Access to dental care for persons with disabilities in Saudi Arabia (Caregivers’ perspective)

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Abstract

Aim: To determine if persons with disabilities encounter difficulties in accessing dental care and to identify barriers to dental care for such individuals in Saudi Arabia from the perspective of their caregivers.

Study population and methods: The data for the study were obtained through a self-administered questionnaire distributed to 250 caregivers. Of these, 119 questionnaires were returned, giving a response rate of 47.6%.

Results: 84.7% of persons with disabilities saw a dentist only for an emergency, and 46.2% reported having difficulty in obtaining dental care in their community. Oral hygiene practices of those with disabilities, the frequency of visits to the dentist for check-ups, as well as the likelihood of having had contact with a dentist during the preceding year were significantly influenced by the caregivers’ level of education. However, the frequency of tooth brushing as well as the method of cleaning the teeth of those with disabilities were not influenced by the caregivers’ level of education. Fear of the dentist (52.1%), cost (48.7%), being unable to sit in the dental chair (28.2%), transportation difficulties (26.9%), distance to the dental clinic (18.5%), and the dentist’s unwillingness to treat those with disabilities (16.8%) were all barriers to dental care for individuals with disabilities.

Conclusion: Half of the caregivers of those with disabilities reported that they had difficulty accessing dental care, and 85% of persons with disability saw the dentist for emergency treatment only. Fear of dentists

Key words: Access to dental care, disability, care givers’ perspective, barriers, level of education

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Introduction

Disability is a condition or function judged to be significantly impaired relative to the usual standard of an individual or group. The term is used to refer to individual functioning, including physical impairment, sensory impairment, cognitive impairment, intellectual impairment, mental illness, and various types of chronic diseases (http://www.disabled-world.com/disability/types/).

According to the World Health Organisation estimates, individuals with disabilities comprise 10% of the population in developed countries and 12% of that in developing countries (Ceyhan et al., 2010). Saudi Arabia has undergone rapid economic development in recent decades, which has been reflected in improved health care services and a decrease in child mortality, such that children with disabilities have been more likely to survive (Shawky et al., 2002). However, there are no sufficient and accurate data on the prevalence of disabilities in Saudi Arabia. Studies on the subject have been performed in the Kingdom as investigations of single types of childhood disability, but most of these were unpublished or did not use a uniform definition (Shawky et al., 2002). A recent national survey on disability in Saudi Arabia reported the prevalence of major disabilities as affecting around 4% of the population (Al-Turaiki, 2000).

Despite the growing awareness in the public and among health professionals about the importance of oral health as an integral part of total health and function, oral health care for this growing segment of our population has received scant attention. Severity of medical conditions and perceived general health are significantly correlated with dental functional status and severity of dental disease (Sheiham, 2005; Bhambal et al., 2011). For persons with disabilities, the effect of dental disease on general health and function appears greater than for similar groups with-
out a disability (Brennan and Spencer, 2006; Brogårdh-Roth et al., 2009; Bhambal et al., 2011). They are at greater risk for poorer oral health than persons in the general population, due to more frequent oral infections and periodontal disease, enamel irregularities, moderate-to-severe malocclusion, and craniofacial birth defects (Balogh et al., 2004; Kenney et al., 2008). Additionally, they often have a higher level of unmet dental need and poorer oral hygiene than the general population (Tiller et al., 2001; Waldman and Perlman, 2002; Scully and Kumar, 2003).

Improving the oral health of those with disabilities requires not only that they receive high-quality clinical care, but also that they gain access to the dental office in the first place (Balzer, 2007). The understanding of the barriers that prevent persons with a disability from seeking dental care is essential in designing remedies to overcome these barriers. In Saudi Arabia, the health care system is funded by the government. However, providing free health care, including dental care, to all citizens has placed an enormous financial burden on the state. Additionally, health insurance is not implemented for Saudi citizens. These factors along with the limited resources and the shortage of trained dentists to treat persons with disability, improper training of care givers and complicated administrative procedures, could limit adequate access to dental care for persons with disability in Saudi Arabia. Several studies have been carried out in various parts of the world on access to dental care for persons with disabilities (Al Agili et al., 2004; Koneru and Sigal, 2009; Prabhu et al., 2010); however, there are no such reports available in Saudi Arabia. Therefore, the aim of the present study was to determine if persons with disabilities encounter difficulties in accessing dental care and to identify barriers to dental care from the perspective of their caregivers.

