SCHOOL BASED TREATMENT OF DENTAL CARIES IN THE PRIMARY DENTITION IN TAMIL NADU

Problem Statement

A current review of the available epidemiological data from countries indicates that there is a marked increase in the prevalence of dental caries in the developing nations. This global increase in dental caries prevalence affects children as well as adults, primary as well as permanent teeth, and coronal as well as root surfaces. This increase in dental caries signals a pending public health crisis[1]. Dental caries is a multi-factorial disease influenced by many factors including age, sex, socioeconomic status, diet, microorganisms, trace elements, saliva, genetic predisposition and tooth morphology. Among various stages of life, the school going period is the crucial one where the children are facing multi-dimensional challenges in terms of educational and health perspective risks which leads to various morbidity conditions especially oral diseases.

National Health Survey[2] was conducted in 2004 by the Dental Council of India, in order to ascertain the oral health status and prevalence of dental disease in representative age groups. The following percent prevalence of dental caries was reported for the various age groups examined, for both coronal and root surfaces:

51.9% in 5 year-old children

53.8% in 12 year-old children

63.1% in 15 year-old teenagers

80.2% in adults aged 35-44 years-old

85.0% in adults aged 65-74 years-old

The report recommended providing preventive dentistry program, such as water fluoridation etc. One study in the six primary schools of rural Tail Nadu children aged 5-10 years, reported caries prevalence of 71.7% and 26.5% in primary and secondary denture respectively[3]. Caries was more prevalent in primary dentition of boys (78.9%) than in girls (65%)[3].

Program Description

Tamil Nadu is the first state to adopt Preventive dentistry through the Public Health Dentistry of Madras Dental College. The state placed 32 contractual dental units in rural PHCs which are located in fluoride belt and then expanded to all 30 bedded hospitals as per Indian Public Health Standard. This findings of high caries prevalence in school children lead to formulate a massive strategy to cover entire rural government and government aided school children in Tamil Nadu through number of dental camps.

Objective was to provide a strong set of teeth to the school children and to prevent dental caries and related disorders in later years

Based on a pilot study covering children from 3rd to 8th Std in districts of Kancheepuram and Thiruvallur Districts, it was decided to limit the programme to treatment of caries alone & to include the other diseases year by year on an incremental basis. The rationale behind this was that during the age range of 8 to 13 years, all the milk teeth (20 in number) are shed and replaced by upto 28 of the 32 permanent teeth. This strategy to of targeting the specific age group could leverage to prevent Dental Caries in 28 of the 32 permanent teeth.

Two strategies were tried in the pilot programme. Screening at camp and mobilizing children to the base treatment center (either PHC or Taluk hospital) or screening by school teachers followed by treatment camp in the school. The second was well accepted by the parents who gave consent letters through the teachers for removal or filling the caries milk teeth. The Village Health Nurse (ANM) of Health Subcenter and Sector Health Nurse and Teachers were sensitized and oriented towards the programme and for organizing and follow up of cases.

Program Impact

a. Inputs and outcomes of Pilot Study - (August 2010)

Indentified cases	No.of PHCs	No. Of schools	No. Of teachers	No.of students Screened	Total cases	Fillings	Extraction
Kattankulathur block, Saidapet HUD	5	113	226	19600	2151	1201	524
Ellapuram block, Tiruvallur HUD	3	37	74	10600	1587	1423	559

b. Nearly 11-15% treated on the spot and balance cases were referred to PHCs which require more sittings. This preventive strategy has lead to treatment of school children which otherwise would have gone on to develop serious teeth problems.

Scalability

This strategy than either be tagged along the recently launched RBSK or as a standalone programme depending upon the local context and resources. One thing is clear that timely interventions can save higher investments in providing curative services later