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# Assessment of Dentists' Awareness about Oral Health of Children with Disabilities in 2024

Hussin Saeed Mohammed Alqhtani[1], Arwa Ali Swead[2], Otudi, Jabril Mohammed Y[3], Hatan.Mohammed Yahya M[3], Alhazmi, Fares Jebreel A[3], Anbari Ahmed Ibrahim A[3], Alhazmi, Hassan Yahya M[3], Alhazmi, Abdullah Hassan A[3], Muafa, Hassan Abdullah H[3], Saeed Ghormallah Saeed Alghamdi[4], Manea Mohammed Abdullah AlqRni[4], Sami Abdullah Alghamdi[5], Naif Medahwes A Abutaleb[6]

[1]Dental Hygiene, Riyadh, specialized dental office in Riyadh, Saudi Arabia.
[2]General Dentist, AlBaha branch of the Ministry of Health, Saudi Arabia.
[3]General Dentist, Jazan Health Cluster, Saudi Arabia.
[4]Dental hygienist, AlBaha Health Cluster, Saudi Arabia.
[5]Endodontics, AlBaha Health Cluster, Saudi Arabia.
[6]Dental Technician, Jazan Health Cluster, Saudi Arabia.

**ABSTRACT: Introduction**: Children with disabilities are a special category because they are less able to take care of their own oral health and require more procedures to avoid oral diseases since they are more likely to develop than their peers without disabilities. It is challenging, time-consuming, and requires certain circumstances to treat such children.

**Objective:** The aim of our study was to assess the level of dentists' awareness about the oral health and the specific treatment in children with disabilities.

**Material and methods:** The study included 150 randomly selected dentists from Taif hospitals, Saudi Arabia. Their knowledge was assessed via anonymous questionnaire consisting of 18 items.

**Results:** The results of the questionnaire revealed low level of awareness on matters of children with disabilities, their special features and behavioral problems. These results raise the need of undertaking of emergency measures in creating step-by-step instruction programs aimed at all practicing dental medicine who have not undergone special training during their education.

## INTRODUCTION

According to Bölte et al., 2024, disability is a comprehensive concept that encompasses impairments, limitations in activities, and restrictions in participation. It is not solely a biological or social construct, but rather emerges from the interplay between health conditions and various environmental and personal factors (Allerton et al., 2011; Alwadi et al., 2024).

Children with disabilities are at higher risk of poorer health than the general population and the academic evidence highlights the existence of health disparities between children with and without disabilities. Children with disabilities also experience poorer oral health, with problems ranging from tooth decay and gingivitis to severe periodontal disease (Zhou et al., 2017)

This heterogeneous population is a subset of children with special health care needs or disabilities. It includes, but is not limited to, individuals who may also have the comorbidities of attention-deficit/hyperactivity disorder (ADHD), autism spectrum disorder (ASD), cerebral palsy, developmental delay, epilepsy, hydrocephalus, intellectual developmental disorder, neural tube defects, and syndromes such as Angelman syndrome, Down syndrome or trisomy 21, fragile X syndrome, or Williams

syndrome. Children with disabilities are at increased risk for dental disease because of unique aspects of their medical conditions, the treatments associated with them, or both. As a group, Children with disabilities are more likely to have unmet oral health care needs than typically developing children. The oral health needs of this population are increasing because Children with disabilities are more likely to live longer into adulthood than in previous decades. Regardless of life span, oral health should be prioritized to improve systemic health and overall quality of life (Sarvas et al., 2024).

Preventive care should be emphasized by dental medicine specialists, particularly for children with disabilities. An essential aspect of community health is oral health, which requires careful consideration. Due to a lack of expertise, education, or dental office supplies, dental treatment for children with disabilities is frequently undervalued (Smith et al., 2010).

Significance of the study:

Various studies have indicated that persons with special needs may face several barriers to dental treatment, which increases the prevalence of oral diseases in this population. Moreover, these studies suggested that Saudis with special needs have a higher prevalence of oral diseases, such as dental caries and periodontal disease. In Saudi Arabia, it has been estimated that 2.9% of the total population have an extreme form of disability. Moreover, studies suggest that Saudis with special needs have a higher prevalence of oral disease, such as dental caries and periodontal disease (Asir et al., 2022; Bindawas et al., 2018). Therefore the researcher found it necessary to investigate this important issue .

**AIM:**

The aim of our study was to assess the level of dentists' awareness about the oral health and the specific treatment in children with disabilities

**MATERIALS AND METHODS:**

Descriptive study design was used, a number of 150 randomly selected dentists from Taif hospitals, Saudi Arabia were evaluated using anonymous 18-items questionnaire. They were willing to participate in the study, oral consent was taken.

