Racial and Ethnic Disparities in Access to Dental Care, and Delayed Dental Care in Older Adults in Cincinnati, Ohio

by

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Abstract

This study examined the racial and ethnic disparities in access to dental care and delayed care in older people. Data from the 2010, Greater Cincinnati Community Health Status Survey (GCCHSS) on oral health, of 2,077 subjects aged 45 – 75 to explore access to dental care and delayed dental care differences between Hispanic (n = 297), African Americans (n = 445), and White Appalachian (n = 1335) adults in Cincinnati, Ohio. The GCCHSS consist of self-reported measures of oral health. Descriptive and logistic regression analyses were conducted using weighted data. Results from adjusted logistic regressions indicated significant racial and ethnic differences between White Appalachians and minority examined groups. African Americans were significantly less likely than White Appalachians to visit a private dentist office, and were more likely to visit the hospital emergency room to have their mouth examined for sores. Hispanics were significantly less likely to visit a dental clinic, but more likely to visit a community based health center than their white counterparts. African Americans were significantly less likely than White Appalachians to have their teeth cleaned by dentist/hygienist in the past year, and given less dental care advice about their teeth, but were more likely to rate the condition of their mouth and teeth as very good, and more likely to delay dental care. The findings suggest that a regular source of dental care for African Americans and Hispanics should be a top priority in Cincinnati, Ohio for older adults. Ignoring the needs of one of the fastest growing minority populations in Ohio with the poorest oral health will eventually lead to future increase of oral disease and may eventually impact the daily lives of older adults.

Introduction

Adults aged 45 and older consist of the most rapid growing segment of the United States population. Amongst this older population, African Americans represent the greatest number and proportion of minority elders, and their numbers are expected to rise dramatically over the next two decades (Angel and Hogan, 1991). It is estimated by the time many of the baby boomers face retirement (2020), the population of elderly African Americans will have increased 121.2% beyond their 1990 population, almost twice as much as the projected 64.7% increase among older Whites (Manuel, 1994). Although African Americans are mostly settled in the South and Northeast regions of the United States between 1990 and 2000, the Midwest experienced the largest percentage increase (60%) in African American population (United States Census Bureau, 2010). In Cincinnati, Ohio, a predominantly White city, African Americans 45 and older accounted for 25% of the population in 2000 and are projected to count for 49.9% of the population by 2030 (United States Census Bureau, 2000). It is interesting that African Americans aged 45 and older living in Cincinnati, Ohio represent (13.3%) the largest concentration of elders among any racial/ethnic group (Gates, 2006).

Literature Review

Although the oral health of Americans has improved tremendously in the past 30 years, disparities have been found among elderly African American adults. For example, the lack of access to oral health was 18% higher in Whites, 66% higher in Hispanics, and 77% higher in African Americans (Valencia et al, 2012). Furthermore, African Americans have the highest percentage of elderly with delayed oral care and untreated tooth decay (Vargas and Arevalo, 2009).

Several studies suggest that the difficulties elderly African Americans face in accessing dental care greatly affect their oral health (Wayler, et al, 2013). Barriers to care include lack of dental insurance, low family income, and lower education (Noyce, et al, 2009; Jaramillo et al, 2009; Flores et al, 2008). These difficulties can even be greater for those elderly African Americans who live in the United States and have been discriminated against because of their race or ethnicity. This population may be more hesitant to access services and may have concerns about making dental visits because of a long history of suffering in the African American community.

Few studies have been conducted using elderly African Americans to assess racial and ethnic disparities in access to dental care in urban areas. Therefore, to fill in the gaps in the literature, the present study examined racial and ethnic differences in delayed dental care and access to dental care in older adults 45-75 years of age from diverse racial and ethnic backgrounds living in Cincinnati, Ohio. It was hypothesized that there would be a significant racial and ethnic difference in delayed dental care and access to care outcomes and that African Americans and Hispanics would have higher delayed dental care and lower access to dental care than poor Appalachian Whites.