**Study population and methods**

A self-administered questionnaire (Appendix 1) was especially developed in the Arabic language. Pilot testing of the questionnaire was carried out by administering it to eight care givers in Riyadh. The purpose of pilot testing was to ascertain if the questionnaire was appropriate, easily understood by the respondents, and completed in the planned time. The questionnaire was distributed to caregivers visiting rehabilitation centres in Riyadh and Al-Hfouf and then collected after 2-4 weeks. After the objective of the study was explained to care givers, the care givers were assured of the confidentiality of the information that they would be providing. They were also informed that they reserved the right not to participate in the study or to withdraw their participation at any time, without any consequences.

The questionnaires had four pages, including a cover page, and were divided into three sections. The first requested demographic information, such as age and gender of both the person with a disability and the caregiver, educational level of the caregiver, and the patient’s condition and severity of disability. The second involved oral hygiene practices and previous dental experience. The third section involved barriers to accessing dental treatment.

The data collected from the questionnaires were entered in the computer using the Statistical Package for the Social Sciences (SPSS version 16) software for frequency distribution and descriptive analysis. A Chi-square test at 5% significance was used for the statistical relationship in caregivers’ responses to various questions in terms of their educational status.
Access to dental care for persons with disability questionnaire

Part one

Please tick (✓) or write answer as appropriate

A person with disabilities is defined as any person who has physical, mental, or medical impairments that significantly limits one or more activities of daily living or the ability to function within their respective peer group.

1. Are you person with disability? □ Yes □ No
   Age ________ gender □ M □ F

A caregiver is defined as the primary person in charge of caring person with disability, usually family members or a designated health care professional.

2. Are you a caregiver? □ Yes □ No
   Age of care giver ________ Gender M □ F □
   Education level of care giver? ________

3. The city you and the person you care for live in? ________

4. Select one of the options provided below that indicates the situation under which person you care for live in.
   □ With parent □ Independent living
   □ Rehabilitating center □ Other: specify ________

5- Please indicate the types of condition that the person you care for have?
   □ Autism □ Mental retardation
   □ Down syndrome □ Learning difficulties
   □ Other: specify ________

6- Severity of the disability condition
   □ Mild □ Moderate □ Sever
Part two

7- Does the disabled person you take care of brush his/her teeth?
   □ Yes  □ No  □ I Don’t know

8- How often he/she brushes his/her teeth?
   □ Once a day  □ 3 times a day
   □ Twice a day  □ Other: specify

9- What is the method used to clean the teeth?
   □ Dental brush and paste  □ Miswak
   □ Dental floss  □ Other: specify

10- Does the disabled person have the ability to brush his/her teeth?
    □ Completely independent  □ Partially independent  □ Completely dependent

11- When did the person you care for last visit a dental clinic?
    □ Within 6 months  □ Greater than one year
    □ Within one year

12- How often do the person you care for go for dental checkups?
    □ Every 3 months  □ Every 12 months
    □ Every 6 months  □ Emergency only

13- What types of dental treatment have person you care for received in the past?
    □ Examination  □ Cleaning  □ Orthodontic treatment
    □ X-ray  □ Bleaching  □ Crowns/bridge
    □ Fluoride  □ Stainless steel crowns  □ Dentures
    □ Filling  □ Root canals  □ Dental implants
    □ Extraction  □ Oral hygiene instructions  □ No treatment
    □ Sealants  □ Other: specify

14- Do the person you care for have any dental (oral health) needs that require dental treatment?
   a- Yes □  b- No □  c- I Don’t know □
15- Have the disabled person you care for experienced difficulties in obtaining dental care in your community?
- Yes
- No
- I Don’t know

16- If the disabled person you care for has difficulty accessing or does not access dental care, please indicate the reason why; please check the appropriate box to indicate your reason.

<table>
<thead>
<tr>
<th>Reason</th>
<th>Not reason</th>
<th>Minor reason</th>
<th>Major reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dentist unwilling to treat or inadequately trained in treating people with disability</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cost or financial difficulty</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Afraid from dentist</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unable to set in the chair or cooperative with dentist</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transportation difficulty</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dental clinic too far away</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No time</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Questionnaire quoted with modification and translated in Arabic from:
Results

Socio-demographic background
Completed questionnaires were returned by 119 caregivers on behalf of a person with a disability, giving a response rate of 47.6%. Of the responding caregivers, 39.5% and their charges lived in Riyadh and 60.5% lived in Al-Hifouf.

