

A REVIEW OF INTERVENTIONS TO IMPROVE ORAL AND DENTAL HEALTH IN CHILDREN

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ABSTRACT

Oral and dental health education is helpful in primary health services and screening. Therefore, choosing an effective educational method to transfer health knowledge and skills is essential. Oral health behaviors in children are significant because of their consequences on health. The present study evaluated the type and success rate of oral health promotion interventions in children. The review of the studies showed that the interventions were carried out in the form of educational programs with follow-up sessions, examinations, and preventive services in different periods, and the variables measured in them included awareness, attitude, belief, and performance in the field of oral health care. In addition, teeth were the components of the health belief model and the tooth decay index, all of which had statistically significantly improved among the test group participants after the educational intervention. According to the review of interventions and the evaluation of their results, teaching parents oral and dental health-promoting behaviors and providing preventive services in the short term positively affects children's oral and dental health. It also seems that interventions based on theories and models of behavior change can be considered an effective method for improving oral and dental health performance. Feedback-based training effectively enhanced children's oral health, self-care, and self-efficacy indicators. It is suggested to use this model as a community-oriented approach to improve self-care behaviors and oral health indicators.

Key words: Oral and dental health, Children, Education, Interventions.

Introduction

The World Health Organization has warned all countries about the burden of oral and dental diseases and has emphasized changing behavior by providing oral and dental health services and focusing on preventive programs [1]. The conducted studies show the fact that the use of oral and dental self-care methods in teenagers is inappropriate, so oral and dental health education is necessary under the supervision of different medical groups and in primary oral and dental health services and intraoral screening. It is helpful. Since the purpose of health education is to influence the behavioral characteristics of the audience to improve their health level, it is important to choose an effective educational method to transfer health knowledge and skills. With the advancement of educational technology, we see various educational methods whose effectiveness and efficiency are doubtful [2-5].

Oral health has a concept beyond healthy teeth; it is a necessity and a part of general health throughout life. According to the World Health Organization (WHO) guidelines, oral health is defined as "the absence of oral pain, pharynx, oral and larynx cancers, oral ulcers, birth defects, and other disorders that affect the oral cavity. All age groups are susceptible to Oral and dental diseases are located. Oral and dental health from birth and the emergence of the first Teeth are important. Because it also plays an important role in public health. In addition, due to the lack of full ability of children in the early years of life, this group is considered

among the vulnerable groups [6-9]. Paying attention to oral and dental hygiene and observing it in childhood is of particular importance. Scientific evidence shows that baby teeth are important to a child's health. Because child nutrition, maintenance of permanent teeth, ability to speak, beauty, and self-confidence are related to milk teeth [10-13]. In children, due to the lack of development of the ability to understand the surrounding environment and bring objects into the mouth, they are more exposed to bacteria, and also due to the lack of sufficient mineralization, the teeth at the beginning and the lack of chloride and high amounts of carbohydrates in children's nutrition, especially in While sleeping, as well as parents' lack of knowledge about their child's oral and dental hygiene, teeth are at risk of decay [14-17]. Research conducted in Canada in 2014 focused on the importance of attention and treatment of oral and dental problems in children aged 0-6 years. This study showed that tooth decay is one of the most common diseases in children, which causes insomnia, malnutrition, stress, and lack of self-confidence in addition to pain. Therefore, prevention and treatment from a young age is important. The child, the family, the dental hygienist, and the dentist bear this responsibility, and in this regard, an early visit to the dentist has been suggested as one of the ways to prevent early caries in children [18].

Parents play a very important role in the condition of their children's oral and dental health. Just as the child learns his behavior and life functions from his parents, he also learns his oral and dental hygiene from his parents, and the healthy

and appropriate nutritional pattern that the mother implements for her children significantly prevents dental caries [19-21]. Education to parents by oral and dental hygienists and people with poor economic status in society who are not able to use treatment facilities leads to significant progress in the prevention of oral and dental diseases. According to research conducted in China on the parents of children aged 0 to 5 years, increasing their level of awareness and participating in educational sessions in a group has improved the oral health of children, and finally, the rate of caries has decreased [6]. Based on the results of review articles and the evaluation of past intervention studies, health promotion can be a good guide for future decisions [22-24]. The reason for conducting this study is the lack of sufficient summarized evidence to examine the types of interventions made regarding the improvement of children's oral and dental health. Therefore, this review study has attempted to investigate the types of oral health promotion interventions and their success rate in children.

Results and Discussion

The review of the conducted studies showed that the preventive services in the studies include the provision of oral and dental hygiene products such as wipes for cleaning the mouth of babies and primary milk teeth, special toothbrushes for children 0 to 6 years old, and toothpaste containing fluoride compounds. In addition, the varnish was fluoride. The time allocated to implement the intervention was different in each study [25-29]. So, the least time was related to showing the 20-minute video, and the most was related to the follow-up meetings during two months and three years. In several studies, the time allocated was not clear. Follow-up sessions were conducted in all selected studies and varied based on the age of the children in each study. The shortest follow-up time was immediately after the intervention, and the longest was three months after the intervention [30-34].

