

- ## BACKGROUND

  - The Child Oral Health Impact Profile (COHIP) is a validated questionnaire that was designed to specifically measure oral health-related quality of life (OHRQoL), as self-reported by children ages 8 to 15 years. The survey contains 34 items, which make up five subcategories: oral health, functional well-being, social-emotional well-being, school environment and self-image.
  - The purpose of this study was 1) To assess self-reported oral health quality of life of adolescent patients in a pediatric dental setting using the COHIP and 2) To correlate these findings with dental caries and other adolescents’ characteristics such as racial/ethnic differences, age and gender.
- ## METHODS

  - 71 patients ages 12-15 years old were recruited while present for a dental appointment at the Children’s Hospital Colorado Dental Center. The survey was completed electronically through REDCap and included the Child Oral Health Impact Profile (COHIP), as well as demographic information, including age, race, ethnicity, and gender. The DMFS scores were obtained by the primary researcher from the patient’s dental chart on Epic Wisdom.
  - Descriptive statistics to summarize study variables included means, medians, ranges, counts, and percentages. Unadjusted associations between COHIP total scale and subscales and DMFS, gender, age and race/ethnicity were done using correlations, independent samples t test, Mann-Whitney U test, one-way ANOVA and the Kruskal-Wallis test. Variables that had a p-value < 0.2 at the univariate level were entered in the multivariable linear regression models. All tests were two-tailed and a p-value < 0.05 was considered significant.

Table 1. Characteristics of the study sample

Variable	Overall (N=71)
Age	
Mean (SD)	13.6 (0.993)
Median [Min, Max]	14.0 [12.0, 15.0]
DMFS	
Mean (SD)	4.93 (7.04)
Median [Min, Max]	3.00 [0, 29.0]
Gender	
Female	38 (53.5%)
Male	29 (40.8%)
Other	2 (2.8%)
Prefer not to say	2 (2.8%)
Race	
Black or African American	18 (25.4%)
Other	18 (25.4%)
White	35 (49.3%)
Ethnicity	
Hispanic or Latino	40 (56.3%)
Not Hispanic or Latino	26 (36.6%)
Unknown/Not reported	5 (7.0%)
Race/Ethnicity	
Black or African American	18 (25.4%)
Non-Hispanic	11 (15.5%)
Other	1 (1.4%)
White/Hispanic	41 (57.7%)

## RESULTS

Table 2. Summary statistics of the COHIP total scale and subscales

	DMFS	Oral health wellbeing	Functional wellbeing	Social-emotional wellbeing	School environment	Self-image	Treatment expectations	COHIP
DMFS	1.000							
Oral health wellbeing	-0.254*	1.000						
Functional wellbeing	-0.349**	0.394***	1.000					
Social-emotional wellbeing	-0.254*	0.358**	0.463***	1.000				
School environment	-0.379**	0.392***	0.579***	0.609***	1.000			
Self-image	-0.159	-0.005	0.246*	0.421***	0.169	1.000		
Treatment expectations	0.410***	-0.299*	-0.323**	-0.367**	-0.322**	0.012	1.000	
COHIP	-0.366**	0.580***	0.637***	0.876***	0.691***	0.551***	-0.361**	1.000
Note: Significance codes: *** = p<0.001, ** = p<0.01, * = p<0.05								

Table 3. Spearman correlations between COHIP total scale and subscales and DMFS

Summary statistics of the COHIP scale and subscales				
Variable	Minimum	Maximum	Mean	SD
Oral Health Wellbeing (0 - 40)	9	40	26.08	6.15
Functional Wellbeing (0 - 24)	5	24	21.32	3.39
Social-Emotional Wellbeing (0 - 32)	2	32	24.25	8.68
School Environment (0 - 16)	3	16	14.46	2.78
Self-image (0 - 24)	0	24	15.14	5.46
Treatment Expectations (0 - 8)	0	8	4.34	2.15
COHIP (0 - 136)	41	132	101.25	18.77

Table 4: Adjusted associations between COHIP total scale and study variables

COHIP			
Predictors	Estimates	CI	p
(Intercept)	142.97	84.13 – 201.80	<0.001
Age	-2.79	-7.12 – 1.55	0.204
DMFS	-0.77	-1.38 – -0.16	0.014
Observations	71		
R <sup>2</sup> / R <sup>2</sup> adjusted	0.116 / 0.090		

- DMFS ranged from 0 to 29 with a median of 3.
- The total COHIP scale has a plausible range of 0 to 136. In our sample it ranged from 41 to 132 with mean ± SD = 101.25 ± 18.77.

## CONCLUSIONS

- There was a significant negative correlation between DMFS scores and the COHIP total scale, as well as all subscales except for self-image.
- A higher number of DMFS were associated with lower quality of life scores.
- No significant associations were found between age, gender, race/ethnicity and COHIP.
- At the univariate level, DMFS was associated with oral health wellbeing, functional wellbeing, social emotional wellbeing and school environment.
- Gender was associated with oral health wellbeing at the univariate level but lost its significance in the multivariable model.
- No significant differences in subscale scores were observed across race/ethnicity and age.

## DISCUSSION

- Current literature regarding oral health quality of life in adolescents has shown numerous associations between oral conditions and impact of life. Our study adds to this body of evidence, as an increase in caries history was associated with a reported decreased quality of life.
- The adolescent time period can be full of many changes and stressors that may impact quality of life and wellbeing. A history of dental caries may have a significant effect on these patients during this time period, and public health policy should reflect a continued emphasis on oral health measures during this time period.