The questions concerning the dentists' years of experience, practicing dental care for children with disabilities, type of dental care, difficulties facing them while caring, type of dental problems, and the most frequent children reaction.

Validity of the tool was tested by 3 experts in the field and necessary modification was done. The reliability of tools were done by using Cronbach's Alpha. Its results was 0.82. Pilot Study was done in 15 dentists. The needed modifications in the study tools were done. Patients included in pilot study were excluded from the actual study sample. Administrative and ethical approvals was obtained. Data collection was done from January 2024 to March 2024. Data was analyzed using SPSS version 21

**RESULTS**

The knowledge of dentists concerning the oral health in children with special needs was evaluated using anonymous questionnaire consisting of 18 items.

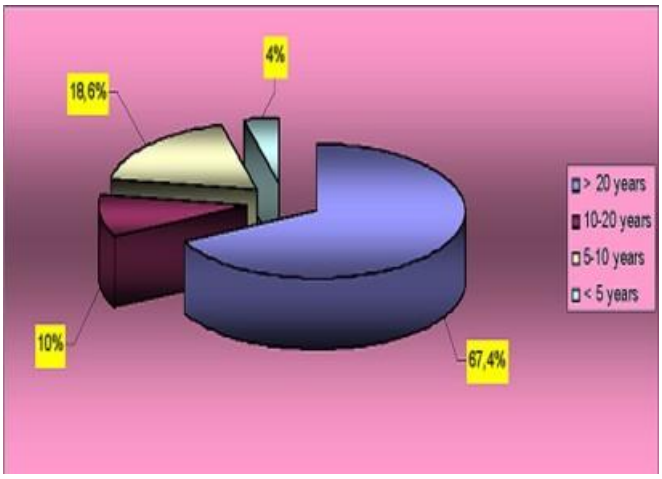



**Figure 1** shows the distribution of the study subjects according to their length of service.

This randomly selected population of dentists consists mainly of specialists with long years of professional experience – 67.4% have been working for > 20 years. This sub-group have graduated in a period of time when the dental problems in children with disabilities were not part of the university education. This raises the serious problem of ensuring dental care in children with special needs. Likewise, the practitioners with 10-20 (10%) and 5-10 years of professional experience have not received such education during the course of dental medicine university studies. Incomplete education have undergone the dentists with < 5 years of practice (4%). The age of the participants corresponds with their professional experience. The majority of the subjects are 35-44 years old (48%), 33.3% are aged 25-34 years and > 44 years are 18.7%. A total of 62.7% have the specialty of General dental medicine, 12% have Prosthetic stomatology and only 3.3% have Pediatric dental medicine. A total of 22% have no specialty.

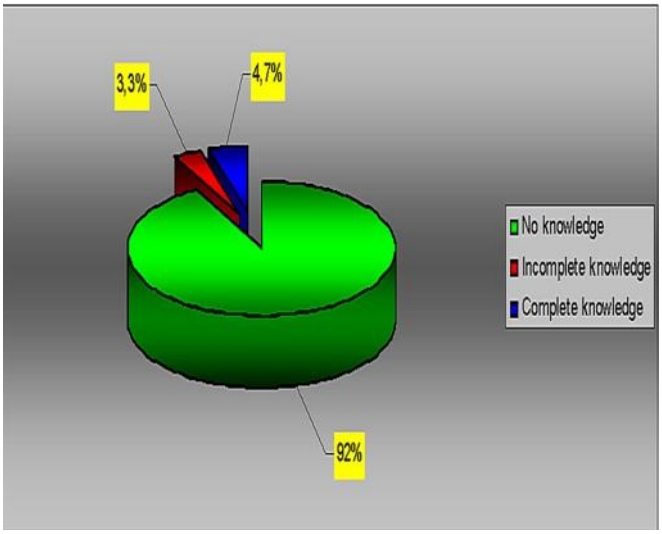



**Figure 2** shows the results of the questionnaires concerning the knowledge of dentists on dental medicine in children with disabilities.

The majority of dentists have no knowledge on dental medicine in children with disabilities. Only 4.7% have knowledge on children with disabilities and 3.3% point out that their knowledge is insufficient. The majority of dentists (84%) have no information of the specific characteristics of these children. Only 16% (who have graduated within the past 10 years) have some information in this field. Internet (60.7%) and the mass media (39.3%) are the main sources of information on this topic.