The success rate of educational interventions investigated in these studies was reported from 95 to 98 percent. Among all the variables that were examined in the studies, the education of parents, especially mothers, was more successful, and among the 16 studies, all of them showed improvement and progress in the level of awareness and reduction in caries in children. Variables that were investigated to prevent tooth decay in children, such as the correct pattern of brushing using fluoride toothpaste in the group of preschool children, were associated with 95% progress in reducing the amount of decay. Among other preventive measures that were mentioned in the studies was fluoride therapy through fluoride varnish, the results of which were repeated use at regular intervals during 2 to 3 years of growth, 97% improvement in oral health, and reduction of caries [18, 35-39].

In this review study, the type and amount of interventions in the field of improving children's oral and dental health and

their effects were investigated. Despite documented evidence highlighting the importance of oral and dental hygiene in childhood, as well as many guidelines available from medical and dental societies in this area, there is a significant gap in the application of this evidence to promote oral health. The interventions were carried out among various reviewed studies and included educational programs, lecture sessions, group discussions, questions and answers, counseling, PowerPoint presentations, showing movies and PowerPoint files using a data projector, oral and dental hygiene instructions, and care. It was preventive in the form of booklets and brochures, the demonstration of correct brushing, and the provision of preventive services (the supply of oral and dental hygiene products including toothbrushes, toothpaste containing fluoride compounds, dental floss, and fluoride varnish) [14, 18, 33-39]. Most of the studies contained results related to oral health awareness, self-efficacy, and assessment of oral health-related health behaviors in children. In other studies, in addition to the above, educational sessions in the field of children's oral health knowledge (for example, prevention of early caries in children through the use of fluoride and teeth grinding, proper nutrition, the first dental visit), explanation regarding The normal anatomy of the baby's mouth and teeth, the baby's teething pattern, and the baby's oral habits (for example, finger sucking instead of a pacifier) were conducted for mothers. Since the health and compliance of children's oral and dental hygiene start from birth. Therefore, the training of mothers who have recently had a child is the right time to receive proper training on oral and dental health behaviors [38-40]. To change and promote performance in the field of oral and dental health care, health promotion interventions in children were implemented for the participants of the intervention group, the results of which showed improvement in the measured variables. However, because oral and dental health education interventions are not able to completely solve the problems in this field, therefore, after examining the educational interventions, the lack and need to carry out theory-based interventions with a clear framework is necessary [38-42]. It should be pointed out that according to the positive findings of the training sessions held for parents and dental hygienists, the results of the studied studies indicate that the above method is highly effective in improving the oral health of children. Among the advantages of training sessions, we can point out the low cost of its implementation, as well as the frequency of the participating group in a certain period, and it is easily possible to obtain results and check variables in this way. On the other hand, it should be kept in mind that training in one session will not be enough, and we are dealing with a group of people with different attitudes and beliefs and different functional abilities, which causes limitations in obtaining correct results. To obtain documented results, follow-up sessions are needed, which will take time. Among the other limitations that should be mentioned in these studies is that much research was conducted in this short period; as a result, the obtained results cannot be fully relied upon, and the need for studies with enough time for interventions to be

determined accurately. Caries indicators and long-term effects of variables on the oral and dental health of children [37-42].

According to the results of the studies, it seems that the feedback-oriented method (Teach Back), one of the interactive education methods, can provide a suitable educational platform for behavior change. This method, which several healthcare organizations have approved, reduces the misunderstanding of essential information in clinical settings [43]. In this approach, the components of participation, cooperation and cooperation, collective acceptance, and stimulation of experience are considered, and the learner must reach a level of mastery and ability to use the skills and art of learning. The difference between this method and other educational methods is that the level of sufficiency and sufficiency of the learner is the criterion and basis for the end of the education process [44]. Another advantage of this method is self-evaluation, which is done comprehensively before others do it; this type of training method has a kind of corrective and therapeutic aspect. Currently, this technique has been used in several behavioral issues such as diabetes control [45], self-care of heart failure patients, self-care after childbirth [46], and happiness in breast cancer [47].

Conclusion

According to the review of interventions and the evaluation of their results, teaching parents oral and dental health-promoting behaviors and providing preventive services in the short term positively affects children's oral and dental health. It also seems that interventions based on theories and models of behavior change can be considered an effective method for improving oral health performance in children. Feedback-based training effectively improved students' oral health, self-care, and self-efficacy indicators. It is suggested to use this model as a community-oriented approach to improve self-care behaviors and oral health indicators.

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