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Original Article

Dentistry Section

Self-perception Regarding Oral Health Status in Relation with Socioeconomic Determinants: A Study from Hail, Saudi Arabia

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ABSTRACT

Introduction: Achieving satisfactory oral health is a subjective state; despite improvement and advances in health, disparities in oral health still occurs. Identification of determinant of health is an initial step to know insights of certain locality.

Aim: To determine the perception of oral health status amongst respondent of Hail region based on gender, age, level of education and income.

Materials and Methods: It was a cross-sectional study conducted from June 2019 to August 2019. The sample (n=412) was selected through non-probability convenient sampling technique. Components of oral health survey questionnaire designed by World Health Organisation, was used as study tool to measure the perception of respondent's. Data were displayed as number and percentage. Chi square test was used to measured the association of different oral health determinants. p-value <0.05 was considered significant.

Results: Females {84 (62%)} perceived a good oral health status than males {52 (38%)} with p=0.013. The perception of 18-28 years old participants was 33%, and 49 years old and more was 12%, i.e., with increasing age, perception toward oral health status was decreasing. University level of education participants (46%) perceived an excellent oral health. Majority of participants 163 (39%) with high income group perceived a good oral health. The education level and amount of income were also found to be statistically associated in determining respondent's perception towards their oral health status.

Conclusion: Perception of oral health found to be associated with the age, gender, level of education and income. Female gender, higher level of education and good income contributes to good oral health perception while increasing age inversely affects the oral health perception.

Keywords: Health determinants, Oral health, Perception, Saudi Arabia socioeconomic status

INTRODUCTION

It has been expected from healthy individuals that their oral health-related knowledge is up to the mark and they are maintaining good oral hygiene [1]. Many studies on perception of oral health were based on two components, either they were on oral health need assessment or on self-perceptions [2]. Conversely, an educated individual with good socio-economic status will visit the dentist every six months for a routine check-up, and follow-up, etc., [3]. The authors have classified the perception of oral health status among three different groups that are gender, education and income that were studied over years and have given their theories based on the result and findings [4].

The gender-based studies have shown that females had more positive approach towards their oral health with regular visits to dentists and have sufficient knowledge about proper tooth brushing techniques [5]. Women usually perceive oral health as self-grooming habit, improving their health-related quality of life [6]. Gender conscientiousness, in oral health, depends upon individual outlooks to oral health. Furthermore, understanding the intellectual behaviours and thinking of males and females would accelerate dental tactics in modifying oral health behaviour of both genders, thus contributing to lifelong health maintenance [7,8].

The different studies on oral health status have also found the literacy as another potent factor when it comes to oral health status because it aids to understand the cause, and consequences of poor oral health, and also acquire and implement important aspects of positive oral self-care behaviours [9]. Lack of oral health literacy can create a substantial obstacle to communicate with Public health advisors to prevent oral disease and promote oral health. An improved literacy level in a community develops aptitudes of the individual to grasp and acclimatise to healthy lifestyle practices and decrease menace behaviours [10]. Evidence has shown that people without the knowledge of health are making unfair decisions about their health and are more susceptible to diseases and have inferior health outcomes [11]. A study conducted in 2014 shown that Rapid Estimate Of Adult Literacy In Dentistry-30 (REALD-30) score was below 22 for nearly 29% of the participants. Moreover, a substantial amount of people have a low knowledge of oral health which conceivably hinders with their aptitude to process and understand the importance of having a sound oral health status [12].

Likewise, lack of income is another determinant to affect both practical and societal proportions in a community possibly through a psychological and social pathway [13]. A study conducted in 2017 among Brazilian adolescents explored the worst possible health outcomes among people with poor socio-economic status. The findings indicated that at least one of the negative oral health factor exists in the lower-income group [14].

The present study aimed to investigate the association of gender, age, level of education and income on self-perception of oral health status among the Hail city population. To, the best of authors' knowledge this is the first study of its kind in Hail, Saudi Arabia.

MATERIALS AND METHODS

It was a cross-sectional study which was conducted in Hail city, that is located in the north of Saudi Arabia with a population of nearly 600,758. The study ethical approval was taken from the Ethical Committee of the University of Hail, having an approval number H-2016-046. The study was carried out from June 2019 to August 2019. The only inclusion criteria were the Saudi adults of 18 years

age and above living in the Hail city. People with disability, pregnant women, patients underwent oral prophylaxis and any systemic disease were excluded.

Study tool for the present study was a questionnaire, adapted from the oral health basic survey methods, developed by World Health Organisation (WHO) [1]. The modified version of the questionnaire was face and content validated by a group of field specialists. Reliability was measured through Cronbach's alpha test, which yielded the internal consistency value 0.74 that lies in the acceptable category. Written Informed consent was obtained. The representative sample (n=414) of the population was collected through non-probability convenient sampling technique. Most of study participants were the patients and visitors attending the clinics of Hail College of dentistry.