Data and Methods

This paper utilizes data from the 2010, Greater Cincinnati Community Health Status Survey (GCCHSS). Data collection for GCCHSS was conducted with telephone interviews between August 14 and September 27, 2010. The GCCHSS is a population-based randomized telephone survey that gives an in depth look of the self-reported health of Cincinnati residents. The GCCHSS project was conducted by the Institute for Policy Research at the University of Cincinnati and was approved by the institutional review board at the University of Cincinnati for the use of GCCHSS data.

Racial and ethnic adults 45 – 75 years of age living in Cincinnati, Ohio were selected for analysis. These adults included Hispanics (n = 297), African Americans (n = 445), and White Appalachians (n = 1335). The access to dental care and delayed dental care was assessed by asking the participants "Is there one particular dentist's office, dental clinic, health center or other place that you usually go to if you need dental care or advice about dental care?" Participants who answered with a positive answer were then asked "How would you describe the condition of your mouth and teeth, including false teeth and dentures?" The subgroups of Hispanics who had access to dental care and was delayed dental care consisted of Guatemalans (0.8%), Salvadorians (0.5%) and Belizeans (0.6%). Subgroup analyses could not be conducted in this study because of inadequate sample size.

Measures

Access to Dental Care

Access to dental care was assessed by asking participants "How long has it been since you last visited a dentist or dental clinic for any reason?" and "How long has it been since you had your teeth "cleaned" by a dentist or dental hygienist?" Additional questions were asked to assess access to dental care among older adults.

Delayed Dental Care

Questions about delayed dental care was asked: "In the past 12 months, was there a time when you thought that you needed dental care but did not get it, or delayed getting it?" If the participants responded positively to this question then they were asked, "What was the most important reason that you did not get dental care or delayed getting dental care?"

Covariates

The following covariates were included in multivariable analyses: age, sex, marital status, education level, poverty level (indexed in terms of federal poverty level).

Data Analysis

Statistical Package for the Social Sciences (SPSS) version 22 was used for weighted efforts used for accurate variance estimates. Chi square tests were used to evaluate racial and ethnic differences in respondents' background characteristics and access to dental care, and delayed dental care. Logistic regression analysis were conducted to compare the odds of accessing dental care and delayed dental care in racial and ethnic groups with those of the white reference group, with adjustments for covariates.

Table 1. Background Characteristics of Older Adults According to Race or Ethnicity (Weighted)

Characteristics	African American	Hispanic	White Appalachian	P - Value
	n =445		n = 297	n = 1335
Age, Mean (standard error)	70.1 (0.6)	69.2 (2.4)	71.5 (0.3)	.16
Marital Status %				
Married	57.3	29.3	62.3	.02
Widowed	6.7	13.2	11.0	
Divorced/separated	27.3	23.0	13.9	
Never married	40.6	9.4	12.7	
Highest grade completed %				
< High school	14.0	15.0	7.6	<.001
High school	35.0	37.3	38.5	
Some college	31.3	26.0	24.6	
College graduate	19.3	21.5	29.7	
Federal poverty level %				
0 – 199	42.5	40.4	60.6	<.001
≥ 200	57.5	59.6	39.4	

Results

Background Characteristics

As shown in table 1, significant differences were found in all background characteristics except for age. African Americans and Hispanics were the least likely to graduate from college while White Appalachians were the most likely. Hispanics had significantly lower levels of marriages and African Americans had the highest level of divorce/separation. The majority of African Americans and Hispanics live below the federal poverty level.

Racial and Ethnic Comparisons of access to dental care and Delayed Dental Care

As shown in table 2 below, there were significant racial and ethnic differences in access to dental care. African Americans were more likely to visit an emergency room for dental care and Hispanics were more likely to visit a community health center compared to their white Appalachian counterparts. White Appalachians were most likely to visit a private dental office, and African Americans were least. African Americans were less likely to visit a dentist within the last 6 months, but were more likely to describe their mouth/teeth in very good condition. Almost all of the respondents had their teeth cleaned in the past 2 years but there were significant racial and ethnic differences reported. White Appalachians were more likely to have their teeth cleaned, and African Americans were least likely to have their teeth cleaned compared to Hispanics.

