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Research Article

Oral Health Knowledge and the Utilization of Dental Services: A Survey of Urban Native Americans

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Abstract

The purpose of this study is to understand the oral health knowledge among the Native American patients of American Indian Health and Family Services and how it affects the utilization of dental care by these patients. In collaboration with American Indian Health and Family Services, a non-profit health center serving the Native American community of southeastern Michigan, a paper based survey was administered to all the individuals who sought care at the health center. A total of 55 surveys were collected. A majority of the respondents identified themselves as Native American (71%). Analysis revealed that, a majority of respondents were knowledgeable about the importance of brushing (98%), flossing (96%) and diet (78%) to maintain good oral health. About 91% reported that good oral health was very important to them and about half of them reported having good to very good oral health. A large percent of the respondents did not practice good oral hygiene and seek dental care when needed even though they scored high on the knowledge questions. A majority of the respondents reported not seeking dental care in spite of having dental needs (58%) and listed barriers like; cost of dental care (48%), transportation (10%), and inability to take time off from work (10%) among others. The results of the study indicated that good oral health knowledge alone does not translate to better utilization of dental services, and there are other barriers to seeking care.

Keywords: Urban Indian Health, Health Disparities, Dental Utilization, Oral Health Knowledge

Introduction

According to the Surgeon General's Report on Oral Health in the United States, good oral health is vital to the overall health of an individual. The report also suggested that racial and ethnic minority groups tend to suffer from more dental disease. Despite improvements in oral health of American in recent years, considerable gaps continue to exist in access and utilization of dental services [1]. Inequity in access to oral health care services to various populations in the United States is evident. The populations which require the most amount of care often are least likely to receive it [2-5]. In 2011, approximately 33.3 million individuals in the United States lived in dental health professional shortage areas [6]. Inadequate access to dental care has led to significant oral health disparities in the United States, disproportionately affecting vulnerable and underserved populations.

In the United States, American Indian/Alaskan Natives (AI/AN) suffer from a disproportionate amount of oral health diseases compared to the general population as well as other racial and ethnic minority groups. American Indian adults tend to have higher prevalence of dental caries and untreated caries, severe periodontal disease, missing teeth and more likely to report poor oral health. In a recent Indian Health Service (IHS) survey, compared to non-Hispanic whites, AI had three times as much untreated dental caries and almost 50% more than the next highest minority group [7]. The rate of dental caries for AI/AN children ages 2 to 5 is five times the U.S. average, and more than two-thirds of AI/AN children suffer from dental caries [8]. There is limited information available on dental care utilization among American Indians; however, the available research on this group has focused on the lack of access American Indians have to health care. AI/AN populations face complex barriers to attaining good oral health. Some of these barriers include lack of sources of fluoridated water, instability in IHS dental programs, geographic barriers to care and limited access to professional dental care. All these factors are a significant contributor to the disparities in oral health that exist in the AI/AN population and has a negative impact on American Indians opportunity and propensity to utilize dental care [9]. A major factor

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contributing to inadequate access to care is the inability to attract dentists to practice in IHS or tribal health facilities in rural areas. In 2014, more than 2.4 million Native Americans lived in counties with dental care shortage areas, and half of all Native American children lived in a shortage area [10].

Since 1787, the IHS is the only federal entity responsible for the health care needs of the American Indian population in the United States and its 566 recognized tribes. Traditionally, tribal members residing on or near reservations can receive medical and dental care through IHS centers. However, the growing population living away from reservations must either utilize an Urban Indian Health Organization (UIHO) or use private health insurance to access health care. To provide health care for the increasingly urban AI/AN population, the IHS awards contracts and grants to 34 nonprofit agencies located in major metropolitan areas across the United States. As of 2010, census data has shown that 71% of American Indian/Alaskan Natives reside in urban areas. Additionally, more than 1 in 5 urban AI/ANs lives in poverty according to an American Community Survey (ACS) 5-year estimate of a sample of urban AI/AN [11]. Presently, the UIHOs provide primary health care to more than 60% of the nationwide AI/AN population, but receive only 1% of the total IHS budget. Despite the increasing numbers of urban AI/AN, there is little health data available for these population. It is difficult to gather data or develop programs to target this group because of the geographic dispersal and small numbers of urban AI/AN relative to the general population of the United States [12]. The lack of recent data could be resulting in misappropriation of funds from the Indian Health Service for services for the urban populations. The factors that contribute to inequity in access to dental care and utilization are varied and complex. They include gender, age, education level, income level, race and ethnicity, geographic location, general health status, and dental insurance status [13-15]. The Surgeon General's report also suggests that there may be certain cultural beliefs and practices that might influence the oral health status of racial and ethnic minority group. The underlying cultural beliefs, attitudes and knowledge influence the oral health status, through care-seeking behaviors [16,17]. Poor oral health literacy is strongly associated with self-reported lower oral health status, lower dental knowledge, and fewer dental visits [6]. Even though, cultural beliefs, attitudes and literacy have shown to influence the utilization of dental care, social-economic determinants seem to have a greater impact on utilization. The goal of this study was to determine if oral health knowledge played a major role in the utilization of dental services by urban AI population in City of Detroit and surrounding areas.

