



ABSTRACT

Purpose: The aim of this study is to evaluate and compare data obtained from oral health assessments completed for patient's ages 6 months to 48 months, who were seen for dental care in the dental clinics at The University of Missouri- Kansas City School of Dentistry or Children's Mercy Hospital. The clinics are co-located geographically but reside in two different institutions and buildings.

Methods: De-identified data from two previous oral health assessment studies were evaluated and compared. Assessment data from 130 patients seen at UMKC and 282 patients seen at CMH were analyzed.

Results: Statistically significant differences ($p < .05$) were seen in the number of patients who presented with visible plaque, visible enamel demineralization and visible decay as well as in the age of the first dental visit. Children seen at a hospital dental clinic presented with more dental decay and were seen at a later age than those seen at a University based dental school clinic.

Conclusion: Although geographically co-located in an urban center, patient's seeking dental care in a hospital clinic present with more dental decay and at an older age than those seen in a dental school clinic.

Background/Introduction

Early childhood caries (ECC) is the most common chronic disease of childhood in the United States. Untreated caries may cause pain and infections which can lead to problems with eating, speaking, and learning. Caregivers establishing a dental home for their children's oral health care is a critical step in preventing ECC. The age-one visit has been supported by various professional organizations such as the American Academy of Pediatric Dentistry, American Dental Association and American Academy of Pediatrics. As such, both undergraduate and graduate training programs in pediatric dentistry must provide didactic and clinical experiences in evaluation of infants and toddlers in their program. The aim of this study is to evaluate and compare data obtained from oral health assessments completed for patient's ages 6 months to 48 months, who were seen for dental care in the dental clinics at the University of Missouri- Kansas City School of Dentistry or Children's Mercy Hospital which are geographically co-located

MATERIALS/METHODS

De-identified data from two previously IRB approved studies were used in this study. Data was based upon oral health information assessments completed using a series of questions developed and used in the pediatric dentistry department at the University of Missouri-Kansas City School of Dentistry. Assessments were completed for patients seeking care at the Children's Mercy Kansas City Outpatient Dental Clinic or for those seeking care at UMKC School of Dentistry during a six-month time frame in 2016. The oral health assessment documented prenatal history, medical and developmental history, oral hygiene, medications as well as the presence of plaque and carious lesions. The assessment also documented patient age at their first dental visit. **Data Analysis:** Descriptive statistics was used to evaluate the overall characteristics of the population evaluated in this study. Chi-squared tests were used to compare the two populations of children who received dental exams at the University of Missouri-Kansas City School of Dentistry Department of Pediatric Dentistry and the Children's Mercy Outpatient Pediatric Dental Clinic in the given time frame.

RESULTS

Data analysis revealed several significant associations in the populations studied. Patients seeking care at the University of Missouri-Kansas City Predoctoral Department of Pediatric Dentistry (UMKC) were significantly younger at the time of their first dental visit and patients at CMH (Figure 1; Table 1) were significantly more likely to have visible plaque on their teeth (p -value < 0.001), white spot lesions (p -value < 0.001), and visible decay (p -value < 0.001). (Figure 2, Table 2).

