



Review Article

Proposal of survey instrument for child oral and dental health policy in India

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Received : 17 May 2023
Accepted : 09 June 2023
Published : 17 August 2023

DOI
10.25259/KPJ_34_2023

Quick Response Code:



ABSTRACT

Oral and dental health examination policy refers to screening of dental and oral cavities on an annual basis as part of their progression during the school period. The oral and dental health examination helps to identify the status of dentition, oral hygiene care, dietary risk, dental anomalies, malocclusion, signs of deleterious habits such as smoking tobacco, sexual abuse, or signs of child neglect. Nutrition relates to both dental development and oral health. Hence, a mandatory policy on oral and dental health examination reports for school-going children will provide a scope for the early detection and early care of dental problems.

Keywords: Oral health report, Dentistry, Paediatric, Health, Hygiene

INTRODUCTION

Development of primary dentition begins at the first year of life and completes at about two-three years of age.^[1] Most children while beginning their school education will have their primary dentition. Approximately at the age of six years, the permanent dentition begins to erupt in their oral cavity. During this stage of childhood, the dentition is classified as a mixed dentition period (i.e., the presence of both primary and permanent). Most of the permanent teeth complete an eruption in the oral cavity by the age of 14 years except for wisdom or third molars. Thus, the dental development period falls during the school-age of an individual. Major dental problems are related to caries and gingivitis. Dental caries is the frequent cause of pain and/or discomfort while chewing or other masticatory functions. The pain or discomfort experienced during the dental caries may be either moderate or extremely severe which is likely to affect their well-being.

Childhood is a critical period of life for growth and development which serves as a key for achieving physical and mental abilities. Children and adolescents with intellectual and/or learning disability are at risk of developing oral health problems in both primary and permanent dentition. Screening questions that assess the items on literacy, current and previous support from clinical and educational services, friendships, and basic functional skills identifies child and adolescent disability at an early stage.^[2,3] Poor oral health negatively impacts digestion, nutrition, and speech, thus impacting physical growth and social development. Thus, children and adolescents with intellectual and/or learning disabilities should be motivated to appropriate oral healthcare practices through their parents or guardians. Dentists also play an important role in referring the child

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and adolescents with intellectual and/or learning disability to the paediatrician team. The proposed oral health survey instrument also captures through a question on intellectual/learning disability and guides the child for timely referral to paediatric care. Physical maturation is very sensitive to the nutritional status of children. The timing of nutritional deficiency also influences the growth and development of children. Hence, optimal nutrition is an essential part of maintaining optimal health in children. The role of nutrition has a greater relevance on a child's health and similarly impacts oral health. A nutritionally balanced diet with adequate micro-nutrition, that is, mineral elements is essential to achieve caries-resistant teeth and boost the immunity of the oral cavity through salivary action which will assist in achieving children's linear growth. The unique aspect of the relationship between tooth and nutrition is that the tooth gets affected during the pre-eruptive stage and is not affected by acute changes. The growth of the tooth, that is, enamel maturation, the physical and chemical composition of tooth structures, and the time of eruption and shedding are by the nutrition status of children.^[4] Malnutrition directly contributes to oral infections, plaque-induced and dental caries.^[5] Malnutrition also influences both tooth shedding of deciduous dentition and eruption of deciduous and permanent dentition. India has a huge burden of malnutrition. The prevalence of stunted growth due to chronic undernutrition is 48%. Around 23 million children, in India, at the age range of six years and below suffer from malnourishment.^[6]

Dental problems can also affect school readiness thus recognising the relationship between oral and dental health with education. In addition, the development pattern of dentition also has a relation with social health. Any individual with defective development patterns of dentition may lead to bullying or teasing among peers which may impair the social relation. The first primary/deciduous tooth should erupt within 6 months of life and no later than 12 months of age. Hence, initial oral health evaluation and care should ideally begin at the 1 year of a child's life. This visit will also give an opportunity to the mother/parents of a child about preventive dental education that includes oral cleaning, dietary recommendations and optimal fluoride exposure.^[7] It is further important to educate and team paediatricians in the oral health care network because almost all parents consult paediatricians more often than a dentist or paediatric dentist. Hence, involving paediatric and general practitioners in the agenda of preventive oral health will be beneficial. This opinion paper is aimed to propose an instrument for child oral and dental health in India to fill the gap in dental health awareness and importance.

POLICY RECOMMENDATION

Early detection of dental problems reduces the clinical possibilities for discomfort due to early care but also lowers

the chances for expensive dental procedures. Recognising dental conditions at the earlier stage will allow a dentist to manage the condition most effectively and painlessly. Thus, improvement of a child's oral health and by extension overall health and social health can be achieved by mandating yearly oral and dental health examinations for school-going children. Western and European countries had developed policies for dental screening, and oral/dental health examinations among school-going children and emphasised the importance of dental certificates as a mandatory document before admission of each academic year of their school life.^[8,9] Such policies not only aimed to reduce the burden of oral and dental disease but also addressed psychosocial aspects of a child's life, behaviour, and awareness about dental procedures. Oral cavities should be considered as a gateway for health. This is because oral tissues usually reflect changes occurring in health. Hence, there is an association of oral manifestations to most systemic conditions. An explanation of the benefits of this policy as well as oral and dental health examination reports for school-going children is written below.

