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ORIGINAL RESEARCH

The awareness of the community to preserve the teeth of people with special needs

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ABSTRACT

Background: Disability refers to any sensory, physical, mental, behavioral or developmental impairment that is suffered by an individual. The prevalence of disability and the number of persons with special needs, in general, is not precisely estimated in Saudi Arabia. The individuals with special needs are the group of persons, who obtain less care. Oral health and caring of teeth for those persons are significant, as they cannot perform it by themselves.

Case Presentation: The cross-sectional study was performed using an online survey instrument. Participation was voluntary. A total of 114 participants completed the questionnaire.

Results: The mean age of the participants was 28.4 ± 6.8 (mean ± SD) years with a range of 17–45 years. The male represented 70.2% of the participants, while the female represented 29.8%. Among the participants, 43% were with special needs and 57% were not, 45.6% of the participants had excellent knowledge, and 54.4% had poor knowledge. The correlation between knowledge and gender was (p-value = 0.02), and education level was (p-value = 0.006), and income was (p-value = 0.01) and being a person with special needs (p-value = 0.001).

Conclusion: Low level of knowledge was found among the participants. Gender, level of education, income, and having a person with special needs were the affecting factors of knowledge.

Keywords: Special needs individuals, oral health, disability in KSA.

Introduction

There are several definitions of disabilities and special needs globally [1], however, WHO defined disabilities as the term which indicates to the impairments, activity limitations, and participation restrictions [2]. The American Academy of Pediatric Dentistry in 2004, introduced a similar definition [3] which was modified in 2012 and stated as "any physical, developmental, mental, sensory, behavioral, cognitive or emotional impairment or limiting condition that requires medical management, health care intervention, and/or use of specialized services or programs" [4]. Worldwide, the average prevalence of disability in adult population reported by WHO on 59 countries was 15.6% [2], and in recent estimation, it was said that 10% and 12% of the population in developed and developing countries, respectively, were disabled [5]. The prevalence of disability in Saudi Arabia between the years 1997–2000 was found to be 6.33% among children [6]. Also, it was found that 8.9/10^4 of Saudi children who were 0–18 years old had mental retardation [7]. In Saudi national survey, it was found that 4% of the population suffered major disabilities [8]. People with special needs experience poorer health levels when compared to the general population [9]. Children with special health care needs are the most underserved group, as they have more dental diseases, when compared to other individuals in the population, this may be attributed to people who don't get proper oral care that they need [10–13]. They need special care for maintaining good oral hygiene [14]. In Saudi Arabia, there were several studies reported that there was poor oral health in disabled children [15–17]. Parents who have good oral health knowledge could perform better for maintaining proper oral health for their children [18–20], especially, if they were children with special needs [14]. There were several surveys which showed that 8% of the individuals with special needs do not obtain the proper routine preventive dental care [21–23]. Persons with special needs may experience oral hygiene performance limitation due to their sensory,

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motor, and intellectual disabilities [24]. As a result, they have a higher risk for poor oral health and for developing periodontal disease [25]. This problem of special needs may attribute to the low awareness of the community, as far as we know there was no study previously performed on the Saudi population to assess their awareness about this problem, so this study aimed to assess the level of awareness of the community about preserving the teeth of individuals with special needs.

Subjects and Methods

This study was performed using an online survey questionnaire. The study was conducted in the period from September 2017 to October 2017 and included 114 participants. Data were analyzed using a SPSS software version 16, the simple descriptive analysis in the form of numbers and percent was used. Chi-square and independent sample t-test were used as tests of significance with a significant level at $p < 0.05$.

Results

There were 114 participants, 80 (70.2%) of them were males, and 34 (29.8%) were females. The age range of participants was 17–45 years old with a mean ± SD of 28.4 ± 6.8, there were 76 (66.7%) individuals with £ 30 years old, while 38 (33.3%) individuals with their age more than 30 years old. Most of the individuals, 89 (78.1%) had a university education, while 15 (13.2%) were postgraduate and 10 (8.8%) had basic education. There were 31 (27.2%) individuals, who had an income of 1000–3000 SR, 12 (10.5%) had 3000–5000 SR, 33 (28.9%) had 5,000–10,000 SR, and 38 (33.3%) had more than 10000 SR income. Most of the participants, 65 (57%) didn't have a person with special needs, while 49 (43%) had a person with special needs, demographics of participants are shown in Table1. There were 52 (45.6%) individuals, who had good awareness about dental hygiene measures for the individuals with special needs, while 62 (54.4%) had poor knowledge (Figure 1).

