

Nursing Bottle Syndrome: An Overview

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Abstract

Nowadays people face several dental issues among them one of the major issues is Nursing Bottle Syndrome. It affects preschool children and infants worldwide. It is one of the common childhood diseases. Driven by a dysbiosis state of oral micro-organism mainly caused by a sugar-rich diet. Little one less than 36 months of period if any indication of tooth decay seen than its a sign of acute Nursing Bottle Syndrome. Existence of single or many blights, lost or restored milk teeth in children aged 5 years or smaller starts with milk or fresh snow spot along the free gingival margin on the surface near the lip of upper central and lateral eyetooth which often goes undetected by folks and caregivers, spreading later to the (deciduous) maxillary and mandibular first molars, maxillary and mandibular canine followed by maxillary and mandibular 2nd molar whereas the mandibular molars are not affected (the teeth are affected in the order they erupt). Dental care acts as a major part of dental function and is required for phonetic and all-round self-development of individuals.

Keywords: *Cariogenic Microorganisms, Streptococcus Mutans, Streptococcus Sorinus, Blight, Fluoride.*

Introduction

The term Nursing Bottle Syndrome was introduced in the 1990s. In many countries Nursing Bottle Caries is a significant problem especially in association with disadvantaged communities in which malnutrition is a major problem. It is considered a chronic dental issue that harms young children's health and also considered a major dental issue. Nursing Bottle Caries is defined as a multi-factorial disease, that results in single or many blight (carious or non-cariou areas), filled or mislaid tooth surface due to blight in any milk tooth, in children (5 years or younger). Nursing Bottle Syndrome has many distinct features in the medical aspect similarly as swift initiation of cavitation that affects the teeth that erupt from the gums.¹ Various parlance pre-owned to look into a similar situation, rampant tooth decay, milk tooth cavity, milk bottle syndrome, prolonged nursing habit caries. Nursing Bottle Syndrome is connected with other systemic issues of an individual body, ranging from local pain infection, pus accumulation, leading to difficulty in eating grinding the food and famine toddlers enteric upset, stomach flu and difficulties during night insomnia. Diet and nourishing for practices act a significant part in developing teeth cavitation also in causing rotted teeth.

Multiple causes can be stated which are responsible for this chronic disease.²

Classification:

Type I (mild and moderate): Molaris Dens associated in decay tooth gap. That are found in between 2 to 5 age group toddlers. Affect is generally tooth decay; gelatinous, spongy, paste-like food and absence of dental care and maintenance and lack of dental check-up. Numeral of infected tooth generally raises by the raise in pathologic flora of micro-organism by challenging their persistence.³

Type II (moderate to severe): Labio-lingual tooth decay area that infects the upper front tooth i.e. dens incisive, may or may not infect molaris dens according to the eruption time of an individual. It generally takes place as soon as the earliest tooth comes in the jaw. Unaffected lower front tooth i.e. dens incisive. Causes are generally inappropriate use of bottle milk suckling, mother milk suckling, or mash-up of the pair of habits that result in inadequate dental practices. Unless controlled it may proceed to advanced stage.³



Figure 1. Diagrammatic representation of Early Childhood Caries

Type III (severe): Dental Decay lesion occupies almost all the teeth, together with lower dens incisivus. It generally takes place in 3 to 5 years of age. Root is like a union of aspects and inefficient dental habits. Uncontrolled and affect several teeth and affect a number of the teeth surface.³

Sequence of Teeth Involved Due To Nursing Bottle Syndrome⁴:

Effect of the deciduous teeth in the following sequence:

- **Dens Incisivus:** Facial surface, lingual surface, mesial surface, distal surface,
- **Maxillary Lateral Dens Incisivus:** facial surface, lingual surface, mesial surface, distal surface, Maxillary First Molar: facial surface, lingual surface, occlusal surface, proximal surface,
- **Maxillary Canine and Second Molar:** Facial surface lingual surface, proximal mandibular molars are usually spared.
- Anterior teeth are usually spared since they have protection by the tongue and cleaning action of spittle due to the existence of the opening of the duct i.e. the submandibular glands very near to lower dens incisivus.

- **Lesion Progression:** De-mineralized dull lesion followed by white areas along gum lines (labial aspect) which causes white lesion and it become cavities that involve neck of the tooth in a ring-like lesion. Finally the whole crown of the incisors is destroyed leaving behind brown-black root stumps.
- **Unequal severity: Distinct pattern of the site:** Site of milk teeth eruption. Continuation of adverse activities of nurturing. Sinewy form of the toddler feeding practices Early Childhood Caries clinically present as a spectrum ranging from 1 to 2 isolated caries lesions to severe and rampant forms where many teeth are affected.

