Review Article

Oral Health Care Programs for Children: A Literature Review

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Abstract

Oral diseases are one of the most common diseases found in humans. They can produce serious problems such as pain and discomfort leading to disability, impairment and handicap. Researchers suggest that poor oral health may be associated with medical conditions such as diabetes, pneumonia, and stroke. Some medical conditions do have oral manifestations as well. Despite their high social and economic burdens, oral diseases receive little attention in many countries and remain neglected. Children are especially at higher risk for being in the group of neglect in case of treatment of oral diseases are considered. To overcome this situation in our country, various oral health care programs have been implemented by both central as well as state government for the children. Various community-level programs, Anganwadi programs and school-level programs were developed like mid-day meal scheme, fluoride programs, tooth brushing programs, nutrition programs, health-promoting schools, tobacco-free schools, and oral health care program for special children like special smiles project. Seal-it, Arogya Jagratha and Ardram mission are some of the programs developed by state governments through primary health centers and through accredited social health activist (ASHA) workers. Still disparities are present in the quality of pediatric dental care. This review article highlights various oral health care programs for children in India.

Keywords: Oral health care program, school dental health program, tobacco-free schools

Introduction

Oral health is a fundamental component of overall health. In 2012, World Health Organization (WHO)[1] defined oral health as essential to general health and quality of life, and it is a state of being free from mouth and facial pain, oral and throat cancer, oral infection, and sores, periodontal (gum) disease, tooth decay, tooth loss, and other diseases and disorders that limit an individual's capacity in biting, chewing, smiling, speaking, and psychosocial wellbeing.

All children and youth should have access to preventive and treatment-based dental care.[2] However, oral health disparities especially in children are widening. Arguably, the translation of advances in science and technology into meaningful improvements in the population's health has fallen short of goals.[3,4]

Dental caries is a public health problem in India.[5] Lack of awareness about dental diseases has resulted in gross neglect of oral health. There is no component of oral health in the present health care system. The grass-root level health workers and doctors do not have adequate knowledge about oral hygiene and prevention of oro-dental problems. All the above factors have resulted in poor oro-dental health of our population.

A historical perspective on oral health care for infants shows that there is a need to move away from the surgical approach of managing oral disease and embrace the concept of primary care right from perinatal period.[6] Oral problems are emerging as one of the main public health concerns in India. It is estimated that about 50% of school children are suffering from dental caries and more than 90% of the adult population is affected by periodontal disease.[7] According to a survey, the prevalence of dental caries in children aged 5 years was 50%–52.5% in 12-year-old.[8] They can be prevented and controlled by public education and motivation to a significant level.

Barriers to Oral Health Care in India

There are several barriers to oral healthcare in India, identified by Singh *et al*.[9] as:

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- A lack of acknowledgment of the importance of oral health among the population, which perceives it as independent from and secondary to general health
- No access for many to an oral health provider due to geographic distance
- Dental treatment is unaffordable for many and
- Quality of dental treatment is public dental health campaigns varied.

The current situation of dental education in India requires transformation.[10] Jawdekar[3] suggested that existing system of successful government health campaigns such as "Pulse Polio" and "Mid-Day-Meals Scheme" could be used for oral health promotion for children, which could limit the current situation of dental education.

Various programs at national, community, and school level have been advocated to improve oral status of children in the country.

National Oral Health Policy

In 1984, national workshops were organized in Bombay on oral health targets for India, and in the year 1986, oral health policy was conscripted by the Indian Dental Association (IDA).[11] Based on the recommendation of IDA, two more national workshops were organized, one at Delhi in 1991 and the other at Mysore after 3 years. Through the input of these 2 workshops, National Oral Health Policy has been developed by the Dental Council of India (DCI).[12] It is the same time when WHO had given importance to dental health by selecting the theme "oral health for healthy life" for global health for the year 1994.[13] In continuum of this, the core committee appointed by Ministry of Health and Family Welfare, Government of India accepted in principle national oral health policy as a component of the National Health Policy (NHP) and moved a 10-point resolution in its fourth conference in the year 1995.[14]

Ministry of Health and Family Welfare, Government of India accepted in principle National Oral Health Policy in the year 1995 to be included in NHP. After 3 years, the National Oral Health Care Program (NOHCP), a project of Directorate General of Health Services and Ministry of Health and Family Welfare was initiated and launched proposed plan for this program. The project was reviewed by the National Institute of Health and Family Welfare in 2004.[14]

