Pregnant Women's Knowledge and Use of Fluoridated Tap Water

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Objective:
Community water fluoridation (CWF) is an effective strategy for preventing caries. Individuals from disadvantaged groups often avoid tap water due to safety concerns or limited fluoride knowledge. Pregnant women's water choices may influence early childhood caries (ECC) risk. This study examined factors associated with tap water use, concern about tap water safety, and fluoride knowledge among pregnant participants in the *Birth to Three-Cavity Free* study.

Methods:
This secondary analysis included survey responses from pregnant women enrolled in the *Birth to Three-Cavity Free* study (n=614), a trial of an intervention to improve care behaviors and reduce ECC. Group differences were evaluated using chi-square tests across three domains: drinking water source, concern about tap water safety, and fluoride knowledge, with significance set at $P<0.05$.

Results:
Tap water was the primary drinking source for 34% of participants, while 66% consumed non-tap water. Tap water use was associated with household income ($P<0.001$), education level ($P<0.001$), marital status ($P=0.016$), Hispanic ethnicity ($P=0.020$), and race ($P<0.001$). Tap water users reported higher incomes (≥$35,000: 36% vs. 19%) and identified as White (76% vs. 56%). Tap water safety concern was associated with lower income ($P=0.015$); 28% vs. 19% reported incomes <$5,000. Fluoride knowledge revealed misconceptions, including the belief that bottled water contains ideal fluoride levels.

Conclusions:
Avoidance of tap water and limited fluoride knowledge among pregnant women may reduce the effectiveness of CWF and contribute to oral health disparities. Targeted interventions addressing fluoride misconceptions and tap water safety concerns are needed, particularly for socioeconomically disadvantaged and minority populations.