Significant ethnic and racial differences were reported for delayed dental care. African Americans were most likely to have delayed dental care and White Appalachians were least likely to have delayed dental care. More than half of each racial and ethnic group reported lack of transportation as the reason for delayed dental care but there were significant racial and ethnic differences reported. African Americans were less likely to have transportations than Hispanics. Although no respondents reported that having fear of the dentist as a reason to delay dental care, African Americans and Hispanics were most likely not to like the dentist compared to White Appalachians. African Americans were most likely to report not having any dental insurance, and White Appalachians least.

Table 2. Racial and Ethnic Comparisons of Access to Dental Care, Delayed Dental Care (Weighted)

Variable	African American	Hispanic	White Appalachian	P-Value
	n = 445	n = 297	n = 1335	
Access to Dental Care				
Place you go for dental care %				
Dental Clinic	33	18	44.7	
Community health center	19	25	38	
Emergency room	46	23	38	<.001
Private dental office	18	15	70	.003
Since you last visited a dentist %				
Past six months	7.3	19	72.3	<.001
In the past 1 year	7	24	66.3	
In the past 2 years	9.2	25	64.3	
In the past 5 years	12	36	51.3	.06
More than 5 years	5	27.3	64	
Describe condition of mouth/teeth %				
Very good	21	6	71	<.001
Good	7	22	69	
Fair	22	19	22	
Poor	28	11	6.3	
Since you had your teeth “Cleaned” %				
Past six months	7	18	73	
In the past 1 year	8	23	66	
In the past 2 years	11	25	62	
In the past 5 years	9	35	55	.046
More than 5 years	6	25	66	

Delayed Dental Care

Did not get care/delayed care %			
Yes	77	72	22
No	23	28	78
Reason for delayed care %			
No dental insurance	19	15	12
<.001			
No time/Too busy	13	19	67
Delayed visit	17.2	14	6.2
Problem would go away	0.2	1.0	2.2
No transportation	66	33	0
<.001			
Don't like dentist	7	5	4

Adjusted Odds Ratios

As summarized in Table 3 below, racial and ethnic differences in access to dental care and delayed dental care were examined. African Americans (adjusted odds ratio (AOR) = 1.47, 95% confidence interval (CI) = 1.06 – 2.03) and Hispanics (AOR = 2.49, 95% CI = 1.16 – 5.36) were less likely than Appalachian Whites to visit a private dental office for dental care. Although African Americans (AOR = 1.78, 95% CI = 1.36-2.33) were more likely than Hispanics to describe the condition of their mouth/teeth as very good, Hispanics (AOR = 1.11, 95% CI = 0.90 – 1.39) were less likely than Appalachian Whites to describe the condition of their mouth/teeth as very good.

There were significant racial and ethnic differences for reasons for delayed dental care. African Americans (AOR = 1.73, 95% CI = 1.07 – 2.81) were more likely than Hispanics (AOR = 0.76, 95% CI = 0.47 – 1.22) and White Appalachians (AOR = 0.22, 95% CI = 0.05 – 1.02) to delay their dental care because they had no means of transportation. Hispanics (AOR = 2.27, 95% CI = 0.34 – 15.19) were more likely than White Appalachians(AOR = 0.92, 95% CI = 0.24 – 3.56) to delay dental care due to no dental insurance, but African Americans were the most likely to delay dental care because of no dental insurance. White Appalachians (AOR = 3.62, 95% CI = 0.37 – 3.90) were more likely than Hispanics (AOR = 2.05, 95% CI = 0.88 – 4.77) to delay dental care because they were too busy or had no time, whereas African Americans were less likely despite being busy and having no time.