The ages of caregivers ranged between 16 and 60 years, with a mean age of 39.9 years (standard deviation, 10.9). The majority of the caregivers, 37.8%, were between the ages of 31 and 40 years, while 27.7% were between 41 and 50, 21% were between 21 and 30, 11% older than 51, and 2.5% were younger than 20. Most caregivers were females (63%), while 37% were males (Table 1).

The ages of persons with disabilities ranged between 3 and 60 years, with a mean age of 17.77 years (standard deviation, 14.6). Most of those with disabilities (36.1%) were between ages 11 and 15, while 29.4% were under age 10, 16.8% over age 21, and 17.6% between 16 and 20.

The majority of the disabled people were females (67.2%), while 32.8% were males (Table 1). The accommodation situation in which the persons with disability lived was that 67.2% lived with parents, 30.3% lived in rehabilitation centres and 2.5% were living independently.

The majority (37.8%) of those with disabilities had mental retardation (a condition of arrested or incomplete development of the mind characterised by impairment of skills and overall intelligence in areas such as cognition, language, and motor and social abilities), 34.5% had learning difficulties (a disorder in one or more of the processes involved in understanding and using spoken or written language, or with visual or auditory perception), 18.5% had Down syndrome, 1.7% had autism, and 7.6% had other types of disabilities (blindness, physical disability, age-related disability, paralysis). In terms of severity, 38.7% of persons with disabilities had moderate disability, 37% had mild disability, and 24.4% had severe disability (Table 2).

Oral hygiene practices, previous dental experience and caregivers’ educational level
In terms of the ability of persons with disabilities to brush their teeth, 41.2% were completely independent, 26.9% were partially dependent, while 31.9% were completely dependent (Table 3).

Nearly 61.3% of the persons with disabilities reported brushing their teeth, while 32.8% reported not brushing their teeth (Table 4). Nearly 42.5% of the persons with disabilities brushed their teeth once a day. About 97.3% of these used a toothbrush and toothpaste, and only 1.4% used a chewing stick (miswak) and dental floss.

Of those with disabilities, 36.1% had seen a dentist within the preceding six months, while 51.3% had not seen a dentist for greater than one year (Table 4).

Most of those with disabilities (84.7%) visited a dentist only in emergency, and 1.7% saw a dentist for a check-up every six months, while 10.2% visited the dentist every three months, and 3.4% once every year (Table 4).

Nearly 31.9% of caregivers had less than a high school education, 28.6% had a university education, 25.2% had a high school education, 9.2% had some higher education, while 5% had no education (Table 4).

A strong association (p=0.046) was found between caregivers’ level of education and their response to the question of whether their patients brushed their teeth, in favour of the more highly educated caregivers (Table 4). However, there was no strong association between the different educational levels and the frequencies of brushing (p=0.461) or the method used (p=0.162). In contrast, a strong association was found between the educational level of caregivers and their responses to questions regarding the previous visit to the dentist (p=0.001) and the frequencies of dental check-ups (p=0.000).

The difficulty of and barriers to accessing dental treatment
Of caregivers responding, 54.6% reported that the persons in their care had dental needs which required treatment, while 30% did not need treatment, and 46.2% of persons with disabilities had difficulty in obtaining dental care in their community (Table 5). The most common barriers to accessing dental care cited by the caregivers on behalf of their patients were fear of the dentist (52.1%), cost (48.7%), being unable to sit in a dental chair (28.2%), transportation difficulty (26.9%), distance to the dental clinic (18.5%), and the dentist’s unwillingness to treat those with disabilities (16.8%) (Table 6).

Discussion
Improving oral health is a specific concern for individuals with disabilities, since oral health has both local and systemic consequences (Hennequin et al., 2008). Poor oral health is a factor for co-morbidity when associated with systemic disease. It increases the risk of infectious complications for patients presenting systemic diseases such as congenital cardiac disease, immunodeficiency, or diabetes, or those with internal prostheses, and plays a direct role in the aggravation of chronic respiratory disease, which is the main cause of mortality in people with disabilities (Mojon, 2002; Yoneyama et al., 2002; Adachi et al., 2008). For those with mental disability, neurological and behavioural problems may be related to undiagnosed and untreated oral pain (Hennequin et al., 2008).

