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INFLUENCE OF ORAL HEALTH ON ACADEMIC PERFORMANCE IN SCHOOL CHILDREN-META ANALYSIS

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ABSTRACT

Oral health can harmful to children's quality of life, academic performance, and future success and goals and achievements. It may results in oral health problems in appetite loss, depression, increased in attentiveness, and distractibility from play and school work and which can lower self-esteem and contributes to the academic failure. An oral health in school students, which enables them to retain good oral health the rest of their lives. The most effective for promoting behavioural changes in children health actively promotes by enhancing of its ability to serve as a healthy place to live, learn and work, bring health and education together. Health promoting school is one of the joint objectives are the WHO and UNICEF. Class room interventions in reducing the dental caries incidence and improving oral hygiene behaviour among school children. About 24.2% of children were reported to have fair, poor, and very poor oral health.

KEYWORDS: Oral health, school children academic performance, interventions.

INTRODUCTION

Health education is any combination of learning experiences to facilitate voluntary actions that leading to health.[1] Health education has roots in the ancient days. It been confirmed that the traditional way of learning and teaching alone is not enough.[2] Every person has the social responsibility for their own health and the health of those around them and should take active life long participation in the process of health education and even more important should practice a healthy life style. It is a reflection of general health. It was reported in the

2000 National oral health conference (USA) that ‘’ you cannot be healthy unless you have good oral health. ‘’Personal oral hygiene measures are the main part of the oral prevention.[3] School is one of the biggest channels in delivering health education to the children the provide.

Fig. 1: Oral Health.

Appropriate guidance to the children at the prime time of their lives and healthy nutritional habits to preserve proper oral hygiene and prevent caries and periodontal diseases the use of fluoride tooth paste, and regular tooth brushing are required. On oral health education focussing on dental practice is essential for the success of an oral health community strategy it aims to promote oral health principally by providing information to improve awareness it leading to adoption of a healthier life style, positive attitudes, and good oral health behaviour.

It has been shown that brushing habits developed during the childhood and adolescence will last for the rest of life of the subject.

SCHOOL ORAL HEALTH EDUCATION

School is an important stepping stone for learning it not only contribute to the health education but also to their health behaviour.[4] It developing the oral hygiene groups with related to children in age groups that are favourable for adopting measures. School is one of the guidance in delivering health education to children and also teach about the food hygiene comprising the control the consumption of carcinogenic food and high content of carbohydrates, which is to avoid the dental caries development. School policies also necessary to change the prevent the consumption of sweets and to motivate the consumption of healthy foods and drinks. It is necessary to promote the decrease of sweet foods and beverages around the school education.[5]

Health education is an important role of public health and effective primary preventative method. Oral disease can lead to loss of more than 50 million school hour's annually. Poor oral health can affects on the children's performance and later it affect on the self esteem and accomplishments in life in children with poor oral health likely to suffer the dental pain, irregular academic performance in the school children.

The best way to teach the children related to oral health and adolescents is going to their school environment to explain the importance of the oral hygiene

1. Fluoride application at home and during dental appointments.
2. Decreasing the sugar content intake and well balanced nutritional intake of prevent dental caries
3. Consuming fruits and vegetables that prevents the oral cancer
4. Stopping tobacco use and decreasing the alcohol consumption to reduce the risk factors of the oral cancer

Fig. 2: School Oral Health Education.

AIDS USED IN HEALTH EDUCATION

Based on the principles of sound, electricity and magnetism mostly common used in health education in aids are mega phones, micro phones, records and discs, tape records and sound amplifiers.

In adequate oral health can harm the children's healthy life, academic performance and further in future success and achievements. May oral health problems may result in appetite loss, depression, and increased attentiveness in academic performance and lower self esteem and contribute to the academic failure The WHO has made that the promotion children's oral health through the health promoting school in order to promote the global oral health. HPS is

a concept in which schools strive continually to improve the ability to healthy place work and study and to organise and which strengthen the oral health education.[6]

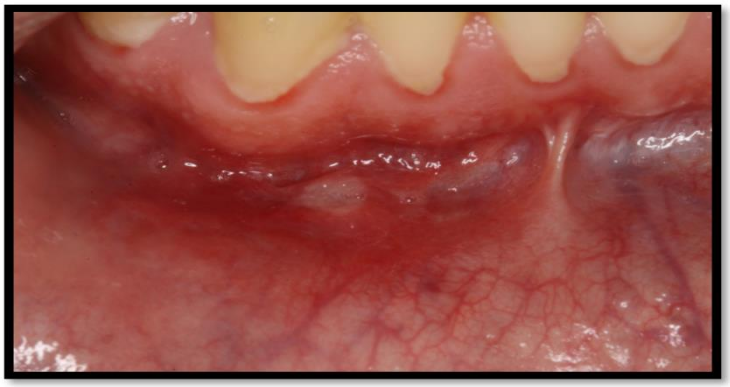

Fig. 3: Aids In Oral Health.

