



Impact of Oral Health Education Intervention among Indian Population- A Scoping Review

Anita M¹, Bhuminathan S^{2*}, K G Sruthi³, Suganya P⁴, Charumathi Dhanushkodi⁴

¹Research Scholar, Bharath Institute of Higher Education and Research

Professor, Department of Public Health Dentistry, Sree Balaji Dental College & Hospital, BIHER, India.

²Professor, Department of Prosthodontics, Sree Balaji Dental College & Hospital, BIHER, India.

³K G Sruthi, Independent Researcher, India.

⁴Senior Lecturer, Department of Public Health Dentistry, Sree Balaji Dental College & Hospital, BIHER, India.

Abstract

Oral health issues are one of the most preventable common illnesses in the world. Over the past three decades, oral illnesses have continued to be the most common disease group in India, impacting over 66.7 crore (49.2% of the population) as opposed to 43.2 crore (50.2%) in 2017. This scoping review's purpose aimed to present a worldwide perspective on the oral health condition and habits of CYP (Children and young people) and adults. Oral health education, supervised brushing, and preventive dental care were the trialed interventions. Modifiable risk factors for the four most common non-communicable diseases (NCDs)—the majority of oral diseases and disorders shares diabetes, cancer, chronic respiratory illnesses, and tobacco use— as well as unhealthy diets high in free sugars. By reducing expenses, using the common risk factor strategy to address oral health issues would lessen the government's burden. This review highlights the need for additional studies to determine the efficacy of oral health education; it has also highlighted the field's shortcomings, including a lack of financing and a lack of consistency in the evaluation of outcome measures. Through the creation of policies, the government has a significant role to play in this process. Collaboration between academics and professionals is also necessary for such a step forward to guarantee that policies are produced with a solid scientific foundation and are appropriately evaluated. This could involve a variety of approaches that when combined will show the whole costs and advantages of each health promotion intervention as well as the overarching framework for strategic planning. In conclusion, inadequate dental hygiene greatly affects general health, with particular difficulties for the Indian community. We may emphasize oral hygiene by being proactive and realizing the link between dental health and overall wellness. We can enhance oral health outcomes in India by raising knowledge of the importance of good oral hygiene habits and encouraging their adoption. Let's acknowledge the significance of dental health and strive toward a more salubrious future for the public.

Keywords: Oral Health, Health Education, Impact, Oral hygiene, Knowledge

Short Communication

*Corresponding Author, e-mail: phdsbdch@gmail.com

1. Introduction

It has been discovered that oral health has a significant role in both physical and mental health and is a strong indicator of overall population well-being [1]. The World Health Organization (WHO) defines oral health as the absence of pain in the face and oral cavity as well as the absence of conditions like infection, cancer, periodontal disease, tooth decay, or loss that would impair one's ability to chew, smile, or speak normally [2]. It has been determined dental caries affect many school-age children [3]. More than one-third of people worldwide suffer from

dental health issues, with youngsters being especially at risk, especially when it comes to untreated dental caries [4-5]. The National Oral Health Policy draft of 2018 states that oral disease recurrence and prevalence in India are part of a silent pandemic. Over the previous three decades, the oral health status of the Indian population has barely improved. Over the past three decades, oral illnesses have continued to be the most common disease group in India, impacting over 66.7 crore (49.2% of the population) as opposed to 43.2 crore (50.2%) in 2017. A considerable number of Indians suffer

from various oral diseases, including severe periodontitis, untreated caries of deciduous teeth, and untreated caries of permanent teeth, which affect 43.2 crores (32%), 11.2 crores (8.3%), and 18.1 crores (13.3%) of the population [14]. Kids with poor dental health are about twelve times more likely to experience limitations in their everyday activities compared to kids in good health [6]. These kids not only deal with oral health issues such as gum bleeding, inflammation, and toothaches, but they also have trouble sleeping, miss school, perform worse academically, and have dietary changes that lead to weight loss and developmental delays [1]. Along with speech issues, irritability, low self-esteem, mental health issues, learning challenges, and a range of inflammatory disorders, children with oral health issues [7-9]. As lifestyle-related illnesses, the majority of these issues are preventable, and changing dental health habits in childhood is essential to maintaining good oral health as children age [10]. One of the most crucial periods to provide oral health education is throughout childhood, particularly in the grade school years, as interventions during this time may result in the formation of habits that last into adulthood and provide lifetime advantages for dental health [1]. Programs that promote oral health are said to be the most effective way to help school-age children with their oral health issues. However, the majority of these interventions are restricted to in-school initiatives. The World Health Organization has recommended that schools be used as suitable venues for promoting oral health. School-age children have found that receiving oral health education, receiving supervised tooth brushing instruction, receiving fluoride therapy, and applying fissure sealant are effective oral health education strategies. On the other hand, dental clinics and health institutions should also take into account educational initiatives. While numerous studies have looked at the efficacy of educational interventions in these kinds of settings to promote oral health [1]. Studies show that kids between the ages of 6 and 12 can process information and establish ideas that impact their deliberate decisions about their health [11]. However, today's oral health programs focus mostly on teenagers. Given that oral health habits are mostly formed throughout childhood, it may be more beneficial to implement oral health education interventions during this developmental era as opposed to later in life [1]. Promoting a healthy lifestyle requires raising kids' (and parents) awareness of their vulnerability to dental caries and creating favorable attitudes toward oral health practices. These goals can be achieved by using interventions based on theories and models of health education [12].

