

Addressing childhood dental health in Bhutan

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ABSTRACT

Dental health is a critical component to a society's overall health. The national oral health article highlighted the high levels of dental caries in six-year-old children in Bhutan. Poor dental health in childhood has long reaching negative effects through adulthood. This is an important pediatric health problem which needs to be addressed to help eliminate and prevent a host of health-related complications and expenses.

Keywords: Childhood dental health; Dental caries.

I read with interest the National oral health article by Ngedup S, et al. in the May, 2016 journal¹. The article was very useful in highlighting an important pediatric health problem.

According to this study, nationally 83.8% of 6-year-old children have caries, with a mean dmft index of 5.54 ± 5.00 . In urban areas, except those in the south, the dmft index ranges from 6.25 – 6.73 with a standard deviation of 4.99 or higher (the dmft index is the total number of Decayed, Missing, and Filled Teeth).

In non-technical terms, more than 4 out of 5 six-year-old children in Bhutan have one or more cavities. More than half of these children have 5 or more damaged teeth, and the children with the worst dental issues have 10 or more damaged teeth.

That equates to $\frac{1}{4}$ to $\frac{1}{2}$ of their teeth being damaged, mostly from cavities. This study clearly shows that tooth decay is a significant and very common chronic childhood disease in Bhutan.

These numbers may be in line with some regional comparisons, however the level of Bhutan's dmft index is alarming. A study from Mangalore city found that 94.3% of children 5-7 years old had caries, however the dmft index was 2.91². A 2015 study in Karachi City showed 59.6% of 6-year-olds had caries with a dmft index of 2.01 ± 3.30 ³. Other studies from developing countries report dmft indexes far below Bhutan's.

In 1981, WHO and the FDI World Dental Federation jointly made a goal that by 2020, 50% of 5-6 year-olds were to be free of caries. Bhutan and many countries have a long way to go.

Early Childhood Caries (ECC) is defined as the presence of one or more decaying, missing, or filled primary tooth surfaces in children before 6 years of age. Severe Early Childhood Caries (S-ECC) is defined according to the dmft score per age. For children 5 years old, it is defined as having a dmft score of 6 or

more. Since the definition of ECC is for children under the age of six, the study does not directly measure the scope of ECC in Bhutan. However, one can extrapolate that the only way the dmft could be so high in the six-year-old study group was if many children under 6 years had Early Childhood Caries.

This is a very important issue as Early Childhood Caries (ECC) and a high dmft cause both short and long-term consequences. ECC impacts growth, speech, nutrition, learning and quality of life. Tooth pain, infections, and tooth loss negatively affect eating, nutrition, sleep and speech. ECC can compromise a young child's ability to consume adequate amounts of food and is associated with a higher incidence of malnutrition (underweight)⁴. ECC increases the risk of future cavities in both primary and permanent teeth. Pain, infection and poor sleep negatively affect normal development and learning. Need for dental treatment affects school attendance, further impacting learning. Poor dentition and disfigurement also leads to poor self-image. The consequences of ECC are long-lasting and costly.

Bhutan and all other countries need to recognize that pediatric dental health is vital to a country's health. A strategic course needs to be set to reduce ECC, S-ECC, and the dmft scores in children in order to prevent long-lasting and costly consequences.

The dental, healthcare, educational, and other stakeholders need to come together to face this problem. Dental initiatives need to focus on awareness, education, and prevention, especially for young children, pregnant mothers, and parents of young children. Mothers and parents need education on the importance of proper dental care for their children and themselves, beginning with the eruption of their baby's first tooth. Prolonged exposure of teeth to carbohydrates (such as leaving a bottle overnight with an infant or toddler) encourages growth of the bacteria that cause dental caries. Parents need education so they can avoid practices which increase dental caries. Stronger nutritional education programs need to be developed to reduce inappropriate bottle feeding, reduce sugary drinks, and address the increasing consumption of candy and non-nutritious foods by children. Beyond improvement in dental health, correcting these nutritional habits will also lead to reduced NCDs in the future.

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Bhutan has made amazing strides in developing and implementing strategies to prevent vaccine-preventable diseases, reduce the burden of infectious diseases, reduce mortality rates, address nutritional issues, and improve the health and well-being of all Bhutanese. The next steps need to aggressively address the issue of dental health in the country.

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