PARENTS /CAREGIVERS KNOWLEDGE OF ORAL HEALTH FOR THEIR PRE SCHOOL CHILDREN

The oral health of preschoolers heavily relies on caregivers. Understanding their knowledge of oral health is crucial. The role of caregivers is crucial in maintaining the oral health of preschoolers. To modify behaviors and encourage health promotion[7], it is important to understand their knowledge of oral health. According to research, parents' lack of knowledge and negative attitudes towards oral health are associated with increased caries experience in preschoolers. Negative attitudes include downplaying the importance of oral health, not visiting the dentist, and not brushing teeth regularly. The Surgeon General of America has emphasized the importance of parents and caregivers being familiar with the caring of their child’s primary teeth, as this are necessary to prevent ECC and promote good oral health.


[8]

Fig. 4: Parents Caregivers on Oral Health.

KNOWLEDGE OF TOOTH BRUSHING

It is important to understand the knowledge of parents or caregivers regarding tooth brushing for preschoolers. Previous studies have shown mixed results in the understanding of parents about when to begin brushing their child's teeth. Some studies have found that the majority of parents know that brushing should begin when the first tooth erupts.[9] However, some studies have found that only a third of mothers know when to start brushing their child's teeth. The frequency of brushing and flossing parents' teeth is correlated with their knowledge of preschool oral health.[10] Educating parents about when to start brushing their preschooler's teeth and promoting good oral health behaviors among parents is essential.

KNOWLEDGE OF REGULAR BRUSHING

A large number of studies have shown that the majority of parents understand the importance of regular brushing to maintain good oral health and control dental plaque.[11] Studies conducted in different countries have reported that 71% to 100% of parents recognize the significance of regular brushing. However, a study conducted in Australia reported that only 40% of parents identified "not brushing teeth every day" as a significant risk factor for ECC.[12] These differences across countries emphasize the importance of obtaining specific knowledge of oral health behaviors and attitudes among caregivers in each region.

FLUORIDATED TOOTHPASTE

It seems that overall, a high percentage of mothers are aware of the use of fluoridated toothpaste to prevent tooth decay, with studies reporting agreement ranging from 74% to 86%.[12] However, there is a lack of clarity among parents as to whether fluoride toothpaste should be used in young children and the amount that should be used. Studies have shown that between 40% and 70% [13]of parents know that only a small amount of toothpaste should be used for preschool children. Additionally, parents have a low level of knowledge regarding when children are capable of brushing their own teeth. Studies have found that around 52% of parents believe that by the age of four, children are capable of cleaning their own teeth, while only one-fifth of parents in another study knew that they should assist with tooth brushing until their children reach the age of 10.

[13]

Fig. 5: Flouridated Tooth Paste.

HEALTH IMPACTS OF ORAL HYGIENE

It is vital to note that preschool years are crucial in the development of a healthy child.[14] Poor oral health can negatively impact a child's ability to eat, sleep, and socialize, ultimately affecting their ability to learn.[15] Children with one decayed tooth involving the nerve weighed, on average, one kilogram less than their decay-free peers. Thus, poor oral health can have a deterimental impact on the child's overall health.

ECC is a major predictor of adult oral health, signifying a higher chance of having caries as an adult. Additionally, dental caries can have a flow-on effect on other health conditions, including cardiovascular disease, diabetes, and pneumonia. Therefore, promoting good oral health behaviors among parents and caregivers is essential to prevent ECC and promote overall systemic health ECC has a negative impact on children’s lives, including pain on having hot and cold beverages, chewing and biting difficulties, reduced appetite, weight loss, child.

RISK FACTORS OF ORAL HYGIENE

Additionally, other bacteria, such as lactobacilli, have been associated with ECC development.

DIET

A child's diet plays a crucial role in the development of ECC. Children who consume sugary foods and drinks regularly are at a higher risk of developing ECC. Frequent snacking and

bottle-feeding, especially at bedtime, have also been identified as risk factors for ECC. Parents should be encouraged to limit their child's sugar intake and avoid prolonged bottle-feeding.[16] Introducing water as the primary drink and promoting a healthy diet can help prevent ECC.

SOCIO-ECONOMIC

Socio-economic status (SES) can also impact a child's risk of developing ECC. Low-income families often have limited access to dental care and may have poor oral hygiene practices. Children from low-income families are more likely to have untreated cavities and poor oral health. Furthermore, parents' education level and oral health knowledge can also impact a child's oral health outcomes.[17]

ENVIRONMENTAL

Environmental factors, such as fluoride exposure, can also impact a child's risk of developing ECC. Studies have shown that communities with fluoridated water have lower rates of ECC. Additionally, access to dental care and preventive services can significantly reduce the risk of ECC. In conclusion, understanding the risk factors that contribute to ECC development is crucial in developing effective prevention and intervention strategies. Modifiable risk factors, such as diet and oral hygiene practices, can be targeted through education and behavior change initiatives. Non-modifiable risk factors, such as SES, may require more extensive interventions, such as improving access to dental care and services.[18] Overall, a multi-faceted approach is needed to address the complex issue of ECC. Sleeping difficulties in school performance. ECC is driven by a dysbiotic state of oral microorganisms mainly caused by a sugar-rich diet.