STATISTICAL ANALYSIS

Data was decoded and analysed using Statistical Package of Social Sciences (SPSS) version 21.0. Descriptive data were displayed as number and percentages. Pearson's chi-square test was used to measure the association between various variables such as genders, level of education, income and age group. p-value <0.05 was statistically significant.

RESULTS

The mean age of the study sample was 37.2±18.1 years. A total number of 450 questionnaires were sent and 414 questionnaires were received (response rate=92%). After the exclusion of two questionnaires with missing data, 412 questionnaires were selected in the study. The demographic data of the respondents are presented in [Table/Fig-1].

Demographics/characteristics	No. (%) of respondents
Gender	
Male	168 (40.8%)
Female	244 (59.2%)
Age in Years	
18-28	136 (33.0%)
29-38	93 (22.6%)
39-48	132 (32.0%)
>49	51 (12.4%)
Income per month in Saudi Riyals (SR)	
Less than 1000	94 (22.8%)
1000-5000	81 (19.7%)
5000-10000	74 (18.0%)
10000 and more	163 (39.5%)
Education level	
No formal schooling	2 (0.5%)
Primary school completed	8 (1.9%)
Secondary school completed	8 (1.9%)
High school completed	134 (32.5%)
College/university and Postgraduate degree completed	260 (63.2%)
Oral health status	
(Teeth Gums)	
Excellent	30 (7.3%)
Very good	103 (25.0%)
Good	136 (33.0%)
Average	87 (21.1%)
Poor	37 (9.0%)
Very poor	15 (3.6%)
Don't know	4 (1.0%)

[Table/Fig-1]: Demographic characteristics of respondents (n=412).

The most of participants 136 (33%) were having a good oral health status according to their perception and most of them were females 84 (62%). The least count of participants said that they don't know 4 (1%), all of them were females 4 (100%) The perception regarding oral health status was statistically significant amongst gender, "p=0.013" [Table/Fig-2].

	Condition	Gender		Total	p-value
		Male	Female		
Oral health status	Excellent	14 (47%)	16 (53%)	30 (7%)	0.013
	Very good	33 (32%)	70 (68%)	103 (25%)	
	Good	52 (38%)	84 (62%)	136 (33%)	
	Average	37 (43%)	50 (57%)	87 (21%)	
	Poor	23 (62%)	14 (38%)	37 (9%)	
	Very poor	9 (60%)	6 (40%)	15 (4%)	
	Do not know	0 (0%)	4 (100%)	4 (1%)	
Total		168 (40.8%)	244 (59.2%)	412 (100%)	

[Table/Fig-2]: Assessment of participants' oral health status related to gender. Chi square test was used

Overall 136 (33%) respondents perceived their oral health status as good, this finding was also consistent in all the age groups except 18-28 years old in this age group majority of the participants 50 (37%) perceived their oral health status as very good. The perception regarding oral health status was statistically significant amongst different age groups, "p=0.001" [Table/Fig-3].

The result of the present study indicated that those who perceived oral health status as good was mostly 88 (65%) belong to higher education level group. The perception regarding oral health status was statistically significant amongst groups with different level of education, "p=0.008" [Table/Fig-4].

Among participants who perceived their oral health status as excellent/very good or good most of them were from high-income status as indicated by their percentages 23%, 36% and 46% respectively. The perception regarding oral health status was statistically significant amongst different income groups, "p=0.002" [Table/Fig-5].

DISCUSSION

In the present study, majority of the subjects confirmed the strong influence of gender, level of education, and income on oral health status. The findings of the present study indicated good oral conditions among female participants. The previous gender based studies have also reported that women had more positive dental attitude and behaviour for their oral problems as compared to men making regular dental check-ups, more educated about proper brushing techniques [5,15-18].

In the present study, in young age groups, perception about oral health is good but it was decreasing in old age group participants. These findings are in line with a study done amongst Danish population [19]. It was also in agreement with another study conducted in Skaraborg, Sweden among 17,280 students, between the ages of 13-18 years who were self-assessed about their oral health status, based on contentment with look of their teeth, bleeding gums, and using a "perceived Oral Health Index (OHI)". The study revealed that having sound teeth and good oral health status was a prevailing approach among the students in which 94% of the boys and 97% of girls significantly perceived their good oral health status [7]. In this study, significant influence of education level on oral health was observed. The low literacy among population contributes to bad health outcomes. The previous studies also reported that the educated individual and good socio-economic status had relatively better health and oral health [20].