Although a person without a disability is expected to seek dental care, ensure that they keep appointments, make required payments and ensure that they comply with dental instructions which are issued, people with impairments may not be able to carry out these personal obligations satisfactorily. They are normally dependent, to varying degrees on other people to make dental care decisions
on their behalf, and to perform or assist them with their daily oral hygiene procedures. In this study, 32% were completely dependent and 27% were partially dependent on caregivers for maintaining an adequate oral hygiene level. Therefore, any prevention programme should start by educating caregivers. Caregivers must be aware of their patients’ special needs, be motivated, and have the skills to provide the requisite oral care (Stiefel, 2002).

About 86% of respondents reported that their patients received some kind of dental care. However, 46% reported having difficulty seeking dental care for their patients, and 55% of those with disabilities had unmet dental needs. These results are comparable with those reported by investigators in the developed countries (Al Agili, 2004; Hennequin et al., 2008).

One of the significant barriers to dental care was that those with disabilities were afraid of the dentist (52%). This could be attributed to many factors, which may include lack of dental professionals with advanced training in the management of patients with disabilities, lack of trained caregivers, and caregivers’ lack of recognition of the importance of oral health.

Cost has been reported by many investigators to be the top-rated barrier (Schultz et al., 2001; Rapalo et al., 2010). However, in this study, cost was considered by caregivers (47.8%) to be the second-most possible barrier to accessing dental care. Persons with disabilities, particularly those with severe disabilities, are deprived with respect to income and dental insurance, factors that are major determinants in the rate at which dental services are utilised (Stiefel, 2002). Inability to pay for the cost of care, lack of dental insurance, and limited dental coverage by public funding place dental care out of reach for many persons with disabilities (Stiefel, 2002). Moreover, persons with severe disabling conditions, as well as their families, may be so overwhelmed by the physical and financial demands of the disability that dental care ranks low in priority.

In Saudi Arabia, there are few rehabilitation centres for people with disabilities and those that do exist are based in the main urban areas, necessitating travel across distances to access services. The lack of public transport renders this as a very expensive service for the average Saudi family. Transportation difficulties were another barrier to access to dental care cited by one-quarter (26.9%) of caregivers on behalf of their patients. This is expected if it is taken into consideration that most of the respondent caregivers in this study were Saudi women (65%), whose right to drive cars remains controversial.

A general lack of awareness of the subjects involved, on the relationship of the mouth to the rest of the body was reflected by the findings of this study. Dental problems may not be considered as infections needing aggressive treatment like other infections in other parts of the body. Nearly two-thirds of caregivers reported that their patients brushed their teeth at least once a day. Dental flossing, however, was practised by only 1%. Regular visits to the dentist can help prevent and control dental disease. The time elapsed since the previous visit, as reported by caregivers, indicated that the majority (85%) saw the dentist only in an emergency, indicating that oral health issues and oral health become a concern only when symptoms arise, such as pain.

In agreement with other studies (Bayraktar et al., 2009; Bernabé et al., 2011), a strong relationship was found in this study between the caregivers’ level of education and the frequency of visits to the dentist. This finding could be related to their financial status. Highly educated caregivers are more likely to have a more positive socio-economic and behavioural environment, leading to better utilisation of dental care services. In contrast, people with lower educational status are more likely to have limited financial resources, which may give dental care a lower priority than other expenses perceived to be more pressing.

Several limitations must be considered in the interpretation of the results of this study. Firstly, information gathered from focus groups represents perceptions of only a narrow sample of the population. Without further enquiry, generalisations regarding larger populations must be avoided. Another limitation of our study was the overall response rate of 47.6%. It is, however, considered to be in the normal range for surveys (Al Agili et al., 2004; Koneru and Sigal, 2009. Another limitation was that the study findings were based on the perceptions of responding parents rather than on objective patient data. Parents’ perceptions on access to dental care, however, contributed greatly to our knowledge about and understanding of the various known and unknown barriers to dental care.
Table 1: Distribution of caregivers and persons with disabilities by age and gender