Methods

A self-administered survey with 19 pre-tested questions was developed to collect data on demographics, oral health beliefs, knowledge, and utilization of dental services. The questions were adapted from a database of national surveys on oral health compiled by the National Institute of Dental and Craniofacial Research. We collected data regarding the participants' characteristics, including age, race, level of education and insurance coverage. To assess oral health knowledge, we asked participants questions about oral hygiene practices and diet that promote or prevent dental caries. A "Oral Health Knowledge" variable was created by combining the respondents who replied correctly to questions related to brushing, flossing and diet. We assessed beliefs by asking questions about the importance of oral health and self-assessment of oral health status. The survey questionnaire along with the research proposal was submitted to the University of Detroit Mercy Institutional Review Board (IRB) for review and approval. IRB approval was granted to distribute the survey at the local UIHO by American Indian Health and Family Services of Southeastern Michigan (AIHFS). The survey was administered in collaboration with the health center. Copies of the survey questionnaire and research information sheet were provided to the receptionist at the clinic and were instructed to provide both documents with the check in form to every client who visits the clinic for primary health care services. The participants were instructed to fill out the questionnaire and drop it into a box upon completion.

The survey was completed by individuals 18 years and older who utilized services at the AIHFS over a three-month period. Participants who completed the survey were entered into a raffle for a gift card. All surveys were anonymous and did not contain any identifiable data. At the end of three months the completed surveys were retrieved from the deposit box and the data were entered using a data entry form created using EpiInfo™7 statistical software. Using EpiInfo™7 data from the surveys were compiled and a SPPS dataset was created. The SPSS dataset was imported into IBM® SPSS® 22 for analysis. Descriptive statistics were used to analyze the data. Since this was a convenience sample, no p values were reported [18].

Results

A total of fifty-five completed surveys were collected at the end of the three-month period. Out of the 55 respondents, 39 identified as American Indian. Demographic questions revealed that the majority of the individuals surveyed were female (64%) and over the age of 35 (77%). Sixty-two percent of respondents reported their level of education as some college/associate degree or higher (Table 1).

For further analysis, the data from non-AI responses were omitted from analysis. A majority of respondents were knowledgeable about the importance of brushing (97%), flossing (95%) and diet (80%) to maintain good oral health. About 74% of individuals answered all three questions correctly and were considered knowledgeable. Those with associates degree or more education tend to have better oral health knowledge compared to individuals with high school education or less. About 92% reported that good oral health was very important to them and about 56% reported having good to very good oral health. Fifty-six percent of the individuals did not have a dental visit with in the last 12 months and about 15% had not visited a dentist in over 5 years. Individuals with college or professional degrees (75%) were almost twice as likely to have a dental visit within the past year compared to those with high school education or less (33.3%). Only 53% reported having dental insurance and of these individuals about 59% had private insurance. Individuals with private insurance (85%) were more likely to report visiting the dentist with in the last 12 months compared to those on public insurance (10%). Individuals with public insurance were more likely to report not having a dentist (80%) compared to those with private insurance (23.1%). Also, majority of the individuals on public insurance tend to not seek care when they have a dental problem (80%).

Sixty-three percent of all participants and 61% of American Indians reported not having a regular dentist that they go to for dental care. Further analysis revealed that 59% reported having a dental problem in the past 12 months for which they did not seek care and the top three reasons for not seeking care were the high cost (36%), other (27%) and not having time (14%) (Tables 2 and 3).

