

DIRECT OBSERVATION STUDY: DENTAL PROCEDURES PROVIDED TO OHIO AFRICAN-AMERICAN AND CAUCASIAN PATIENTS

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ABSTRACT

Previous studies have identified disparities in medical care delivered to African American and Caucasian patients. The Direct Observation Study allows the comparison of dental procedures provided for African American and Caucasian patients in the CROWN (Community Research for Oral Wellness Network).

Objective: Determine the type and frequency of dental services provided to African American patients as compared to Caucasian patients in the CROWN and to characterize procedures received based on patients self reported race during dental and hygiene visits in private dental practice settings using direct observation.

Methods: One hundred and twenty (120) dental practices from 22 Ohio counties were directly observed over a 16 month period. Two observation teams each composed of two trained hygienist researchers and a patient intake coordinator visited each practice for four days to directly observe dentist and hygiene patient visits, review records, and administer patient and provider surveys. This report includes 3,310 patients' self-reports of racial background collected from 120 practices. The procedures were part of an immediate post visit checklist. African-American patients are compared to Caucasian patients in dental practices of both African American and Caucasian dentists.

Results: Out of the 3,697 observed patient visits, 3,310 self-reported their race as African American or Caucasian and are included in the analysis. Patients included in this analysis were 58.2% female and 41.6% male, with mean age 45.2 ± 21.3 years, 91% Caucasian, and 9% African-American. There was no difference in age or educational attainment between African American and Caucasian patients, but a greater proportion of Caucasian patients were in a higher income category. Among African American and Caucasian provider dental visits, services provided to African American and Caucasian patients were similar.

OBJECTIVE

Determine the type and frequency of services provided, and characterizes procedures received by patients based on patients' race during the dentist and hygiene visits in private dental practice settings using direct observation.

METHODS

One hundred and twenty (120) dental practices from 22 Ohio counties were directly observed over a 16 month period. Two observation teams of two hygienist researchers and a patient intake coordinator visited each practice for four days to directly observe dentist and hygiene patient visits, review records, and administer patient and provider surveys.

Instruments: Two of the direct observation data collection instruments were a post-visit checklist on which all procedures observed in that visit were recorded, and the modified Vary Observation Code (Dental DOC). The Dental DOC is a coding scheme developed for direct observation in family medicine practice settings, and modified for use in the dental setting that records practitioner behaviors. All relevant behaviors observed during each 30 second interval are recorded. The Post Visit Checklist is completed immediately following both the dentist and dental hygiene visits. This report includes 3,310 patient self-reports of racial background collected from patient surveys.

Patient Demographics by Race

	Caucasian N=3016 %	African American N=294 %
Age (Mean ± SD)	45.4 ± 21 years	43.6 ± 21 years
Sex		
Female	58.1	61.0
Male	41.9	39.0
Marital Status		
Married	57.9	38.6
Single (Divorced or Widowed)	15.4	22.6
Never Married	26.7	38.9
Education		
Less than 12 years	16.9	17.9
High School Grad/GED	22.5	13.8
Some College	22.6	31.7
College Grad	20.8	21.0
Grad School / Professional Degree	17.2	15.5
Income (Annual)		
<\$19,999	14.1	15.6
\$20,000-34,999	14.9	22.1
\$35,000-54,999	20.3	28.7
\$55,000-84,999	22.9	18.4
\$85,000 or greater	23.2	15.2
Forced to Change Dentists because of Changes in Insurance Plan within the Last Two Years		
Yes	5.1	11.2
No	94.9	88.8
Uninsured	30.6	12.8

Self-Reported Patient Behaviors

	Caucasian N=3016 %	African American N=294 %
Total Dental Visits This Year		
1-4	82.8	76.0
5-7	11.6	14.1
8+	5.5	9.8
Other Family Members See a Dentist in this Practice		
Yes	73.5	65.1
No	26.5	34.9
Perceived Physical Health		
Excellent	24.3	21.3
Very Good	40.1	36.7
Good	28.8	32.5
Fair	6.1	8.7
Poor	0.7	0.7
Perceived Dental Health		
Excellent	13.2	11.2
Very Good	32.5	28.3
Good	34.9	36.4
Fair	14.9	18.9
Poor	4.5	5.2
Tobacco Use		
Current User	15.9	14.9
Former User (>1yr)	20.1	14.6
Former User (<1yr)	3.9	2.8
Never Used	60.1	67.6
Alcohol Use		
Never Used	48.5	60.9
1 or fewer drinks per day	46.3	37.7
2 or more drinks per day	5.2	1.4

CONCLUSION

After considering the confounding variables of SES, income and education level, dental services provided to the African American and Caucasian patient did not significantly differ in the private dental practice setting. Surprisingly, the trend was for African American patients to receive more preventive services than Caucasian patients from providers. This result is not consistent with findings from medical care literature. The differences in services given to the African American patient from the Caucasian and African American provider also yielded unexpected results. Services provided by the African American provider were comparable to those provided by the Caucasian provider to the African American patient except for crown and bridge, extraction, and amalgam restorations. This result is also not consistent with findings from medical care literature. African American and Caucasian patients in the CROWN network were comparable when considering income, education levels and their attitudes towards health. Disparities in dental services based on the race of the patient are not present in this sample of patients treated by private dental practices. Further studies of disparities in dental care need to be carried out in venues that will include a larger sample of African American patients and providers so that multivariate risk adjustments can be made to confirm these findings.

Dental Services by Patient Race

Procedure (from PVC)	Caucasian N=1777 %	African American N=186 %	p value
Prevention* Dentist Hygienist	12.5 78.5	18.8 69.6	.016 .038
Endodontic Treatment	5.8	6.5	.742
Extraction	6.3	6.4	.937
Crown or Bridge	21.2	14.0	.021
Amalgam Restoration	9.4	7.5	.401
Composite Restoration	24.8	15.1	.003
Cosmetic	2.5	1.6	.618

*Excludes prophylaxis

Services Received by African American Patients by Provider Race

