CRANIOFACIAL PEDIATRIC PATIENTS' ORAL HEALTH: STATUS AND PARENTAL PERCEPTIONS

Lydia J. DeJonge[1] Evelina H. Kratunova[1] David M. Avenetti[1] Sahar M. Alrayyes[1] Pravin P. Patel[2]

[1] Department of Pediatric Dentistry, College of Dentistry, UIC Chicago, IL; [2] Craniofacial Center, UI Health, Chicago, IL

Background

• Craniofacial (CF) disorders comprise a large group of phenotypically heterogeneous conditions; cleft lip and/or palate (CLP) are the most common, constituting ~65% of all anomalies affecting the head and neck area.
• CF disorders pose significant healthcare challenges and generally require extensive medical, dental, and surgical therapy.
•The comprehensive care of CF patients requires a team of medical, dental, and other specialists often organized in CF centers (CFC).
• Pediatric dentists are key members of the CF team and play an essential role in the treatment and prevention of dental disease for children affected by CF anomalies.
• There is a lack of studies in the current literature evaluating the oral health status and parental perception of oral healthcare needs of pediatric patients attending CFC and whether these differ between CF and non-CF counterparts.

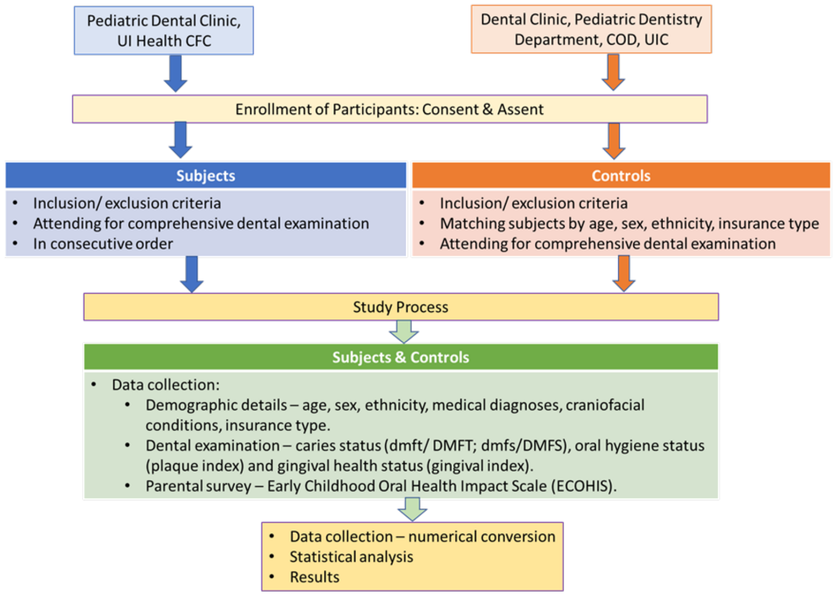
Hypothesis and Objective

• **Objective:** To determine the oral health status and the parental perception of oral health related quality of life (OHRQoL) of patients with CF anomalies receiving care at an urban CFC.
• **Null Hypothesis:** There is no difference between the oral health status and the parental perception of oral health needs between a cohort of pediatric patients with CF anomalies and their healthy counterparts matched for age, sex, race/ethnicity, and dental insurance.

Methods

• Study participants were selected according to strict inclusion criteria from the pool of patients attending the UI Health CFC and the post-graduate Pediatric Dentistry clinic at the Univ. of IL Chicago (UIC) College of Dentistry.
• Two trained and calibrated investigators completed all oral examinations.
• Oral health status outcome measures included number of decayed, missing and filled surfaces in both primary (dmfs) and permanent (DMFS) dentitions, as well as plaque (Loë 1967) and gingival (Lobene *et al.,*1986) scores.
• Grading scales were developed to categorize the oral health status.
• Early Childhood Oral Health Impact Scale (ECOHIS), validated questionnaire evaluating perception of oral health needs was administered to the participants' parents to assess OHRQoL.
• Statistical analysis included independent t-tests, Mann Whitney-U and Multiple Mixed Methods analysis. A p-value of <0.05 was used to determine statistical significance.
• Cronbach's Alpha statistics were used for examiner reliability analysis.

Fig. 1 *Flow Chart of the Study Process*



Results

• The total study sample consisted of 102 participants, including 51 subjects in the study group (UI Health CFC) and 51 healthy counterparts from the UIC College of Dentistry.
• Participants demographics included 57% males, age range of 1 to 16 years (mean age = 7.8 years, median age = 8 years), 74.5% self-reported their race as White (of those 59% were Hispanic), 19.6% identified as Black and 5.9% as Asian.
• All participants were on Medicaid insurance.
• CF diagnosis distribution is presented in ***Table 1***. "Other" included syndromes and conditions: Apert, Van Der Woude, Goldenhar, Pierre Robin, 1q deletion, craniosynostosis, microtia, microsomia and mandibular clefting.
• Both groups were similar and had high caries experience, poor oral hygiene and gingival health.
• ECOHIS Scores were similar between the groups.
• Analyses of group comparisons demonstrated that the CFC group had worse plaque scores (P<0.05).

Categories of CF Conditions	Percentage
Cleft Lip and Palate	51.0%
Other	23.5%
Cleft Palate	15.7%
Cleft Lip	5.9%
Cleft Lip and Alveolus	3.9%
Total	100.0%

Table. 1 *Distribution of CF Categories*

Average Values	CFC Group	Control Group	Average Values	CFC Group	Control Group
DMFT	2.34	2.97	dmft	4.58	6.49
DMFT Score	0.11	0.14	dmft score	0.34	0.49
DMFS	3.47	4.94	dmfs	11.83	18.7
DMFS Score	0.03	0.05	dmfs score	0.18	0.3
D Surfaces	2.63 (76% of 3.47)	2.34 (47% of 4.94)	d surfaces	7.91 (66% of 11.83)	7.51 (40% of 18.70)
M Surfaces	0	0.29 (6% of 4.94)	m surfaces	2.09 (17% of 11.83)	4.27 (23% of 18.70)
F Surfaces	0.84 (32% of 3.47)	2.31 (47% of 2.94)	f surfaces	1.83 (15% of 11.83)	6.91 (37% of 18.70)

Table. 2 *Summary of Dental Caries Experience Scores*

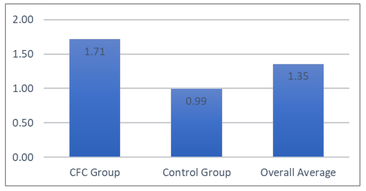


Fig. 2 *Plaque Index Scores*

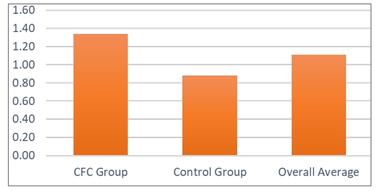


Fig. 3 *Gingival Index Scores*

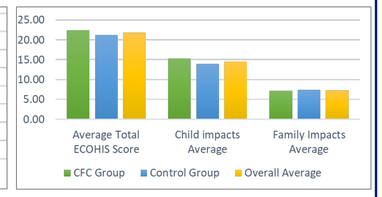


Fig. 4 *ECOHIS Scores*

Conclusions

•Pediatric CF patients were found to have oral health indices suggesting high caries rates in both dentitions, poor oral hygiene and gingival health.
•When compared to healthy counterparts of similar economic background, the pediatric CF patients showed similar caries rates (primary and permanent) and gingival status but worse plaque indices.
•The parental perception of oral health status (OHRQoL) showed needs for oral health care improvement for all patients, and the results were similar between the study groups.