

Characteristics of Children 6-36 Months of Age from IOHP Related to Fluoridated Water Exposure and Use of Fluoride Toothpaste

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Objective:

The aim of the study was to assess fluoride exposure from drinking water and toothpaste among low-income high-caries risk children attending the University of Iowa Infant Oral Health Program (IOHP). An additional purpose was to evaluate the relationship between fluoride source-specific exposures and child's age/race/ethnicity, as well as caregiver's education and socioeconomic status.

Methods:

Secondary data from the first IOHP visit of 1024 children, 6-36 months of age, consisted of demographic, reported fluoride exposure, oral hygiene practices, and clinical variables were reviewed for a cross-sectional study. Simple and multivariable logistic regression analyses were conducted using a significance level of 0.05 for hypothesis testing.

Results:

Ninety-one percent of participating children had never been to a dentist before, 47.4% were female and 69.1% were non-White. It was found that 58% of the children were not exposed to fluoridated water (FW) and 62.8% did not use fluoridated toothpaste (FT). Multiple logistic regression analysis revealed that children not exposed to FW were more likely to be younger (OR=0.98; $p=.007$), Black/African American (OR=2.88; $p<.001$) or be non-Black minority (OR=3.00; $p<.001$), not live with both parents (OR=1.52; $p=.004$) and have caregivers with no previous awareness of early childhood caries (ECC) (OR=1.71; $p<.001$). Further analysis revealed that those not exposed to FT were also more likely to be younger (OR=0.93; $p<.001$), White (OR=1.82; $p=.002$) or non-Black minority (OR=1.78; $p=.002$), in a single-child household (OR=1.73; $p<.001$), sporadically or never have their teeth brushed (OR=5.80; $p<.001$), and be classified as low-caries risk (OR=2.11; $p<.001$).

Conclusion:

Education regarding the benefits of daily consumption of fluoridated water and use of fluoridated toothpaste should be targeted to caregivers of low-income young children.