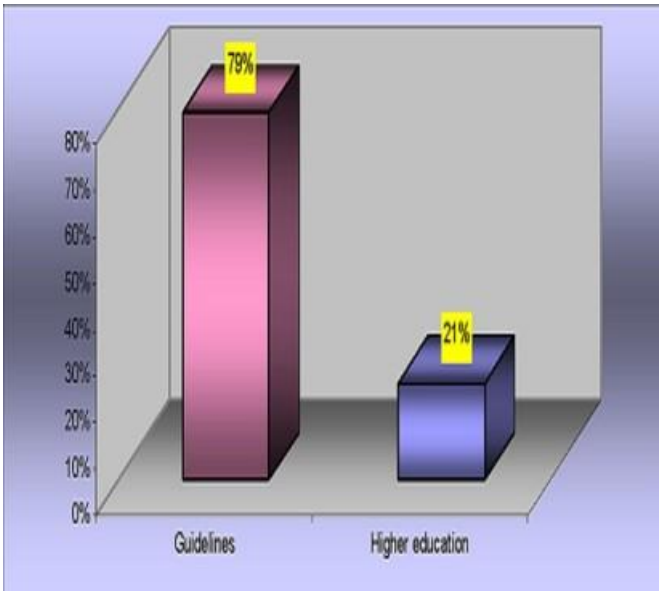
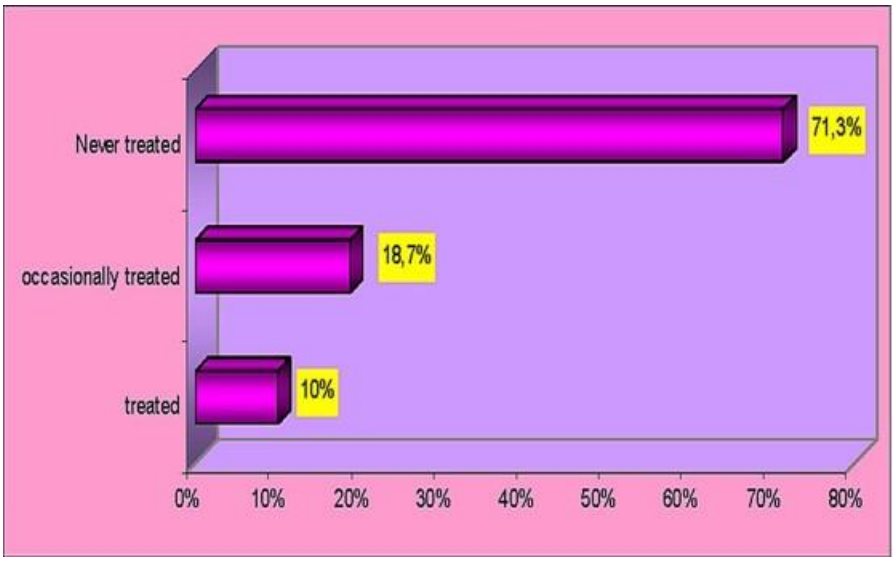



**Figure 3** shows the opinion of the studied group on where the information on the dental health of children with special needs should be taken from.

Only 21% suggest that the information should be received during the higher education and 79% prefer the specialized guidelines in the field.




The participation of the subjects in the dental care for children with disabilities is shown on Figure 4.

The results of our study show that only 10% of the dental specialists have ever had patients with special needs and only 18.7% have ever given dental help to such patients.

A total of 71.3% have never worked with special needs children. The most frequently treated dental pediatric dental patients with disabilities had: mental retardation, followed by children with impaired hearing and/or sight. The participants rarely have

treated children with autism and/or physical disabilities.