<table>
<thead>
<tr>
<th>Gender</th>
<th>Age group of caregiver</th>
<th></th>
<th>Total</th>
<th>Age group of person with disability</th>
<th></th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>15-20 yrs</td>
<td>21-30 yrs</td>
<td>31-40 yrs</td>
<td>41-50 yrs</td>
<td>51+ yrs</td>
<td>1-10 yrs</td>
</tr>
<tr>
<td>Male N</td>
<td>1</td>
<td>9</td>
<td>19</td>
<td>12</td>
<td>3</td>
<td>44</td>
</tr>
<tr>
<td>%</td>
<td>0.8%</td>
<td>7.6%</td>
<td>16.0%</td>
<td>10.1%</td>
<td>2.5%</td>
<td>37%</td>
</tr>
<tr>
<td>Female N</td>
<td>2</td>
<td>16</td>
<td>26</td>
<td>21</td>
<td>10</td>
<td>75</td>
</tr>
<tr>
<td>%</td>
<td>1.7%</td>
<td>13.5%</td>
<td>21.9%</td>
<td>17.6%</td>
<td>8.4%</td>
<td>63%</td>
</tr>
<tr>
<td>N</td>
<td>3</td>
<td>25</td>
<td>45</td>
<td>33</td>
<td>13</td>
<td>119</td>
</tr>
<tr>
<td>%</td>
<td>2.5%</td>
<td>21%</td>
<td>37.8%</td>
<td>27.7%</td>
<td>11%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table 2: Distribution of persons with disabilities by type and severity of disability.

<table>
<thead>
<tr>
<th>Type of Disability</th>
<th>Severity of Disability</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mild</td>
<td>Moderate</td>
</tr>
<tr>
<td>Autism</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>%</td>
<td>1.7%</td>
<td>0%</td>
</tr>
<tr>
<td>Down Syndrome</td>
<td>8</td>
<td>12</td>
</tr>
<tr>
<td>%</td>
<td>6.7%</td>
<td>10.1%</td>
</tr>
<tr>
<td>Mental retardation</td>
<td>10</td>
<td>15</td>
</tr>
<tr>
<td>%</td>
<td>8.4%</td>
<td>10.9%</td>
</tr>
<tr>
<td>Learning difficulties</td>
<td>21</td>
<td>18</td>
</tr>
<tr>
<td>%</td>
<td>17.6%</td>
<td>15.1%</td>
</tr>
<tr>
<td>Others</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>%</td>
<td>2.5%</td>
<td>2.5%</td>
</tr>
<tr>
<td>Total</td>
<td>44</td>
<td>46</td>
</tr>
<tr>
<td>%</td>
<td>37.0%</td>
<td>38.7%</td>
</tr>
</tbody>
</table>

Table 3. Ability of the persons with disability to brush their teeth

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Completely independent</td>
<td>49</td>
<td>41.2</td>
</tr>
<tr>
<td>Partially independent</td>
<td>32</td>
<td>26.9</td>
</tr>
<tr>
<td>Completely dependent</td>
<td>38</td>
<td>31.9</td>
</tr>
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</table>
Table 4. Percentage distribution of oral hygiene practices and previous dental experience of persons with disabilities and educational level of caregiver