BENEFITS OF ORAL AND DENTAL HEALTH EXAMINATION POLICY FOR SCHOOL-GOING CHILDREN

1. Provides scope for the early detection and addressing of most common dental concerns, that is, dental caries and gingivitis, and facilitates the opportunity for the early care
2. Encourages early detection of dental problems with a special opportunity to introduce preventive care delivery (sealants, fluoride application) and non-invasive dental management strategies
3. Allows the future adult population to understand the importance of dental care and awareness of oral health and its connection to overall health
4. Allows dentist to assess dental developmental chart and guide the parents/caretakers about dental milestones^[10]
5. Early recognition of anomalies,^[4] malocclusion and promotes interceptive and preventive orthodontic therapies
6. Prevents dental problems (i.e., pain or ill-dental health) related to absences from school thus improving readiness for education
7. Improves the knowledge of dental injuries and prevention modalities for dental injuries during playtime. In the event of dental injury, the parents of children will be aware of early and emergency care
8. Awareness about fluoride-related dental problems at an early age of an individual may be possible in fluoride-rich areas due to interaction with dentists
9. Based on the interpretation from the World Health Organisation that youth practices on tobacco may

lead to the deaths of 250 million children and young people alive today. A dental examination can identify smokers at early stages due to the specific appearance of staining over teeth. This staining also applies to individuals who smoke drugs or marijuana. Such clinical interpretation will allow the dental health care providers to the early intervention, counseling, and cessation programs or referrals. Knowledge of tobacco-related health facts such as cancer and other diseases may be cultivated in their early age of understanding

10. Oral changes related to sexual abuse^[11] or trauma^[12] due to neglect can be identified, and necessary psychological and legal interventions shall be made.

CONCLUSION

The lack of oral and dental health awareness is a major barrier to dental care among the Indian population. Promoting concepts on oral health care at an early age may facilitate a better understanding and awareness among the public. The recommendation of mandatory policy on oral and dental health examination reports for school-going children in India will greatly benefit children, parents, and the nation. Early detection and early care will not just prevent or control the oral and dental disease but reduce patient care costs and associated morbidity. The support from the Ministry of Health in employing mandatory policy will help to create awareness of child dental health across the nation.

Declaration of patient consent

Patient's consent not required as there are no patients in this study.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

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How to cite this article: Rajendra Santosh A, Krishnamurthy K, Ashok N. Proposal of survey instrument for child oral and dental health policy in India. *Karnataka Paediatr J* 2023;38:47-51.

MANDATORY ORAL AND DENTAL HEALTH EXAMINATION REPORT

As a part of the School's requirement of Oral and Dental Examination, students entering each academic year in the school are required to have a complete oral and dental examination done, before entering school's academic year.

Name of the School
Address of the School
Contact details of the School

Demographic details

Name of the child
Date of birth
Age
Gender
Level of school education
Father/mother/guardian/caretaker of the child

DENTIST REPORT

This is to certify that _____ (Child's name) has undergone oral and dental examination and treated/planned for treatment at the dental office _____ (Dental Clinic Name)

The following recommendations are being made:

- Child is observed to have dental caries (D), Missing (M) and Filled (F) on the following teeth

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
			A	B	C	D	E	F	G	H	I	J			
			T	S	R	Q	P	O	N	M	L	K			
32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17

- Child had recent routine oral and dental examination and dental cleaning.

• Child is scheduled for dental cleaning and treatments for: _____

- Child is scheduled for dental sealants.

Yes	No
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Tick where applicable

- Child needs no dental treatment

Yes	No
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Tick where applicable

- Child is showing clinical signs of the following: (Tick the following)

Crowding	Deep bite	Protrusion	Cross bite	Spacing	Open bite	Impaction	Dental anomaly
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- Child is showing signs of extrinsic stains related to:

Tobacco	Pan	Tea/coffee	Drug related	fluoride
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- Child is showing signs of tobacco or pan stains, requires special consultation for child counselling and/or tobacco cessation program.

- Child may be showing signs in oral cavity for sexual abuse

Deep ulcers	Condylomatous lesions
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- Physical growth of child

Child Height (Height centile)	Child Weight (weight centile)	Percentile of height for weight/body mass index (BMI)

- Whether earlier growth charts available? Yes/No
- If so whether it is across the same centiles like at present? Yes/No
- Does the child have any intellectual and learning disability? Yes/No
- If so whether the child requires referral to paediatrician
- Signs of anaemia

Thin brittle nails	Yes	No
Pallor	Yes	No
Sparse hair	Yes	No

- Signs of Vitamin deficiency:

Angular cheilitis	Yes	No
Oral sore/ulceration/aphthous	Yes	No
Bald tongue	Yes	No
Phrynoderma	Yes	No

- Others dental/medical problems, please specify: (whether child have any specific medical conditions or an immunocompromised infections or pathology)

- Have you received referral or advised to visit dental care or treatment setting by any of the following:

General Medical Practitioner	Paediatrician	Family Physician	None
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Name of the Dentist	Signature of the Dentist
Dental License Number	Dental Clinic Address
Date of the examination	Name of parent guardian/caretaker of the child receiving the report