Figure 1

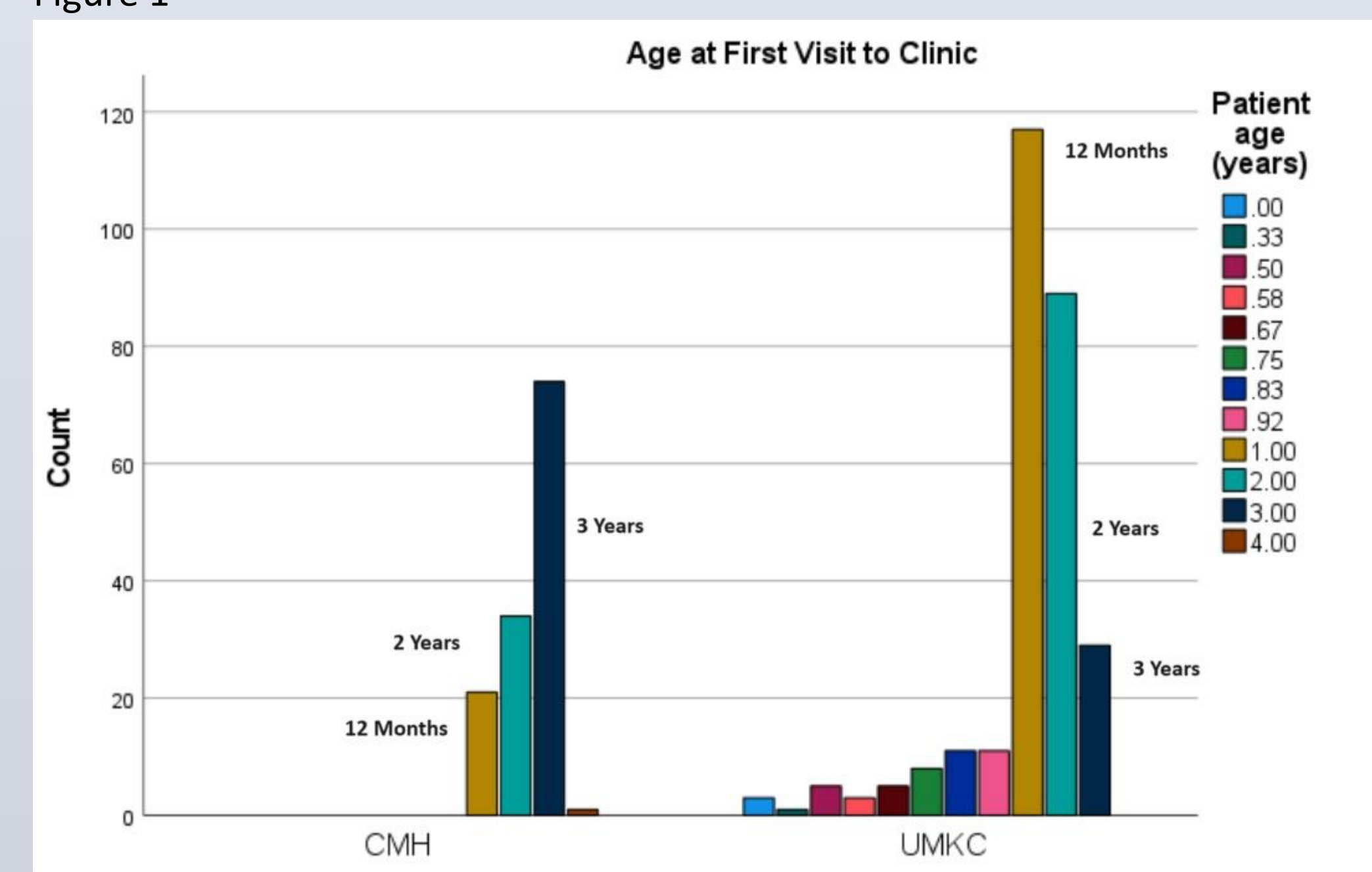


Table 1

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	71.627 ^a	3	<.001
Likelihood Ratio	75.386	3	<.001
Linear-by-Linear Association	66.070	1	<.001
N of Valid Cases	412		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 22.09.