<table>
<thead>
<tr>
<th>Question/Response</th>
<th>No Education</th>
<th>Less than High School</th>
<th>High School</th>
<th>University</th>
<th>Postgraduate</th>
<th>Total</th>
<th>%</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Does the disabled person you take care of brush his/her teeth?</td>
<td>Yes</td>
<td>3</td>
<td>31</td>
<td>20</td>
<td>11</td>
<td>8</td>
<td>73</td>
<td>61.3</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>3</td>
<td>6</td>
<td>6</td>
<td>21</td>
<td>3</td>
<td>39</td>
<td>32.8</td>
</tr>
<tr>
<td></td>
<td>I don't know</td>
<td>0</td>
<td>1</td>
<td>4</td>
<td>2</td>
<td>0</td>
<td>7</td>
<td>5.9</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>6</td>
<td>38</td>
<td>30</td>
<td>34</td>
<td>11</td>
<td>119</td>
<td>100</td>
</tr>
<tr>
<td>How often does he/she brush his/her teeth?</td>
<td>One time/day</td>
<td>2</td>
<td>14</td>
<td>8</td>
<td>4</td>
<td>3</td>
<td>31</td>
<td>42.5</td>
</tr>
<tr>
<td></td>
<td>2 times/day</td>
<td>0</td>
<td>8</td>
<td>6</td>
<td>4</td>
<td>0</td>
<td>18</td>
<td>24.7</td>
</tr>
<tr>
<td></td>
<td>3 times/day</td>
<td>1</td>
<td>6</td>
<td>5</td>
<td>3</td>
<td>5</td>
<td>20</td>
<td>27.4</td>
</tr>
<tr>
<td></td>
<td>Others</td>
<td>0</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>5.5</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>3</td>
<td>31</td>
<td>20</td>
<td>11</td>
<td>8</td>
<td>73</td>
<td>100</td>
</tr>
<tr>
<td>What is the method used to clean the teeth?</td>
<td>Dental brush and paste</td>
<td>3</td>
<td>31</td>
<td>20</td>
<td>10</td>
<td>8</td>
<td>72</td>
<td>97.3</td>
</tr>
<tr>
<td></td>
<td>Dental floss</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1.4</td>
</tr>
<tr>
<td></td>
<td>Miswak</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1.4</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>3</td>
<td>31</td>
<td>20</td>
<td>12</td>
<td>8</td>
<td>74</td>
<td>100</td>
</tr>
<tr>
<td>When did the person you care for last visit a dental clinic?</td>
<td>Within 6 months</td>
<td>0</td>
<td>11</td>
<td>10</td>
<td>11</td>
<td>11</td>
<td>43</td>
<td>36.1</td>
</tr>
<tr>
<td></td>
<td>Within one year</td>
<td>0</td>
<td>8</td>
<td>3</td>
<td>4</td>
<td>0</td>
<td>15</td>
<td>12.6</td>
</tr>
<tr>
<td></td>
<td>Greater than one year</td>
<td>6</td>
<td>19</td>
<td>17</td>
<td>19</td>
<td>0</td>
<td>61</td>
<td>51.3</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>6</td>
<td>38</td>
<td>30</td>
<td>34</td>
<td>11</td>
<td>119</td>
<td>100</td>
</tr>
<tr>
<td>How often does the person you care for go for dental check-ups?</td>
<td>Emergency only</td>
<td>6</td>
<td>35</td>
<td>26</td>
<td>30</td>
<td>3</td>
<td>100</td>
<td>84.7</td>
</tr>
<tr>
<td></td>
<td>Every 6 months</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>1.7</td>
</tr>
<tr>
<td></td>
<td>Every 3 months</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>8</td>
<td>12</td>
<td>10.2</td>
</tr>
<tr>
<td></td>
<td>Every 12 months</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>4</td>
<td>3.4</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>6</td>
<td>37</td>
<td>30</td>
<td>34</td>
<td>11</td>
<td>118</td>
<td>100</td>
</tr>
</tbody>
</table>

*Significant at p<0.05. Sig**
Table 5. Caregivers' responses for their experiences on obtaining dental care for persons with disabilities

<table>
<thead>
<tr>
<th>Question</th>
<th>Response</th>
</tr>
</thead>
</table>
| Has the disabled person you care for experienced difficulties in obtaining dental care in your community? | Yes 55%  
No 40.2%  
Don't know 100% |
| Does the person you care for have any dental (oral health) needs that require dental treatment? | Yes 65%  
No 26.3%  
Don't know 15.1%  
Total 100% |

Table 6. Barriers to accessing dental care

<table>
<thead>
<tr>
<th>Reason</th>
<th>Major Reason</th>
<th>Minor Reason</th>
<th>No Reason</th>
</tr>
</thead>
</table>
| Dentist unwilling to treat because inadequately trained in treating persons with disability | N 20  
% 16.8%  
N 36  
% 30.3%  
N 63  
% 52.9% |
| Cost or financial difficulty                                           | N 58  
% 47.8%  
N 27  
% 22.7%  
N 34  
% 28.6% |
| Afraid of dentist                                                      | N 62  
% 52.1%  
N 36  
% 30.3%  
N 21  
% 17.6% |
| Unable to sit in the chair or cooperate with dentist                   | N 33  
% 28.2%  
N 26  
% 22.2%  
N 58  
% 49.6% |
| Transportation difficulty                                              | N 32  
% 26.9%  
N 43  
% 36.1%  
N 44  
% 37% |
| Dental clinic too far away                                             | N 22  
% 18.5%  
N 27  
% 22.7%  
N 70  
% 58.8% |
| No time                                                                | N 10  
% 8.4%  
N 29  
% 24.4%  
N 80  
% 67.2% |

Conclusions

Based on the information provided by this study, the following can be concluded:
Half of those with disabilities have difficulty accessing dental care, and 85% of those in this study saw a dentist for emergency treatment only. Fear of dentists and the cost were frequent barriers to accessing dental care for those with disabilities in Saudi Arabia. Dental care is part of a person’s total health and must be a standard component of comprehensive medical care for persons with special needs. A strategy to address financial and non-financial barriers is required for persons with special needs so that they can have access to dental care. Parents and caregivers should be educated about prevention of oral disease in children at an early age. Dentists and physicians should be better trained to treat persons with special needs, so that they can enhance their knowledge, skills, and confidence in treating this vulnerable group of the population.

Acknowledgements

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References


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