Table 3. Access to Dental Care, and Delayed Dental Care According to Race and Ethnicity (Weighted)

	Adjusted OR (95% Confidence Interval)		
Variable	African American n = 445	Hispanic n = 297	White Appalachian n = 1335
Access to dental care			
Visit private dental office	1.47(1.06 – 2.03)*	2.49(1.16 – 5.36)	4.83(3.31 – 7.04)
Condition of teeth as very good	1.78(1.36 – 2.33)	1.11(0.90 – 1.39)*	1.74(1.21 – 2.49)
Delayed dental care			
No transportation	1.73(1.07 – 2.81)*	0.76(0.47 – 1.22)*	0.22(0.05 – 1.02)
No dental insurance	5.04(0.82 – 7.91)*	2.27(0.34 – 15.19)	0.92(0.24 – 3.56)
Too busy/No time	1.13(0.57 – 1.23)*	2.05(0.88 – 4.77	3.62(0.37 – 3.90)*

Adjusted for age, sex, poverty, educational attainment, and marital status *p < .05

Discussion

The present study was designed to examine the racial and ethnic disparities in access to dental care and delayed care in older adults 45 -75 years of age in Cincinnati, Ohio. It was hypothesized that there would be a significant racial and ethnic difference in delayed dental care and access to care outcomes and that African Americans and Hispanics would have higher delayed dental care and lower access to dental care than and poor Appalachian Whites.

Racial and ethnic disparities were identified in terms of access to dental care and delayed dental care. African Americans were less likely to visit a private dental office for dental care and were more likely to visit the emergency room for dental care. African Americans were less likely to have transportation and less likely to have dental insurance. These differences in access to dental care and delayed dental care remained significant even after controlling for socioeconomic status, age, sex, health insurance, and other socio-demographic variables. These findings were consistent with the literature, in which barriers to access, whether it was financial (e.g. problems with dental insurance), structural (e.g. no transportation), or personal (e.g. fear of the dentist), have been shown to limit access and delay use of the healthcare system by racially and ethnically diverse individuals (Sorkin, 2010).

Results of the Hispanic population also warrant discussion. Elderly Hispanics were more likely to visit a dentist in the past 6 months than African Americans, but less likely to rate the condition of their teeth as very good. These results may be related to the fact that Hispanics maybe less knowledgeable about the expectations for receiving quality of care when visiting a dental office, and may have concerns about citizenship issues if they were to complain about the services they receive from the dentist.

Some limitations should be noted. First, results cannot be generalized to other racial and ethnic minority groups residing outside of Cincinnati, Ohio as the causes of delayed care and access to care may differ. Second, subgroups of Hispanics could not be analyzed due to small sample size. Third, our study was a self-reported study based on the participants with no way to validate reported data. Last, the study was not able to examine the cultural barriers, such as health beliefs regarding access to dental care and delayed dental care. Despite these limitations there are several strengths of the present study. The sample size was substantial and representative of Cincinnati, Ohio. The present study examined the racial and ethnic disparities among African Americans, Hispanics, and poor White Appalachians, whereas most studies have looked at solely African American and Whites.

Conclusion

The coordinated efforts of academic researchers, policy makers, and health care professionals are called to recognize health disparities and implement strategies that address racial and ethnic minority groups. Innovative interventions should be made to ensure that elderly African Americans and Hispanics have regular access to dental care and no delayed dental care. Ignoring the needs of one of the fastest growing minority populations in Ohio with the poorest oral health will eventually lead to future increase of oral disease and may eventually impact the daily lives of older adults. Federal, state, and local initiatives ensuring that all older racial and ethnic groups have a place where they can have access to dental care would greatly benefit the elderly and help reduce health disparities.

Future Implications

The implications arising from this study are both individual and systematic. Findings suggest that efforts should be expanded in Cincinnati, Ohio to improve education and outreach to elderly African Americans and Hispanics to increase their access to dental care. Systematically, Cincinnati, Ohio can make an effort to remove the structural barriers (e.g. no transportation), personal barriers (e.g. discrimination), and financial barriers (no dental insurance) to help aid in reducing existing racial and ethnic disparities.

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