Fig. 6: **Risk Factors.**

HEALTH PROMOTION AND ORAL HEALTH EDUCATION

Health promotion is an essential approach to prevent health problems and promote well-being among individuals, groups, and communities. It aims to empower people with the tools and knowledge to improve their overall health and quality of life. In the context of oral health, promoting it should follow the principles of the Ottawa Charter, which emphasizes the involvement of all members of the population in eliminating the root causes of health issues, not just those who are at risk. It is also essential to take into account the Treaty of Waitangi principles of partnership, participation, and protection in health promotion programs and interventions in Nellore.[19]

Early Childhood Caries (ECC) is a prevalent disease worldwide and can become chronic if not treated in time. However, it is highly preventable through health promotion strategies that can improve oral health status and reduce the prevalence of ECC globally. Many risk factors of ECC are modifiable, such as diet, plaque control, water fluoridation, and regular dental checkups. By controlling these risk factors, we can prevent ECC and future dental problems.[20]

It has been found that the most efficient way to prevent dental caries, including ECC, is through the regular use of fluoridated toothpaste However, only 66% of Nellore parents with children aged two to four, brushed their children's teeth twice a day, as per the Ministry of Health report in 2010. It is important to create awareness about the risk factors of ECC, as well as its consequences, through oral health promotion campaigns. Interventions should focus on educating parents and caregivers on the effectiveness of tooth brushing with fluoridated toothpaste and proper brushing techniques. Strategic documents should form the basis of Government policies that direct public health promotion.

ORAL HEALTH PROMOTION INTERVENTIONS

This section discusses several oral health promotion interventions that aim to reach parents and caregivers of preschoolers. These interventions use a combination of traditional approaches, such as face-to-face interactions and printed leaflets, as well as advanced technology. The effectiveness of these programs has been evaluated based on various outcome measures, such as the amount of caries, Decayed, Missing, Filled teeth (DMFT) score, parental knowledge, tooth brushing behaviour, and participation in the program.

THE CHILD SMILE PROGRAMME

This literature review highlights Scotland's focus on improving oral health in children through accessible services that prioritize prevention and high-quality treatment. The Childsmile program, introduced in 2005[21], is a notable initiative that provides dental care and resources to Scottish children. Children receive a Dental Pack containing a toothbrush, fluoride toothpaste, and information on at least six occasions by the age of five. Additionally, every three- and four-year-old child attending the nursery has daily supervised tooth brushing and the Child Smile Nursery and School programs offer fluoride varnishing for children aged three and up in the most deprived areas. The program is delivered by various health professionals, including Dental Health Support Workers, Dental Nurses, Dentists, and Dental Hygienists, many of whom are employed by the National Health System (NHS). While the program has been positively received with increased yearly uptake and more children benefitting from it, its effectiveness needs to be evaluated based on other outcome measures as well.

[22]

Fig. 7: Child Smile Programme.

IMPROVING MATERNAL ORAL HEALTH

Several studies have shown that reducing the MS count in mothers can help prevent the transmission of MS to their children and reduce the prevalence of ECC. Kohler et al. conducted a range of studies to reduce the MS count in first-time mothers, and positive results were observed in both the treated mothers and their children. Additionally, a Brazilian study by Zanata and colleagues intervened with young, pregnant women of low socio-economic status and education level, resulting in a decrease in caries in the intervention group when the children were two-year-olds. These findings highlight the importance of improving maternal oral health status as a preventive measure against ECC.

CONCLUSION

It is important to recognize the effectiveness of oral health education in improving knowledge, attitude, and practices of oral health. The school-age period is a crucial time for physical and mental development, making it a prime opportunity to incorporate oral health education both in the school and home settings for long-term benefits. Non-dental personnel, such as ASHA and Anganwadi workers, can also play a role in delivering oral health knowledge to a defined target population. Reinforcement of oral health information is key to the success of any oral health education program. Improving the oral health status of preschool children in Nellore is a significant challenge. However, oral health promotion programs aimed at parents and caregivers of preschool children can improve the health of the overall population in Nellore. Currently, there is no oral health component in the Indian school curriculum, and there are no structured oral health initiatives for school children.

Implementing an oral health curriculum can provide children with the knowledge to make informed choices about their oral health and help preserve their overall health. Gradually increasing fundamental awareness of oral health in children can be cost-effective and lead to long-term benefits.

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