Language Preference as Indicator of Caries Experience and Visit Adherence

Budd J, Pierre J, Lumsden C, Yoon R

Columbia University College of Dental Medicine, Pediatric Dentistry and Foundational Sciences Divisions

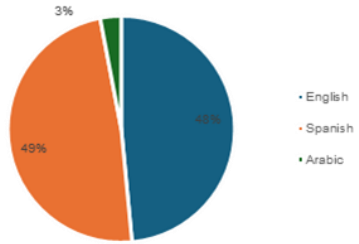
Background

Sociodemographic variables, such as race/ethnicity and poverty, among others, are recognized correlates of risk for poor oral health. Early childhood caries (ECC) – dental caries in children under 72 months of age – continues to be a highly prevalent disease. Children from minoritized backgrounds are disproportionately more likely to have limited access to preventative oral health care and more emergency care for acute pain or infections. Language plays a critical role in accessing healthcare but current research is limited in examining its relationship to appointment attendance and oral health status.

Purpose

This retrospective chart review of pediatric dental patients at a large academic medical center in Washington Heights, New York City examines relationships among parental language preference, and children's caries experience and visit adherence.

Figure 1. Preferred parental languages of patients included in study data



Methods

Data Abstraction

- 200 Epic electronic health records of patients between 2-8 years attending dental clinic appointments between February 1, 2023, and October 16, 2023
- Preferred language, detailed treatment notes, number of visits attended/missed

Variables Defined & Coded

- **Preferred Language:** patients whose preferred language is English ("English Group") vs. those whose preferred language is reported as "other than English" ("Non-English Group")
- **Appointment Adherence:** ratio of scheduled vs. missed appointments
- **Oral Health Status:** summative decayed, missing, or filled teeth (dmft) score

Analysis

- Two-sample independent t-test assessed between-group differences (English vs. Non-English Group):
  - Oral health status
  - Appointment adherence

Findings

- Oral health status ranged in the sample from a dmft score of 0 to 19
- 49.5% of the sample had a dmft that met the criteria for severe-ECC, which is defined as any smooth surface caries in patients under the age of three; from ages three to five, one or more cavitated, missing (due to caries) or filled smooth surfaces in primary maxillary anterior teeth; or a decayed, missing, or filled score of ≥4 (age three), ≥5 (age four), or ≥6 (age five) surfaces
- Mean dmft score was significantly ($p<0.05$) lower among patients with a parental preferred language of English (M=6.2; n=97) vs. non-English (M=7.6; n=103) (**Figure 2**)
- The mean percentage of missed appointments was significantly ($p<0.05$) lower among patients with a preferred language of English (17.3%) vs. non-English (12.6%) (**Figure 3**)

Figure 2. Mean dmft score

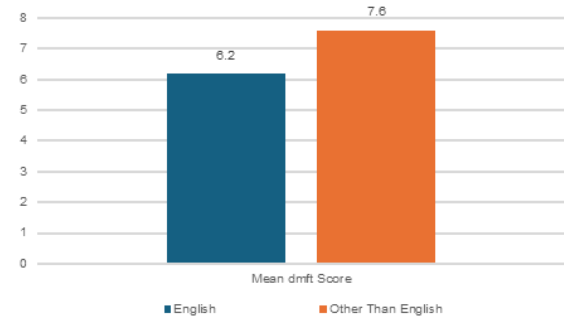
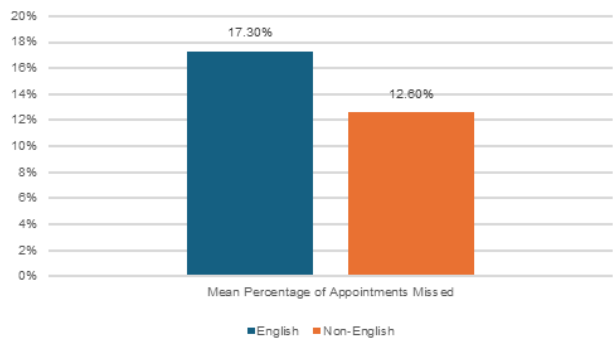


Figure 3. Mean percent appointments missed



Findings (continued)

Figure 4. Median dmft score by age

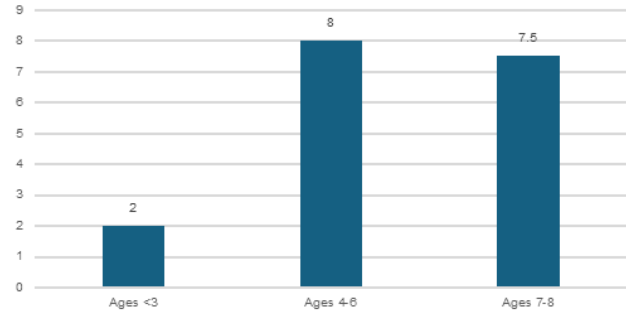
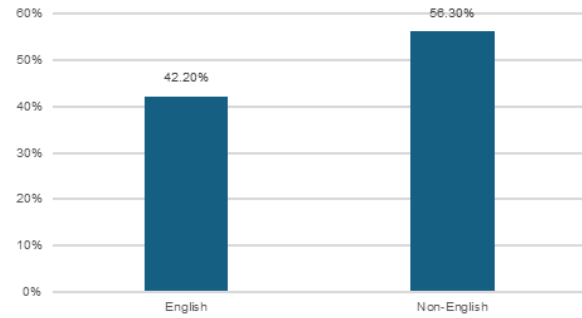


Figure 5. Percent severe-ECC by preferred language



Limitations

- The limited languages reported and modest sample size may limit generalizability of findings
- Reliance on data collected for non-research purposes during routine clinical care by multiple providers may also limit replicability, as reliability and standardization of data collection and clinical assessment were not evaluated

Conclusions

- Patients whose caregivers had a preferred language of other than English had higher dmft scores yet higher appointment adherence than patients whose caregivers had a preferred language of English
- Further research is warranted on acculturation and language in relation to oral and systemic health given differences in caries experience between study groups
- Findings suggest implementing interventions for patients with language preference of other than English may improve oral health outcomes