IDA drafted the National Oral Health Program to address the burden of dental disease in an effective manner for bringing about "optimal oral health" for all by 2020. NOHP aims to improve total health for all Indians through the development and support of effective programs of oral health promotion and disease prevention and by building the knowledge, tools, and networks that promote healthy behaviors and effective dental practices and programs. Teachers training program for oral health promotion is a welcome proposal under the National Oral Health Program (project) and a guidebook has been prepared in English and local languages. Various national oral health cards have been implanted which also includes child oral health card for ensure optimal oral health and makes oral health care more accessible and affordable.[15]

Community Level Programs

Anganwadi programs

Anganwadi is an extra-familial institution which is heading for universalization to cover the entire rural and urban slums. System of Integrated Child Development Service (ICDS) Anganwadis has played useful role for developing healthy habits like brushing teeth and handwashing in the Anganwadis through nonformal education methods (learning by play way activities) focusing on preschool children (under 6 years).[16]

The WHO has proposed to include essential oral healthcare services into the existing primary healthcare system to benefit poor and disadvantaged populations. This can be applicable to the Indian scenario where unfavorable dentist population exist.[17] Empowering community workers like junior public health nurses of health services and Anganwadi workers (AWWs) of ICDSs in oral health, and providing basic oral health awareness to the mothers through them is a feasible model for a country like India. ASHA and AWWs are in a position to disseminate and role model oral health awareness, improve dental care utilization, and instill healthy behaviors among the rural population. At the Anganwadis, monthly meetings of mothers are held and these serve as platforms for health education.

Community health centers

Primary Health Centers (PHCs) form the first point of contact between the rural community and the healthcare system where 68.84% of the Indian population resides.[18] The Indian Public Health Standards Guidelines for health centers issued by the Government of India states that in a PHC it is mandatory to conduct school dental checkup along with medical checkup by doctors at every PHC who will visit one school per week based on the report submitted by the health workers.[19]

School level programs

Schools have been considered an important foundation in addressing the health and social issues. School oral health education programs have produced affirmative results in improving the overall health of the child.[20]

School health program can be supervised either by[21]

- The education department
- The health department
- The school health program of health department.

A school primary preventive dentistry program should not impose an excess or unusual burden on the teachers, it should be cost-effective in manpower, money material, and it should produce observable results. A school dental health program should also include a suggested formal approach to teaching dental health in the classroom.

Bharatiya pratishthan

The National Foundation for India (NFI) has put forward various approaches in attaining community health. NFI aspires to positively improve the health-seeking behavior of socially, politically, and economically disadvantaged constituencies of youth, women, and children.[22]

Tooth brushing programs

In a classroom grouped with 6–8 children in each group taught about method of brushing by providing them dentifrice, toothbrush and disclosing tablets and asking them to observe in the mirror by self.[23]

Classroom-based fluoride programs

Two effective programs are fluoride mouth rinse program using mouthwashes and fluoride tablet program by giving them a fluoride tablet (2.2 mg NaF) asking to chew and swish around the mouth.[21]

Sealants placement

The placement of pit and fissure sealants is ideally suited for a school program. 1st, 2nd, 6th, and 7th grades would be desirable grade levels to selectively intervene to prevent pit and fissure lesions.

The bright smiles, bright future

Both the IDA and Colgate have been partnering for over 25 years for awareness generation program. Latest in the series was "The Bright Smiles, Bright Future" has been mounted under the aegis of NOHCP from July 2003, targeting 45 lakhs school children across India. It has been ritual to distribute "Colgate paste and brush" free to teachers and school children, shown as an activity of state or local IDA branch for teachers training and promotion of oral health.[24]

School preventive dentistry program

School lunch programs are designed to provide the child with an intake of nutrients that approximate one-third of the daily intake of essential carbohydrates, proteins, fats, minerals, and vitamins, sugar discipline can be aided through counseling by the school dietician, dental hygienist, or teacher.

Science fair

Many schools now hold science exhibition providing students possible dental project and offering the assistance of local dentists to help students develop projects. Local dental societies can provide judges for regional fair and recognize winners who have chosen dental topics.