There were 10 questions to investigate the awareness of participants about the measures of dental hygiene for people with special needs, the frequencies, and percentages of answers about each question are summarized in Table 2.

By studying the effect of different variables on good and poor knowledge, it was found that there was no significant difference between the mean of age between those with good and poor knowledge (p-value = 0.7), also no significant difference between different age groups regarding knowledge about dental hygiene (p-value = 0.5). Regarding the gender, there was a significant difference (p-value = 0.02) between males and females in both groups; those with good or poor knowledge. The education level of participants was a significant factor (p-value = 0.006) to affect the knowledge of individuals. The income of participants was a significant factor to affect the level of knowledge (p-value = 0.01), also having a person with special needs was a significant factor (p-value = 0.001) which affected the level of knowledge of the participants (Table 3).

Discussion

In the present study, there were 45.6% of the individuals who had good awareness, while 54.4% of the individuals had poor awareness about dental hygienic measures for the people with special needs. Although there were 43% individuals who had a person with special needs, the good knowledge was present in 45.6%. In the present study, there were 57.1% individuals who knew that people with special needs were more liable to dental problems, while 17.5% said no and 25.4% said that they didn't know. The large majority of participants 57.9% said that the people with special needs should regularly visit the dentist, while 42.1% said no. The individuals who said no were further asked why they were not visiting the dentist regularly, there were 21.2% of the individuals who said the reason was due to high dental cost, 47% individuals stated that there was a difficulty in transportation, whereas 31.8% said there were other reasons. These logistic problems can be solved by providing dental clinics in the country and making the cost low for those with special needs. The large majority of participants about 63.6% said that the person with special needs visited the dentist on need, 33.3% said annually and 3% said that their visit was monthly. In a previous study [14] on parents of individuals with special needs, the large majority of 68% said that individuals with special needs should visit the dentist every 6 months. The individuals with special needs should schedule an appointment for dental clinics to visit the dentist regularly in order to keep them with good oral health. 69.3% of the participants of this study thought that special care for teeth is required for the people with special needs, 23.7% didn't know and 7% said they didn't need that. In the current study, 43% of participants thought that the people with special needs shouldn't follow special program for teeth care, 38.6% of participants said sometimes and 18.4% said that special program was required. However, establishing a special program is very important to improve the oral health of special needs. By asking the participants, if people with special needs should need special tools for teeth care, 59.6% of individuals said no, 19.3% said sometimes and 21.1% said yes. The required tools for cleaning the teeth of special needs depend on the state of the individuals. 51.8% of participants didn't know if chemical care was required for the people with special needs, 23.7% said no and 24.5% said yes. By asking the participants if it was necessary to make communication between dentist and physicians regarding the individuals with special needs, 4.4% only said no, 22.8% said they didn't know and 72.8% said yes. Actually, the oral disease may help in the development of other diseases, so it is important to make the dentist and physicians communicate to improve the oral and general health of the individuals with special needs. In the current study, there were 31.6% of our participants who didn't think that people with special

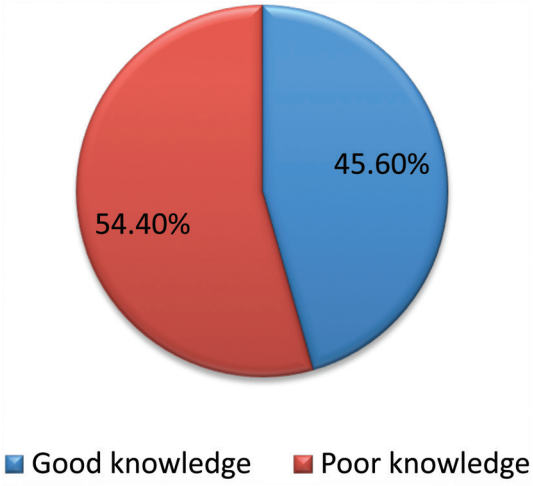

Figure 1. *Prevalence of knowledge about dental hygiene for the individuals with special needs between participants.*