Epidemiology of early childhood caries: Frequency of Nursing Bottle Caries can be depicted in the following countries and society involvement[10] in these respective years with the help of percentage: India (Kerela), 2003, 12%, Saudi Arabia, 2001, 27.1%, Manchester, 2001, 19%, Canada, 2004, 54%, Australia, 1985, 5.4%. Despite the frequency of Dental Caries has turned down in developed countries over previous years, Nursing Bottle Syndrome is still a major issue in toddlers. Various information or data can be used to ameliorate the dental health condition among the public.⁵

Pathogenic micro-organism: *Streptococcus mutans* & *Streptococcus sorinus* is one of the principal organisms which colonize the tooth once it comes in the dental space of the mouth. It is passed on into the toddler's mouth by the progenitress. It colonizes in the mouth produces a large number of extracellular polysaccharides that favors the growth of plaque development. *Lactobacilli* also plays a part in the development of the decay site and plays a significant role in lesion progression, but not in its initiation. Milgrom et al (2000), said that toddlers having increased streptococcus mutans level are 5 times prone to have dental caries.⁶

Etiology: Children who need special health care, Malnutrition children, Crowded home children, Children in families of low socioeconomic status, Low-birth weight infants (<2500grms) & premature, Late order offspring, Lack of routine oral hygiene, Prolonged sweetened bottle feeding, Frequent breastfeeding. If exposure to fluoride is insufficient, Iron deficiency, Excess of lead exposure, Remote and Rural area children.⁷

Consequences of early childhood caries: Infection and pain, Behaviour alteration, Eating difficulties and sleeping, Growth delay and poor nutrition, Distraction from normal activities, Emergency room visits and hospitalization, High treatment cost and time, Poor self-confidence, Speech difficulties and many more according to the place some variation can be seen.⁸

American academy of pediatric dentistry (AAPD) recommendation for nursing bottle syndrome: Sleeping with a bottle should be stopped for toddlers. Nighttime suckling should abstain. Parents and caretakers should be educated to have toddlers drink from a cup. Dental care steps majors should be planned out during the duration period of first milk tooth flare-up. A dental health check-up is mandatory to educate the parents caretaker for controlling the Nursing Bottle Syndrome.⁹

Preventive Measures:

- **Home Care:** Dietary habits, Oral hygiene, Fluoride dentifrices, Fluoride supplement, Transmission of bacteria.
- **Professional:** Early detection of caries, Diet counseling, Fluoride application, Pit and fissure sealants.
- **Community:** Health education, Community development, Water fluoridation.

The motto of Nursing Bottle Syndrome control is to properly develop the idea of that all factors responsible and toddlers at risk and try to control the recurrence of nursing bottle syndrome. A lot of factors are responsible for nursing bottle caries multiple approaches should be taken to control. Educate the people for dental checkup within 180 days of a flare-up of the first tooth and no later than 365 days period education program can be done to aware of the people and educate the parents and caretakers about causes and factors responsible for Nursing Bottle Syndrome. Dental supplements like dentifrices in the form of toothpaste with fluoride contain of 1000ppm and above are efficient in preventing nursing bottle caries. Fluoride Varnish should be used in toddlers with nursing bottle syndrome, at an interval of 3 months or 6 months.¹⁰⁻¹⁴

Summary: Nursing Bottle Syndrome is a high dental issue in evolving and evolved areas. Nursing Bottle Syndrome can occur untimely in individuals, develop fast in those who have more possibility, and usually unattended.¹⁵ Its outcome ends in pain and potentially threatening infection, influence kid development and reduces the standard of living. It can be specifically vitriolic type of tooth decay, starts soon after dental eruption, blooming on a smooth surface, advancing fast and having an immutable detrimental impact on the dentition.¹⁶ Infants or toddlers undergoing tooth decay have more chances of subsequent tooth decay in permanent dentition. Nursing Bottle Syndrome can be controlled and taken care with proper knowledge, data guidance and ability dentist can assist to refine and enhance dental health and lifestyle of young individuals through spreading awareness, enhance about home care practices and appreciate frequent dental visits to enhance the parental knowledge and perception about the Nursing Bottle Syndrome and its sources adding awareness, accompanied with the treatment plan of children with sign and symptoms of tooth decay.¹⁷⁻²² Implementation of dental care steps no later than the time of the flare-up of the first milk tooth. Tooth-brushing habit must be taught to toddlers by parents or caretakers and taken care of and monitored that they are doing it 2 times a day regularly, using a soft-bristle toothbrush of age-appropriate size with a smear of fluoridated toothpastes must be applied. Every toddler of age 24 months to 60 months of age period, a pea-sized amount of toothpaste should be used. In toddlers who are reviewed to be at a scale of moderate to high risk of tooth decay under the age of 2 years should be taken a much-considered amount of care.²³⁻²⁵

Conclusion

While winding up I need to request and encourage every individual to take special care of their oral and dental hygiene and go for a regular check-up to the dentist every 6 months. Parents and caretakers should take special care of their offspring oral and dental hygiene since the mouth is the mirror that reflects the whole body activities. Well said prevention is better than cure so take care of your teeth before losing your pretty smile.

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