2. Significance of oral health in India

India has a large proportion of the population with dental problems, making oral health issues a major concern. Contributing factors include a high intake of sugar-filled diets and restricted access to dental care [13]. Dental caries, often known as tooth decay, periodontal disease, and oral cancer, are major concerns for Indians. The Ministry of Health and Family Welfare states that although over 60% of Indians suffer from dental caries and 85% from periodontal disease, the nation is known as the oral cancer capital of the globe. Government estimates indicate that more than 90% of adults have periodontal disease, and more than 70% of school-aged children have dental caries. The National Oral Health Policy draft of 2018 states that oral disease recurrence and

Anita et al., 2024

prevalence in India are part of a silent pandemic. Over the previous three decades, the oral health status of the Indian population has barely improved. Over the past three decades, oral illnesses have continued to be the most common disease group in India, impacting over 66.7 crore (49.2% of the population) as opposed to 43.2 crore (50.2%) in 2017. A considerable number of Indians suffer from various oral diseases, including severe periodontitis, untreated caries of deciduous teeth, and untreated caries of permanent teeth, which affect 43.2 crores (32%), 11.2 crores (8.3%), and 18.1 crores (13.3%) of the population. As the proposed National Oral Health Policy 2018 points out, only 12.4% of adults have ever had a dentist examine their mouth cavity, despite the severity of the issue. The issue has only gotten worse recently because India is among the nations that consume the most tobacco, which is a major cause of mouth cancer. India has between 75,000 and 80,000 new instances of oral cancer annually, making it the country with the greatest global incidence. Because they are marketed to adolescents and children, chewing tobacco in all its forms, supplied in little pouches across the nation, poses a severe health risk, according to Bhavna B. Mukhopadhyay, Chief Executive of the Voluntary Health Association of India [14].

3. Risk factors causing oral diseases

Modifiable risk factors for the four most common non-communicable diseases (NCDs)—diabetes, cancer, chronic respiratory illnesses, and tobacco use—as well as unhealthy diets high in free sugars, are shared by the majority of oral diseases and disorders [15].

4. Encouraging good dental hygiene practice in India

4.1. To educate the importance of Dental care

To maintain good oral health, routine dental checkups, and professional cleanings are essential. Through the provision of preventative care, early issue diagnosis, and advice on correct oral hygiene practices, dental practitioners play a critical role in promoting oral health in India [13].

4.2. Recommended Techniques for Oral Hygiene

Maintaining good dental health is important for an appealing smile. This includes flossing every day, brushing teeth twice a day with fluoride toothpaste, and cleansing the tongue to get rid of bacteria. Keeping your mouth clean can also involve using mouthwash [13].

4.3. Training the Indian People

Promoting healthy oral hygiene practices in India requires raising awareness among the populace and educating them about oral health. Campaigns for oral health education, educational initiatives in schools, and community projects can all be extremely important in spreading knowledge and encouraging preventative treatment [13].

5. Goals and prevention methods

Since the interventions' objectives are so wide-ranging, changes have also been made to knowledge,

attitudes, intentions, beliefs, behaviors, usage of dental services, and oral health status. These initiatives bear witness to dentistry's long-standing and possibly groundbreaking concern for the prevention of oral disease through altered lifestyle choices and changes in knowledge, attitudes, and behaviors [16]. Although the benefits of oral health education are cumulative, efforts should be concentrated on teaching children and their significant others. Interventions in health education have a limited impact and should be complemented by a comprehensive array of strategies for health promotion. To reduce the imbalances, oral health promotion should be directed especially toward communities with limited resources. ASHA, dais, Anganwadi workers, and other non-dental staff members who provide primary care may contribute to the dissemination of oral health information and shape the decisions made by a specific target group. By reducing expenses, using the common risk factor strategy to address oral health issues would lessen the government's burden. Evaluations should contain reasonable estimates of all the expenses and advantages of oral health promotion, including non-clinical metrics such as healthcare utilization, etc. [16]. Collaboration between academics and professionals is also necessary for such a step forward to guarantee that policies are produced with a solid scientific foundation and are appropriately evaluated. This could involve a variety of approaches that when combined will show the whole costs and advantages of each health promotion intervention as well as the overarching framework for strategic planning [16].