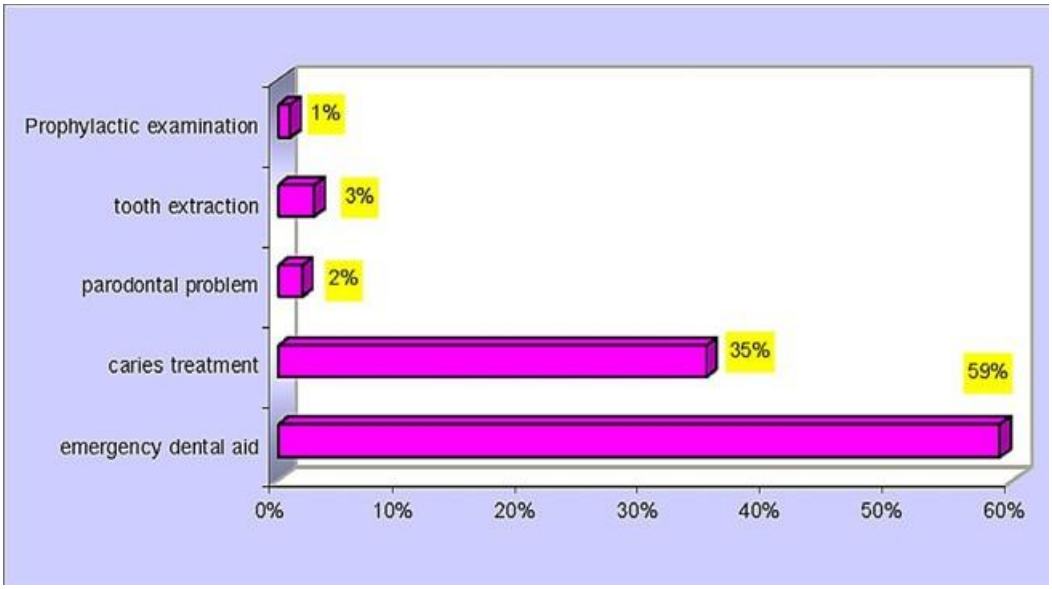



**Figure 5** shows the most frequent procedures in children with special needs.

According to the answers of the studied dentists, the most frequently performed procedures were: "emergency dental aid" (58%), followed by caries treatment (27%), periodontal problems (9%) and tooth extraction (5%). Prophylactic examinations were rare (1%). This clearly shows that children with disabilities seek dental health only in the presence of complications with pain and rarely visit the dentist for prevention.

The most frequently stated difficulties in the work with special needs children are: negative attitude and behavior (89%), autoaggression (7%) and aggressive behavior against the dentist and the dental team (4%).

The most frequent reactions of the children with disabilities were: unusual fear (22%), followed by severe anxiety (18%) for the upcoming treatment and refusal to be examined and treated (8%).

Local anaesthesia was needed in 47% of the cases, tranquilizers for premedication were used in 11%, 30% of the children with special needs required general anaesthesia and 12% needed neuroleptanalgesia. Children with autism and/or mental retardation showed marked sensitivity to light (19%) and touching on the face and mouth (81%).

**DISCUSSION**

Children with disabilities have poor dental health and this represents a serious medical problem that could lead to severe deterioration of the general health, quality of life and life expectancy. Oral problems could trigger systemic diseases and conditions and lead to severe affection of other parts of the body, requiring expensive emergency measures, hospital treatment and medication. The consequences of poor oral health go beyond the medical effects. The untreated oral problems could increase the medical expenses of the community as a whole (Texas Dental Association., 2008).

The dental help is the most frequently found unfulfilled medical need in children. The children of low socio-economic status and minority origin or with disabilities are in greater risk of oral health problems, with poorer chance of dental help and have poorer access to dental aid. The dentists have moral responsibility for the society and the parents. The academic dental centers have special responsibility for the children's dental needs (Texas Dental Association., 2008; Mouradian., 2001). The measures for improvement of oral health in young children should include improvement of the community education in oral health, early start and dynamic follow-up of oral health evaluation and primary prevention (Edelstein., 2002).

The Academy of children's stomatology recommends increasing of the awareness of dentists and dynamic dialogue between the professional organizations and practicing dentists in relation to the future steps in this field (Waldman & Perlman., 1999).

The results of our study show that the practicing dentists are not prepared to work with children with disabilities. Due to the lack of adequate professional information these children are not managed well. Our data reveals that the majority of children

with special needs do not seek dental help and the procedures performed are quite limited. The apparent reason for this is the difficulties in the care of these children that lead to reluctancy among dentists. Yet, the pain in cases of emergency makes the children with special needs and their parents makes them seek dental aid. No activities are undertaken in the field of dental prevention and this negligence leads to further deterioration of dental problems.

Our results comply with the conclusions of Oredugba (2006) showing that only a few dentists are familiar with the dental treatment of children with disabilities, independent of the age, gender and location of the dental practice. Although the majority of the studied dentists define the behavior of these children as "problematic", the specialists clearly state their willingness to treat such children.

Another study, performed by Pomarico in 2006, evaluates the knowledge and attitude of a small group of 67 specialists (teachers, service personnel and healthcare professionals) caring for children with disabilities. The author reports unsatisfactory results and concludes that the attitude towards oral health shows no correlation with the specialists' knowledge.

The results of our study clearly suggests the need for change in the attitude of dental specialists towards children with disabilities and the need for improvement of their professional qualification. As in Bastani et al., 2021 who reported that the dental treatment for children with disabilities varied greatly, implying a risk for inequalities in treatment as well as in oral health. There is a need for more educational opportunities, better financing, and more support on the organizational level in order to improve odontological care for young special care patients.

## CONCLUSION

Since many dentists have not received this type of training during their higher education, guidelines for a therapeutic approach to these patients must be developed in light of the lack of information regarding the dental health of children with disabilities, their unique characteristics, and behavioral issues. Conversely, dentistry schools ought to implement this kind of instruction and enhance their current initiatives about the prevention and treatment of these kids. Children with impairments may have better oral health and a higher quality of life as a result of this strategy. In order to demonstrate to dental medicine fresh graduated doctors the real issues faced by children with special needs as well as the current preventive, diagnostic, and therapeutic strategies, practical studies are also required.

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