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Research Category

Clinical

Abstract Title

The Association Between Timing of the First Primary Tooth Eruption and Early Childhood Caries

Authors

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Will they participate in the poster presentation at CHRD?

No

Background

Dental caries rank among the most common diseases. Significant oral health inequities persist among Indigenous children in Canada.

Objective

The aim of this study is to determine whether age of the eruption of the first primary tooth is associated

with early childhood caries (ECC) and increased caries index scores. The secondary objective is to determine whether Indigenous children have earlier eruption of their first primary tooth than non-Indigenous children.

Methods

This study involved secondary analyses of clinical, questionnaire and serum laboratory data from two previously published birth cohorts recruited in Manitoba, Canada (n=309). The key outcomes were ECC and the decayed, missing and filled teeth (dmft) score and decayed, missing and filled surfaces (dmfs) score. Covariates of interest included prenatal or cord vitamin D level, age of first tooth eruption, Indigenous ethnicity, children's general and dental health, and oral hygiene. Data was analyzed using NCSS (Version 25.0.3). Descriptive and bivariate analyses were performed. Significance was set at $p < 0.05$.

Results

Of the 309 children, 53.4% were male, with a mean age of $18 \pm$ months and 31.1% had ECC. Indigenous children were more likely to have ECC compared to non-Indigenous children (16.9%, $p < 0.001$). Further, Indigenous children had significantly higher dmft scores compared to non-Indigenous children (1.4 ± 2.6 vs. 0.6 ± 2.1 , $p = 0.001$). Children with ECC had significantly earlier reported first tooth eruption times than those caries-free (5.3 ± 2.4 months vs. 7.0 ± 9.3 , $p = 0.0042$). Meanwhile, Indigenous children had non-Indigenous children (5.6 ± 2.5 months vs. 6.6 ± 2.5 , $p < 0.001$). The presence of enamel hypoplasia ($p < 0.0001$) was also associated with ECC. Children with ECC were significantly older age than caries-free children (21.9 ± 10.1 months vs. 16.4 ± 6.1 , $p < 0.001$).

Conclusion

Earlier eruption times of first primary teeth appear to increase the odds of ECC onset. Indigenous children in this study had earlier eruption times and a higher prevalence of ECC than non-Indigenous children.