Variable		Responses	
		(%)	#
Do you think it is important to brush?	Yes	98.2	54
	No	1.8	1
Do you think it is important to floss?	Yes	96.3	52
	No	3.7	2
Does frequent exposure to sweet and sticky foods affect dental health?	Yes	78.2	43
	No	21.8	12
How would you rate the importance of oral health?	Very Important	90.9	50
	Somewhat Important	7.3	4
	Not Important	1.8	1
How would you describe the condition of your mouth?	Very Good	20.8	11
	Good	30.2	16
	Fair	30.2	16
	Poor	18.9	10
About how long has it been since you last saw a dentist or dental hygienist for dental care?	6 months or less	27.3	15
	6 -12 months	12.7	7
	12 months – 2 yrs	25.5	14
	2 - 5 Years	18.2	10
	More than 5 yrs	16.4	9
During the past 12 months, have you had a dental problem which you would have liked to see a dentist about but you didn't see the dentist?	Yes	58.2	32
	No	41.8	23
If YES, why didn't you see the dentist?	Didn't have time	9.7	3
	Would cost too much	48.4	15
	Couldn't get an appointment	3.2	1
	Would have to travel too far	6.5	2
	Didn't have a way to get there	9.7	3
	Didn't have anyone to care for children or other family members	3.2	1
	Some other reason	19.4	6
Do you have a dentist you usually go to?	Yes	37	20
	No	63	34
Are you covered by any health insurance that would pay for your dental care?	Yes	52.7	29
	No	47.3	26
Type of insurance	Private	59.3	16
	Public	37	10
	IHS	3.7	1

Table 1: Survey results for all responses including non-AI/AN respondents

		Oral Health Knowledge		Total (%)
		No (%)	Yes (%)	
Self-Reported Importance of Oral Health (n=39)	Very Important	23.1	69.2	92.3
	Somewhat Important	2.6	5.1	7.7
Total (%)		25.6	74.4	100
During the past 12 months, have you had a dental problem which you would have liked to see a dentist about but you didn't see the dentist? (n=39)	No	17.9	23.1	41
	Yes	7.7	51.3	59
Total (%)		25.6	74.4	100
Last Dental Visit (n=39)	1 Year or Less	12.8	30.8	43.6
	Between 1 & 5 Years	10.3	30.8	41.0
	Over 5 Years	2.6	12.8	15.4
Total (%)		25.6	74.4	100

Table 2: Cross-Tabulation of Oral Health Knowledge with Self-Reported Importance of Oral Health, Sought Care for Dental Problems and Last Dental Visit (AI/AN Only)

		Last Dental Visit			Total (%)
		1 Year or Less (%)	Between 1 & 5 Years (%)	Over 5 Years (%)	
Self-Reported Importance of Oral Health (n=39)	Very Important	41.0	41.0	10.3	92.3
	Somewhat Important	2.6	0	5.1	7.7
Total (%)		43.6	41.0	15.4	100
Do you have a dentist you usually go to? (n=38)	No	5.3	39.5	15.8	60.5
	Yes	36.8	2.6	0	39.5
Total (%)		42.1	42.1	15.8	100
Insurance (n=39)	No	7.7	15.4	10.3	33.3
	Yes	35.9	25.6	5.1	66.7
Total (%)		43.6	41.0	15.4	100

Table 3: Cross-Tabulation of Last Dental Visit with Self-Reported Importance of Oral Health, Access to Dentist and Insurance (AI/AN Only)

Discussion

In the United States, underserved populations face persistent and systematic barriers to accessing oral health care. These barriers are complex and include social, cultural, economic, structural, and geographic factors. The study looked at the oral health knowledge of the participants and how it influenced their utilization of oral health care. The results of the study showed that in spite of good oral health knowledge the participants did not necessary follow good oral hygiene practices. Thirty-eight percent did not brush and 52% did not floss appropriately in spite of being knowledgeable of the recommendations for brushing and flossing. Individual with good oral health knowledge indicated that their oral health was very important to them and still did not seek regular dental care (56%). Over the past decade utilization of dental services has been declining in the United States [19] especially among adults [20]. Factors like cost, transportation, time off from work and access to a regular dental office were significant barriers to accessing dental care for this group. This is consistent with other national studies that have looked at reasons for not seeking dental care [21]. A major drawback of this study was the limited number of participants who completed the survey (N=55). The results were not statistically significant and cannot be generalized to the urban American Indian population in Detroit Metropolitan area, but might be representative of the individuals who seek services at the Southeastern Michigan AIHFS.

Policy initiatives are needed that would provide additional funding for health-related services and research activities related to urban AI/AN health. The study reinforces current knowledge that urban AI/AN face a significant burden of oral disease compared to the general population and there is an urgent need to refocus and develop a better system for the delivering oral health care to the urban AI/AN populations.

Conclusion

Oral health beliefs have been shown to affect oral health outcomes. However, the results of this study indicated that good oral health knowledge alone does not translate to better utilization of dental services, and that there are other barriers to seeking care. Further research is essential to adequately understand the factors that limit the utilization of dental care services among Urban AI/AN.

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