Original Article

Caregivers’ oral health knowledge, attitude and behavior toward their children with disabilities

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Abstract  
Background/purpose: This study was undertaken to document the knowledge, attitude and behavior among family caregivers, and to identify the related factors influencing their behavior in promoting their and children’s oral health.

Materials and methods: A cross-sectional study was conducted to collect self-administered questionnaires from 503 family caregivers, who cared for 6–12 year-old children with disabilities in 10 special schools. Multiple regression models were used to analyze the association between caregiver’s oral health behaviors and related factors.

Results: Most caregivers were female (74.8%). The top three sources of oral health knowledge among caregivers were dentists (66.60%), books (34.59%) and television (31.21%). Comparison of oral health knowledge and attitude scores among different education levels of caregivers yielded statistically significant differences ($p < 0.05$). Eighty-four percent of caregivers cleaned their teeth twice a day and 46.12% used dental floss. More than half of caregivers (60.44%) assisted their children to brush teeth. Only 12.65% took their children to receive fluoride varnish services. Caregivers’ favorable oral health behavior was found to be significantly associated with a higher education level, better knowledge and positive attitude. The determining factor of caregivers’ preventive behavior was attitude. Education level influenced the caregiver’s knowledge. Knowledge is positively associated with attitude.

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Introduction

Oral health is a fundamental component of overall health. Poor oral health can have serious consequences for a child’s nutrition, general health, future oral health, and quality of life. Numerous studies have reported a poor state of oral health among high risk groups of children with disabilities.\(^1-3\) When compared with ordinary children of similar ages, children with disabilities have a higher prevalence of cavities, more untreated and extracted teeth, lower levels of oral hygiene, elevated gingival bleeding, calculus, and diminished levels of periodontal health.\(^4-6\) In addition, oral health deteriorates with increased age.\(^1,7\) There is evidence that children with caries in the primary dentition are more likely to develop caries in the mixed and permanent dentition.\(^1,9\)

Children’s oral health behavior originates mainly from the family.\(^10\) Parents and/or caregivers play a crucial role in promoting oral health and are primarily responsible for teaching their children proper hygiene skills and developing effective oral hygiene habits.\(^11-15\) It has been reported that good oral health among children is more likely to occur among children whose caregivers demonstrate better knowledge of oral health, attitude and behavior.\(^1,3\)

Children with disabilities generally do not make independent decisions and need to rely on their parents and/or caregivers to assist and monitor their daily activities, health care, and oral health care due to mental and/or physical limitations. These limitations include insufficient manual dexterity, coordination, and ability to comprehend complex tasks. In Taiwan, respectively, 25.79% and 35.16% of children with disabilities are either totally or extensively dependent on their caregivers to assist and maintain their oral health.\(^1\) Oral health routine care among children is less likely to happen when caregivers have inadequate knowledge or inappropriate attitude, or poor oral hygiene behavior.\(^15-17\)

Caregiver–child relations and related characteristics could either facilitate or hinder children’s oral health and oral health-promoting behavior.\(^18,19\) Better understanding of the caregiver’s knowledge, attitude and behavior (KAB) status will be valuable in planning effective preventive oral health strategies. Moreover, there is a paucity of research data in the literature regarding the association between oral health related KAB among family caregivers of children with disabilities. Therefore, the present study was undertaken to document KAB among family caregivers, and to identify the related factors influencing their behavior in promoting their and their children’s oral health.

Materials and methods

Study design and participants

A cross-sectional study was conducted during the period from September to October 2006. Ethical approval was obtained from the Human Experiment and Ethics Committee of Kaohsiung Medical University (Protocol number: KMUH-IRB-950125). We invited all special primary schools in Taiwan to participate in this study. Ten out of 18 schools agreed to participate in this research. Family caregivers who manage the daily activities of children with disabilities at home served as the samples. The procedure, content of the survey and a questionnaire were explained to the caregivers, and informed consent was obtained from those caregivers who agreed to participate. Five hundred and three caregivers completed the questionnaire (a response rate of 94.02%).

Questionnaire

The standardized self-administered survey questionnaire used in a previous national survey entitled "Oral health survey and oral hygiene education for the disabled in Taiwan"\(^20\) was modified by a panel of experts and reviewed by special school teachers and parents for assessment of its validity. The modified self-administered survey questionnaire was given to and completed by caregivers. This questionnaire was constructed of the following parts: demographic characteristics of caregivers and their children with disabilities and the oral health KAB. The questionnaire consisted of closed-ended questions with dichotomous, ordinal and multiple level response choices to determine the above relevant variables. The questionnaire was pre-tested on 32 caregivers in the same group. Based on the results of the pilot testing, questions were revised to enhance clarification and appropriateness. Kuder-Richardson reliability for oral health knowledge and Cronbach’s α for caregivers’ oral health attitude factors were 0.80 and 0.86, respectively. The test–retest reliability of oral health KAB was 0.88, 0.85, and 0.83, respectively, indicating an acceptable reliability.

Participants and children demographics

Demographic characteristics of caregivers consisted of their age, gender, education level, and relationship with the child. Children’s demographic information included age, gender, severity and classification of disability. Five
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