Figure 2

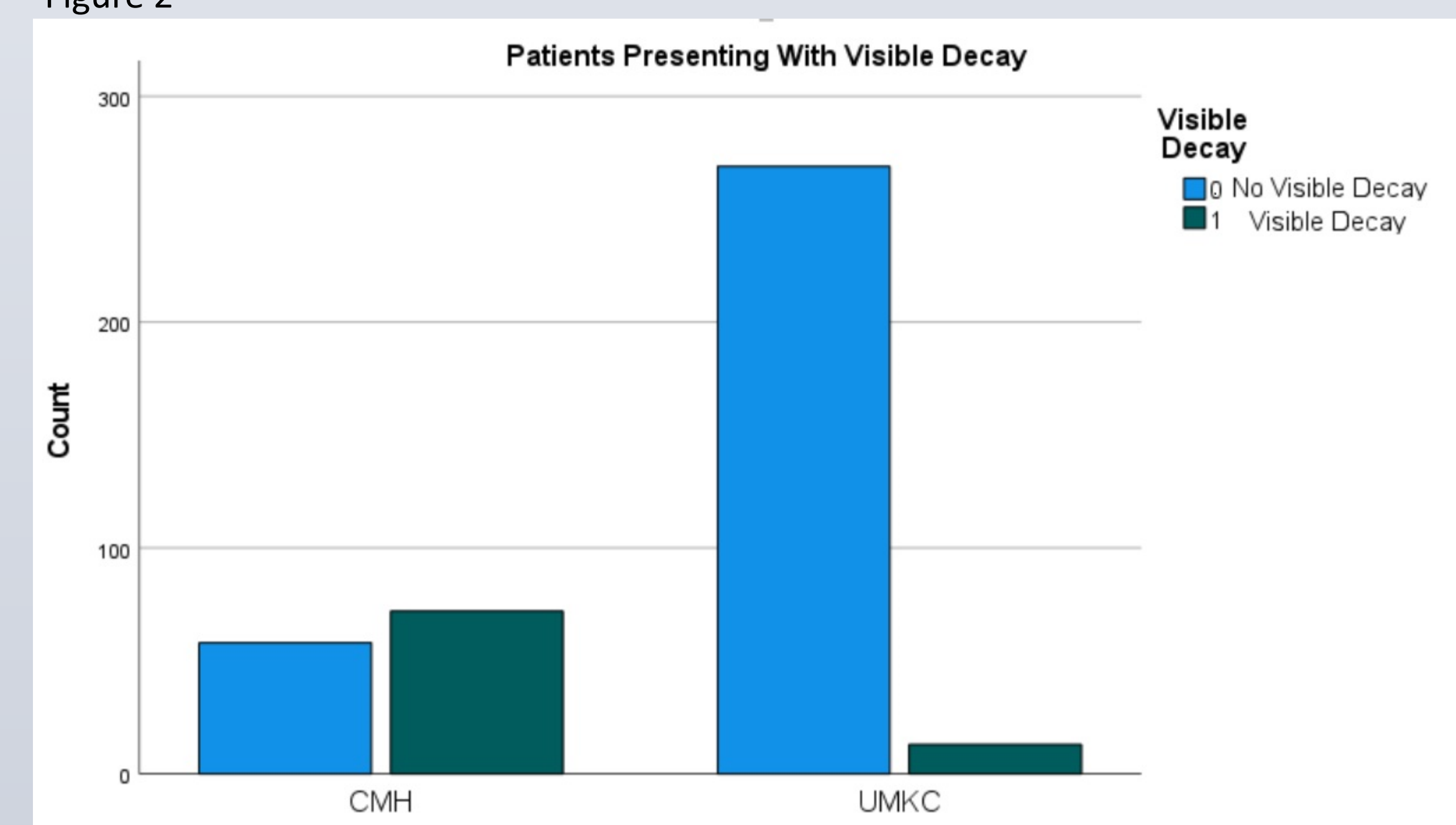


Table 2

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	140.093 ^a	1	<.001		
Continuity Correction ^b	137.010	1	<.001		
Likelihood Ratio	135.339	1	<.001		
Fisher's Exact Test				<.001	<.001
Linear-by-Linear Association	138.753	1	<.001		
N of Valid Cases	412				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 24.82.
b. Computed only for a 2x2 table.

DISCUSSION/CONCLUSION

Children who were evaluated at the dental school were likely to be evaluated at a younger age than those evaluated and the hospital. This finding is likely because dental students must complete the evaluation of a child who is less than 3 years of age as a clinical competency needed for graduation. This requirement also includes the completion of pre-requisite experiences before challenging competency. All the exams for children under 3 years old are also completed at no charge to the parent. No such graduation requirements or free exam incentives exist at CMH. Therefore, active recruitment and free exam incentives for children three years and younger may be contributing factors why patients seeking care at UMKC were significantly younger at the time of their first dental visit than patients seeking care at CMH. As the AAPD and other professional organizations acknowledge the age-one dental visit, the fact that dental students appear to be getting appropriate clinical experiences in this type of exam is a positive finding.



Finally, high levels of dental caries, challenging child behavior, and parental expectations has increased the demand for dental professionals specialized in pediatric dentistry. (1) Behavior guidance techniques, both non-pharmacological and pharmacological, are used by pediatric dental residents at CMH to alleviate anxiety, nurture a positive dental attitude, and perform quality oral health care safely and efficiently for infants, children, adolescents, and persons with special health care needs. (4) Access to pediatric dental residents trained in non-pharmacological and pharmacological behavior techniques may be a contributing factor why patients with higher plaque levels, white spot lesions, and visible decay were more likely to seek dental care from CMH rather than dental students at UMKC.

In summary, although geographically co-located in an urban center, there appears to be distinct differences between young pediatric patients who choose to seek care in a hospital-based residency clinic and those who seek care at a University-based undergraduate dental clinic.

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