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Cariology

Investigation of the role of human breast milk in caries development

Erickson PR, Mazhari E
Pediatr Dent 1999; 21: 86-90

An interesting group of studies provides evidence against the hypothesis that human breast milk might cause caries.

There is controversy over the cariogenic potential of human breast milk (HBM). Five studies using donated HBM examined the question.

Plaque pH was determined in samples removed from 18 children aged 12–24 months, before and up to 1 hr after a 5 minute feed: minimum pH recorded for HBM was 6.4, representing a drop of 0.6, compared with 5.3 and 1.4 for a 10% sucrose solution consumption and 6.7 and 0.3 for water.

Further studies indicated that: HBM supported moderate bacterial growth; HBM encouraged Ca and P deposition on powdered enamel; HBM had minimal buffering capacity; HBM was not cariogenic on human enamel *in vitro*. While the buffering capacity was easily exceeded, the authors concluded HBM was not itself cariogenic.

Child development; dental public health

The effect of dental rehabilitation on the body weight of children with early childhood caries

Acs G, Shulman R et al.
Pediatr Dent 1999; 21: 109-113

Comprehensive treatment of nursing caries in young children with reduced body weight was followed by full catch-up growth in an average of 18 months.

Children with early caries, probably caused by inappropriate bottle-feeding, are likely to weigh less than 80% of ideal weight. Catch-up growth has been reported in other children whose growth has been reduced by illness or malnutrition.

In two groups, originally of 150 children who were given full treatment for early caries and 150 who were caries-free, 51 and 43 respectively were followed up for mean periods of 1.6 and 1.4 years. Those with early caries had an initial mean age of 3.3 years, and weight 14.7 kg; the controls, also at 3.3 years, weighed significantly more at 16.9 kg.

After the period of follow-up, the mean weight in the test group was 19.2 kg, and in the controls, 19.4 kg. The test group had grown 50% more quickly than the controls, and the authors comment on the way in which treatment of the caries had improved the quality of life for the former children.

Nutrition

Vegetarianism and dental fluorosis among children in a high fluoride area of northern Tanzania

Awadia AK, Haugejorden O et al.
Int J Paediatr Dent 1999; 9: 3-11

Fluorosis appeared to be lower in the vegetarians; the reasons may be complex.

In 165 children aged 6–18 years, and with lifelong exposure to 3.6 ppm of fluoride in their water supply, severity of fluorosis was assessed and compared with dietary habits. The strict vegetarians were identified as 8 Seventh Day Adventist ethnic Africans, and 16 Asian Hindus.

Dietary assessment revealed other differences between the vegetarian and meat-eating groups: the latter ate more fish and used more magadi, a fluoride-containing seasoning. Both types of subject imbibed similar mean amounts of water from the common supply. Vegetarians had lower prevalences of fluorosis (67% v 95%) and severe fluorosis (21% v 35%), and analysis of results suggested that this might be explained by dietary factors.

Cariology

The relationship between habitual clove cigarette smoking and a specific pattern of dental decay in male bus drivers in Jakarta, Indonesia

Soetiarso F
Caries Res 1999; 33: 248-250

An unusual pattern of buccal and palatal caries appears related to smoking a mixture of tobacco and cloves.

Some Indonesians smoke a clove/tobacco mixture. Following a short questionnaire to drivers in a bus company, random sampling was used to produce four groups of 290 each: non-clove cigarette smokers; clove smokers for 6–10 years, for 11–15 years and for >15 years. Of the total group, 56% had caries diagnosed as clove-associated: 32% of lesions were on upper buccal surfaces, 40% on lower buccal surfaces, and 18% on upper palatal surfaces, but hardly any on lower lingual surfaces.

Of those who smoked 10 years or less, 27% had caries affecting the buccal and palatal surfaces; for 11–15 years, 80%; and for >15 years, 89%. The relative risk for the caries in those smoking 7–12 cigarettes/day was 2.7 times the risk in those smoking 0–6 per day; this increased to approximately 3 times the risk for those smoking 13 or more. The author discusses the possible cause, and suggests eugenol as the principal factor.