6. Conclusions

In conclusion, inadequate dental hygiene greatly affects general health, with particular difficulties for the Indian community. We may emphasize oral hygiene by being proactive and realizing the link between dental health and overall wellness. We can enhance oral health outcomes in India by raising knowledge of the importance of good oral hygiene habits and encouraging their adoption. Let's acknowledge the significance of dental health and strive toward a more salubrious future for everybody.

References:

- [1] A. James, C. Janakiram, R.V. Meghana, V.S. Kumar, A.R. Sagarkar. (2023). Impact of oral conditions on oral health-related quality of life among Indians-a systematic review and Meta-analysis. *Health and Quality of Life Outcomes*. 21 (1) 102.
- [2] B. Ndagire, A. Kutesa, R. Ssenyonga, H.M. Kiiza, D. Nakanjako, C.M. Rwenyonyi. (2020). Prevalence, severity and factors associated with dental caries among school adolescents in Uganda: a cross-sectional study. *Brazilian dental journal*. 31 171-178.
- [3] C. Stein, N.M. Santos, J.B. Hilgert, F.N. Hugo. (2018). Effectiveness of oral health education on oral hygiene and dental caries in schoolchildren: Systematic review and meta-analysis. *Community dentistry and oral epidemiology*. 46(1) 30-7.
- [4] B.A. Dye, G. Thornton-Evans, X. Li, T.J. Iafolla. (2015). Dental caries and sealant prevalence in children and adolescents in the United States, 2011-2012.
- [5] Y. Nomura, K. Maung, E.M. Kay Khine, K.M. Sint, M.P. Lin, M.K. Win Myint, N. Hanada. (2019). Prevalence of dental caries in 5-and 6-year-old Myanmar children. *International journal of dentistry*, 2019.
- [6] P. Shah, A. Misra, N. Gupta, D.K. Hazra, R. Gupta, P. Seth, K. Goel. (2010). Improvement in nutrition-related knowledge and behaviour of urban Asian Indian school children: findings from the 'Medical education for children/Adolescents for Realistic prevention of obesity and diabetes and for healthy aGeing'(MARG) intervention study. *British Journal of Nutrition*. 104 (3) 427-436.
- [7] P.F. Kramer, L.C. Brusco, M. Ilha, J. Bervian, F. Vargas-Ferreira, C.A. Feldens. (2020). Dental behaviour management problems and associated factors in Brazilian children. *European Journal of Paediatric Dentistry*.
- [8] L.J. Motta, C.C. Bortoletto, A.J. Marques, R.A.M. Ferrari, K.P.S. Fernandes, S.K. Bussadori. (2014). Association between respiratory problems and dental caries in children with bruxism. *Indian Journal of dental research*. 25 (1) 9-13.
- [9] L. Wu, X. Gao. (2018). Children's dental fear and anxiety: exploring family related factors. *BMC oral health*. 18 1-10.
- [10] S. Bashirian, S. Seyedzadeh-Sabounchi, S. Shirahmadi, A. Karimi-Shahanjarini, A.R. Soltanian, F. Vahdatinia. (2021). Predictors of oral health promotion behaviors among elementary school children: Examination of an extended social cognitive theory. *International journal of paediatric dentistry*. 31 (2) 191-203.
- [11] A. Mishra, R.K. Pandey, H. Chopra, V. Arora. (2018). Oral health awareness in school-going children and its significance to parent's education level. *Journal of Indian Society of Pedodontics and Preventive Dentistry*. 36 (2) 120-124.
- [12] H. Quach. (2020). How can children be involved in developing oral health education interventions?. *Evidence-Based Dentistry*. 21 (3) 104-105.
- [13] M.V. Angelopoulou, K. Kavvadia. (2018). Experiential learning in oral health education. *Journal of education and health promotion*. 7 70.
- [14] M.V. Angelopoulou, C.J. Oulis, K. Kavvadia. (2014). School-based oral health-education program using experiential learning or traditional lecturing in adolescents: A clinical trial. *Int Dent J*. 64 278-84.
- [15] P.A. Menon, S. Shivakumar, G. Bhambani, T.P. Singh, A. Khare, A. Pathak. (2021). Effectiveness of school-based oral health education in influencing oral health among school children-systematic review and meta-analysis. *Journal of Head & Neck Physicians and Surgeons*. 9(2) 100-7.
- [16] P.D. Nakre, A.G. Harikiran. (2013). Effectiveness of oral health education programs: A systematic review. *Journal of International Society of Preventive and Community Dentistry*. 3 (2) 103-115.