Table 1. *Demographics of participants.*

Variables	Description (*n* = 114)
Age	
Range	17–45
Mean ± SD	28.4 ± 6.8
≤ 30 years	76 (66.7)
> 30 years	38 (33.3)
Sex	
Male	80 (70.2)
Female	34 (29.8)
Educational level	
Basic (Primary & Intermediate)	10 (8.8)
University	89 (78.1)
Postgraduate	15 (13.2)
Income	
1–3K	31 (27.2)
3K–5K	12 (10.5)
5K–10K	33 (28.9)
> 10K	38 (33.3)
Having person with special needs	
Yes	49 (43)
No	65 (57)

Table 2. *Questions for awareness about dental hygienic measures for people with special needs.*

Questions	Description (*n* = 114)
Knowing that people with special need are more liable to dental problems	
No	20 (17.5)
I do not know	29 (25.4)
Yes	65 (57.1)
People with special need should regularly visit dentist	
No	48 (42.1)
Yes	66 (57.9)
Why not regularly visit dentist	
High dental cost	14 (21.2)
Difficult transfer	31 (47)
Other causes	21 (31.8)
Times of visiting the dentist	
Monthly	2 (3)
Annually	22 (33.3)
On need	42 (63.6)
People with special need should have special care for their teeth	
No	8 (7)
I do not know	27 (23.7)
Yes	79 (69.3)
People with special need should follow special program for teeth care	
No	49 (43)
Sometimes	44 (38.6)
Yes	21 (18.4)
People with special need should use special tools for teeth care	
No	68 (59.6)
Sometimes	22 (19.3)
Yes	24 (21.1)
Chemical care for teeth	
No	27 (23.7)
I do not know	59 (51.8)
Yes	28 (24.5)
Good communication between dentist and his physician	
No	5 (4.4)
I do not know	26 (22.8)
Yes	83 (72.8)
People with special need are having good dental health	
No	36 (31.6)
I do not know	49 (43)
Yes	29 (25.4)

needs had good dental health and 25.4% said that and the large majority 43% did not know. By studying several factors that may affect the knowledge of participants, we found that gender, education level, income, and having a person with special needs were the factors that influenced significantly the awareness of participants. More number of males had good knowledge than the females, however, males were the dominant gender in this study, individuals with university education tended to experience more knowledge than other participants even those who were postgraduate. Also, good knowledge was more common in persons with the highest income and those who had a person with special needs. Income of the family seeded to be an important factor that influences knowledge of individuals as we found in this study, also it was stated that children with special needs of poor families had dental care needs [26]. Having a person with special needs can increase the knowledge of participants as they had the

Table 3. *Comparison of all demographic variables regarding awareness level about dental hygienic measures for people with special need.*

Variables	Dental awareness		*p* value
	Good (*n* = 52)	Poor (*n* = 62)	
Age	28.6 ± 6.9	28.3 ± 6.9	0.794
£ 30 years	33 (63.5)	43 (69.4)	0.506
> 30 years	19 (36.5)	19 (30.6)	
Sex			
Male	31 (59.6)	49 (79)	0.024
Female	21 (40.4)	13 (21)	
Educational level			
Basic (Primary & Intermediate)	2 (3.8)	8 (12.9)	0.006
University	38 (73.1)	51 (82.3)	
Postgraduate	12 (23.1)	3 (4.8)	
Income			
1–3K	10 (19.2)	21 (33.9)	0.014
3K–5K	3 (5.8)	9 (14.5)	
5K–10K	14 (26.9)	19 (30.6)	
> 10K	25 (48.1)	13 (21)	
Having a person with special needs			
Yes	31 (59.6)	18 (29)	0.001
No	21 (40.4)	44 (71)	

experience of dealing with special needs individuals. This study was the first study to assess the knowledge of the Saudi community about the oral health and preserving the teeth of special needs, however, there were limitations of the study including that the sample size of the study wasn't large enough, also we didn't investigate the area of residence of participants to find out the area of less knowledge, these limitations should be avoided in the further studies. Also, we couldn't compare the results of our study with the previous ones as there was no study on this subject.

Conclusion

There was a low level of good knowledge in the community about preserving the teeth of people with special needs, and this reflects the low care about those people in the population. Also, individual questions showed low awareness about the oral health of special needs persons. Male gender, education level, income, and having a person with special needs were the significant factors which were associated with good knowledge. Establishing programs and guidelines for the community to increase their knowledge is very important. Also, it is very important to establish special dental clinics for persons with special needs to be low in cost and provide dental care regularly for those persons.

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None

List of abbreviations
SD Standard deviation
WHO World Health Organization

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