



Introduction

- Early childhood caries (ECC) remains a prevalent and preventable public health concern, disproportionately affecting children from low-income families. (1)
- ECC is a multifactorial, transmissible disease that can result in pain, infection, and long-term impacts on quality of life if untreated. (2)
- Socioeconomic disparities contribute to increased ECC risk, with low-income mothers experiencing barriers to oral health knowledge and access to care. (1)
- The American Academy of Pediatric Dentistry (AAPD) emphasizes early prevention through caries-risk assessment, anticipatory guidance, and parental education. (3)
- Pregnancy presents a critical window for delivering oral health education to support both maternal and infant oral health outcomes. (4)
- Current literature demonstrates significant gaps in oral health knowledge among pregnant women from underserved populations. (5)
- Limited research has directly evaluated expectant mothers' understanding of infant oral health and ECC prevention.

Purpose

- Assess expecting mothers' baseline knowledge about their oral health and their future baby's oral health.
- Evaluate baseline maternal knowledge of perinatal and infant oral health using a validated 32 item questionnaire to identify knowledge gaps that may influence ECC risk and inform targeted preventive strategies.

Methods

- Secondary analysis of 634 baseline survey responses from WIC-enrolled pregnant women participating in the longitudinal *Birth to Three – Cavity Free* study
- Maternal oral health knowledge assessed using a validated 32-item questionnaire (scored -2 to +2 per item); items summed to generate a total knowledge score
- Analysis included univariable linear regression models that examined associations between baseline knowledge scores and demographic variables (age, education, employment, income, marital status, dental insurance, ethnicity)
- Regression coefficients, 95% confidence intervals (CI), and p-values reported

Results

- **Characteristics:** Mean age 27.0 years (SD = 5.7); 63.9% had a high school diploma/GED; 46.9% were single; 67.4% had Medicaid coverage
- **Higher Knowledge Scores Associated With:** Older age (+0.383 points/year of age, 95% CI: 0.24–0.53; $p < 0.001$), private dental insurance (+11.7; $p = 0.001$), four-year college education (+13.3; $p = 0.001$), full-time (+5.3; $p = 0.001$) and part-time employment (+2.5; $p = 0.03$), and income \geq \$30,000 (+7.7; $p < 0.001$)
- **Lower Knowledge Scores Associated With:** Single/never married status (-4.0; $p < 0.001$)
- **Non-Significant Factors:** Hispanic ethnicity and student status
- Persistent misconceptions regarding fluoride toothpaste use and bedtime brushing were observed, including among participants with higher overall knowledge scores