In the current study, it was also observed that the income of the people influences how they perceive their health status. The people with good monthly income perceived better about health than the low income

		Oral health status (Teeth gums)							Total	p-value
		Excellent	Very good	Good	Average	Poor	Very poor	Do not know		
Age group	18-28 years old	19 (14%)	50 (37%)	38 (28%)	16 (12%)	8 (6%)	2 (1%)	3 (2%)	136 (33%)	0.001
	29-38 years old	7 (8%)	13 (14%)	33 (35%)	21 (23%)	13 (14%)	6 (6%)	0 (0%)	93 (23%)	
	39-48 years old	2 (2%)	29 (22%)	45 (34%)	37 (28%)	12 (9%)	6 (4%)	1 (1%)	132 (32%)	
	49 years old and more	2 (4%)	11 (22%)	20 (39%)	13 (25%)	4 (8%)	1 (2%)	0 (0%)	51 (12%)	
Total		30 (7%)	103 (25%)	136 (33%)	87 (21%)	37 (9%)	15 (4%)	4 (1%)	412(100%)	

[Table/Fig-3]: Assessment of participants' oral health status related to age group.
Chi square test was used

		Level of the education					Total	p-value
		No formal schooling	Primary school completed	Secondary school completed	High school completed	College/University and postgraduate degree completed		
Oral health status	Excellent	0 (0%)	0 (0%)	2 (7%)	14 (47%)	14 (46%)	30 (7%)	0.008
	Very good	0 (0%)	0 (0%)	1 (1%)	32 (31%)	70 (68%)	103 (25%)	
	Good	0 (0%)	4 (3%)	2 (1%)	42 (31%)	88 (65%)	136 (33%)	
	Average	2 (2%)	3 (3%)	1 (1%)	21 (25%)	60 (69%)	87 (21%)	
	Poor	0 (0%)	0 (0%)	2 (5%)	15 (41%)	20 (54%)	37 (9%)	
	Very poor	0 (0%)	0 (0%)	0 (0%)	7 (47%)	8 (53%)	15 (4%)	
	Do not Know	0 (0%)	1 (25%)	0 (0%)	3 (75%)	0 (0%)	4(1%)	
Total		2 (0.5%)	8 (2%)	8 (2%)	134 (32.5%)	260 (63%)	412 (100%)	

[Table/Fig-4]: Assessment of participants' oral health status related to level of education.
Chi square test was used

		Income per month in Saudi Riyal (SR)				Total	p-value
		Less than 1000	1000-5000	5000-10000	10000 and more		
Oral health status	Excellent	11 (37%)	7 (23%)	5 (17%)	7 (23%)	30 (7%)	0.002
	Very good	33 (32%)	21 (20%)	12 (12%)	37 (36%)	103 (25%)	
	Good	24 (18%)	23 (17%)	26 (19%)	63 (46%)	136 (33%)	
	Average	14 (16%)	10 (11%)	20 (23%)	43 (50%)	87 (21%)	
	Poor	9 (24%)	11 (30%)	8 (22%)	9 (24%)	37 (9%)	
	Very poor	2 (13%)	6 (40%)	3 (20%)	4 (27%)	15 (4%)	
	Do not know	1 (25%)	3 (75%)	0 (0%)	0 (0%)	4 (1%)	
Total		94 (23%)	81 (20%)	74 (18%)	163 (39%)	412 (100%)	

[Table/Fig-5]: Assessment of participants' oral health status related to income per month.
Chi square test was used

participants. In general, having a good financial resources provides accessibility and availability to best healthcare facilities, regular dental visits and preventive approach to their oral as well as general health [21]. In both developing and developed countries, oral problems are the most expensive treatment. The findings of the present study are in agreement with the prior studies done on oral health and quality of life. These studies found the good oral health behaviour and better quality of life among children of high income families [22,23]. In worldwide, population based studies have reported the burden of oral diseases among poor population due to social, behavioural and environmental factors [24]. Most of the previous studies conducted in Hail region measured the respondents' perception, attitude, and practice towards oral health but did not contrast it with potential determinants of health [25-27]. The present study will help in better assessment of oral health needs giving value to socio-economic determinants of the local community.

LIMITATION

Due to lack of logistic support, the current study included the sample only from Hail city using non-probability sampling technique. Due to this reason, data may not represent whole Hail province.

CONCLUSION

Based on the results of present study it is concluded that perception of oral health status is associated with socio-economic determinants of health in particular level of income, level of education, age, as well as amongst gender. Perceived oral health status was poor in old age whilst female have perceived their oral health status much better than male. Likewise, the people with high level of education, and income perceived positive attitude towards their oral health status.

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