Oral health month

India's first National Oral Health Survey conducted by DCI and Ministry of Health and Family Welfare in the year 2002–2003, threw light on the falling standards of oral health care in India. Realizing the gap, Colgate India along with IDA, in 2004, rolled out Oral Health Month, an awareness campaign to establish and promote the importance of good oral hygiene and regular dental check-ups.[25]

Mid-day meal program

The Mid-Day Meal Program is also known as school lunch program. This program has been in operation in India since 1961 throughout the country. The major objective of the program is to attract more children for admission to schools and retain them so that literacy improvement of children could be brought about.[26]

Health promoting schools

Based on guiding principles of Ottawa Charter for Health Promotion and recommendations of WHOs expert committee on comprehensive school health education and promotion, the WHO Global Health Initiative was launched in 1995. The initiative aims to foster health-promoting schools that constantly strengthen their capacity as a healthy setting for living, learning, and working.[27]

Tobacco free schools

Tobacco use generally begins during adolescence and continues through adulthood sustained by addiction to nicotine. Recent trends indicate an earlier age of initiation and rising smoking prevalence rates among children and adolescents. A 100% tobacco-free school has a policy that prohibits the use of tobacco products by anyone, including students, staff, and visitors, on school grounds or at school events at all times. This tobacco-free zone includes school premises, school vehicles, and school events, both indoors and outdoors, and both on and off school property.[27] "Yellow Line Campaign" started by health officials in Kochi district in Kerala in light of increasing sale of tobacco products near educational institutions in Kerala. The campaign is aimed at the strict implementation of Cigarettes and other Tobacco Products Act, and curb use of tobacco among students.[28]

Oral Health Care Programs for Special Children

Children with special needs are those who have a certain disability that restricts them in performing daily life activities. About 80% of children with disabilities do not survive past age 40. Several health conditions are encountered every day in routine dental practice; however, providing dental care for children with developmental disabilities becomes complicated as it is time-consuming and costly. A cross-sectional study conducted by Prasad *et al*.[27] in special schools in Delhi to check the oral health status of special children have suggested that: school dental health programs should be undertaken in such institutions. Various health insurance scheme has been provided by the Government of India for the differently abled children such as: Disha, Vikaas, Samarth, Swavlamban and Nirmaya scheme out of which the last two are exclusively for the below poverty line differently abled children.[30]

Special Smiles project

The Special Smiles discipline of Healthy Athletes provides comprehensive oral healthcare information, including offering free dental screenings and instructions on correct brushing and

flossing techniques to participating Special Olympics athletes. Raise dental professionals' awareness of the oral health concerns of people with special needs, including difficulties involved in accessing care.[31] It also develops a body of knowledge about the oral health care needs of children and adults with disabilities. Also provide a list of regional dental professionals who care for people with special needs to all athletes who participate in Special Smiles.[30]

Oral Health Promotion in Rural India

This model was proposed by Jawdekar[3] which includes activities specific to age groups.

For children below 3 years, anganwadi workers and parents are getting engaged. Hence, oral health education is mainly by using printed booklets or Digital Versatile Discs. While for preschool kids, teachers, and parents are motivated using fluoride varnish programs in mobile dental van, toothbrushing programs in combination with mid-day meal scheme and hand washing.

Disparities in the Quality of Pediatric Dental Care

Much of the burden of dental disease is concentrated in disadvantaged individuals: low-income families, Aboriginal children, new immigrants, and children with special health care needs yet these children have the fewest overall dental visits.

Factors contributing to inadequate dental access include geographic maldistribution of clinicians, inadequate number of dentists treating children, relatively few pediatric dentists, individual's knowledge and other concerns regarding oral health, and other difficulties reaching culturally diverse population.[32]

In order to reduce these disparities, its time to integrate dentistry with medicine and other health disciplines. Strong national leadership, with a mechanism of oversight could pull together all those responsible for children's health including dental and medical practitioners, professional associations, educators, researchers, parents, policymakers, and others to address disparities in children's oral health and access to care.

Conclusion

The good oral health practices are necessary from a young age to ensure positive long-term dental health and hygiene. Positively influencing the knowledge, attitude, and behaviors of children toward sustainable good oral health requires an integrated health education and health promotion approach. The ultimate endpoint of efforts in translating research into practice should be to fully address oral health disparities and achieve Healthy generations to come . The science base underlying children's oral health covers a wide spectrum, ranging from genetic/genomics research and behavioral sciences to dental materials, health services, and social sciences. Policies that are informed by science but also "sensitive to human condition" have the potential to affect these upstream determinants and lead to meaningful improvements in children's oral health.

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