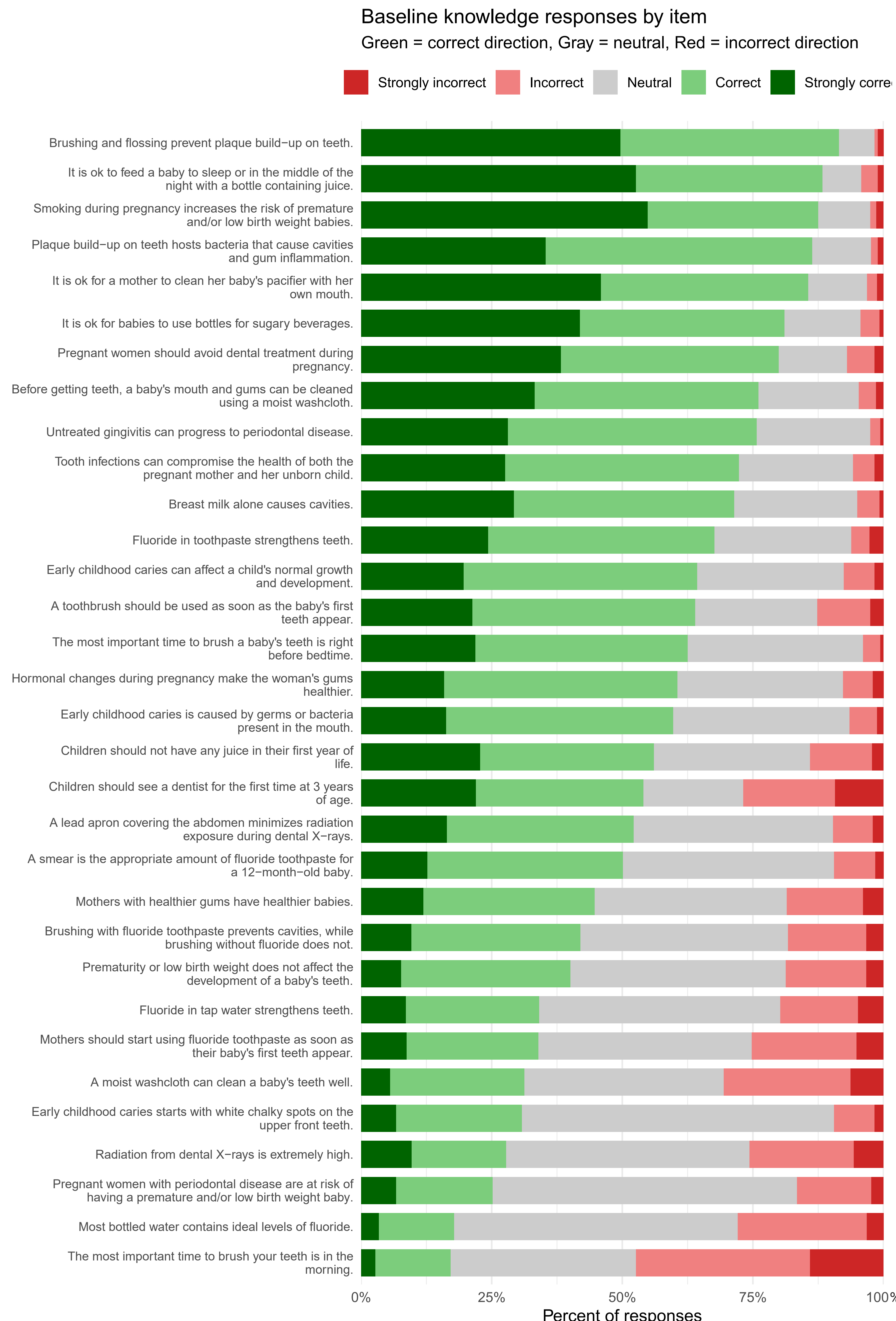


Figure 1. Questionnaire Responses

Table 1. Baseline Demographic Characteristics

Age	Mean (SD): 26.98 (5.67)
Employment status	
Employed 32+ hrs/week	201 (31.7%)
Employed <32 hrs/week	154 (24.3%)
Homemaker/Stay at home mom	78 (12.3%)
Disabled	14 (2.2%)
On medical leave	9 (1.4%)
Unemployed	173 (27.2%)
Missing	6 (0.9%)
Education	
8th grade or less	7 (1.1%)
Some high school	76 (12.0%)
High school diploma/GED	406 (63.9%)
Two-year college degree	78 (12.3%)
Four-year college degree	48 (7.6%)
Graduate/Professional degree	18 (2.8%)
Missing	2 (0.3%)
Marital status	
Married	169 (26.6%)
Separated	13 (2.0%)
Divorced	16 (2.5%)
Single – never married	298 (46.9%)
Live with partner	134 (21.1%)
Widowed	1 (0.2%)
Missing	4 (0.6%)
Income	
\$0–15,000	209 (32.9%)
\$15,001–30,000	158 (24.9%)
\$30,001–45,000	116 (18.3%)
\$45,001 +	97 (15.3%)
Missing	55 (8.7%)
Hispanic	
No	517 (81.4%)
Yes	115 (18.1%)
Missing	3 (0.5%)
Dental insurance	
Medicaid (Title XIX)	428 (67.4%)
Hawk-I	12 (1.9%)
Private	118 (18.6%)
No dental insurance	70 (11.0%)
Missing	7 (1.1%)

Table 2. Univariable Associations with Total Knowledge Score

Predictor	Level	Estimate (β)	95% CI	p-value
Age		0.383	[0.239, 0.528]	<0.001
Classes (ref: Not student)	Full time	2.055	[-1.608, 5.719]	0.271
	Part time	-1.621	[-5.562, 2.319]	0.419
Dental insurance (ref: None)	Medicaid	4.589	[1.903, 7.275]	<0.001
	Hawk-I	4.629	[-1.881, 11.138]	0.163
	Private	6.756	[3.612, 9.899]	<0.001
Education (ref: <8th)	Some HS	2.120	[-5.819,10.059]	0.600
	HS/GED	5.091	[-2.571,12.753]	0.192
	Two-year college	11.703	[3.773,19.634]	0.0039
	Four-year college	13.315	[5.184,21.447]	0.0014
Employment (ref: Unemployed)	Full-time	5.325	[3.213, 7.437]	<0.001
	Part-time	2.489	[0.233,4.746]	0.031
	Homemaker	7.883	[5.105,10.661]	<0.001
	Disabled	0.619	[-5.040,6.278]	0.830
	Medical leave	11.191	[4.228,18.154]	0.0017
Hispanic (ref: No)	Yes	-0.588	[-2.757,1.582]	0.595
Income (ref: \$0–5k)	\$5–15k	1.541	[-1.350,4.431]	0.296
	\$15–30k	3.498	[1.144,5.852]	0.0037
	\$30k+	7.710	[5.500,9.921]	<0.001
Marital (ref: Married)	Separated	-2.787	[-8.773,3.199]	0.361
	Divorced	3.319	[-2.121,8.759]	0.231
	Single	-4.003	[-6.005,-2.000]	<0.001
	Live with partner	-1.668	[-4.074,0.738]	0.174
	Widowed	-3.556	[-24.415,17.303]	0.738

Conclusion

Maternal oral health knowledge is strongly linked to socioeconomic factors. Targeted education strategies for single, low-income, and less-educated mothers are critical to reduce ECC disparities

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Acknowledgments

Supported by The National Institutes of Health and the National Institute for Dental and Craniofacial Research (NIDCR UH3 DE029443) and Iowa WIC Programs.