	100.0	100.0	

Table 20: Reasons of not visiting the dentist

	Frequency	Percent	Valid Percent	Cumulative Percent
fear from pain	176	44.0	44.0	44.0
high cost	95	23.8	23.8	67.8
lack of time	124	31.0	31.0	98.8
others	5	1.3	1.3	100.0
Total	400	100.0	100.0	

Most of study population 82.3% reported they only visit the dentist when they only have problem, when only 7% stated that they visit dentist once every 6 months (Table 21), and there were no significant differences at any level between the categories of the three groups of studies.

Table 21: Frequency of visiting the dentist

	Frequency	Percent	Valid Percent	Cumulative Percent
only when problem	325	81.3	81.3	81.3
once in 3 months	33	8.3	8.3	89.5
once in 6 months	28	7.0	7.0	96.5
do not visit	14	3.5	3.5	100.0
Total	400	100.0	100.0	

4. DISCUSSION

In our study 400 participated in the conducted self-administration questionnaire, A large proportion of participants ($n = 356$, 89%) reported with positive knowledge toward oral hygiene practices, and most of the patients ($n = 178$, 44.5%) reported cleaning their teeth twice daily. Majority of the males ($n = 50$) reported once daily oral hygiene practice whereas twice daily oral hygiene practice was more common among females ($n = 132$). There were highly statistically significant ($P < 0.225$) according to Chi-Square Tests differences between females and males with respect to the frequency of cleaning teeth. In our research there was no substantial distinctions in gender in connection to transforming the tooth brush, neither the degree of education. When similar research study⁽¹⁰⁾ revealed that a lot of the people transformed their tooth brush once in 3 months ($n = 124$, 49.6%). There were sex differences in connection with alter of toothbrush that were statistically significant ($P < 0.05$) with women (53.4%) more often altering their toothbrush every 3 months in contrast to males (46.3%) and also 24.1% females changing their tooth brush when every 6 months in comparison to 12.7% men.

Studies showed similarity in outcomes and also as Hill, et al.⁽¹⁰⁾ revealed that using dental health helps could enhance tooth cleaning effectiveness gave that cleaning is adequately thorough as well as performed at proper periods. Tooth cleaning and also flossing are reported to be essential to lower the quantity of bacterial plaque as well as its virulence capacity and, considering that they are effective and simple, they are considered the pillar of self-prevention technique^(10,11,13). The effectiveness of cleaning when it comes to plaque removal is determined by three primary elements: the design of the brush, the skill of the person making use of the regularity and also the brush and duration of use^(9,11). There have been numerous evaluations on dental hygiene techniques, the most usual tooth brushing frequency described in these researches were 1-2 times/day. Numerous researches have revealed the efficiency of routine dental flossing for removing inter-dental plaque and also avoiding calculus formation⁽¹⁴⁾.

5. CONCLUSION

The results of our research provide essential info about oral health-related knowledge, attitude and methods among population sample of Hail, KSA. The information provided in this research contributes to our understanding of the common dental hygiene practices which are executed among population. Understanding of the oral healthcare expert's in the area they are practicing. Hence we advise that oral health awareness should be enhanced among dental populace.

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