



## **Colorectal Cancer Screening Behaviors among American Indians in the Midwest**

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### **ABSTRACT**

Colorectal cancer is the second most diagnosed cancer among American Indians and is also the second leading cause of cancer death. We used a community-based participatory approach to conduct a mixed methods study to examine colorectal cancer screening behaviors. Here we report on the screening behaviors of our focus group participants (n=153). There were significant gender differences in the colorectal cancer screening rates for FOBT and colonoscopy. Although over 80% of participants reported having health insurance, only 35% of males over 50 years old and 57% of females reported ever having a colonoscopy. More research is needed to identify the causes of gender differences in colorectal cancer screening rates among American Indians. The results of the current study provide new information on the prevalence of colorectal cancer screening among American Indians living in the Midwestern (Kansas and Missouri) portion of the country.

**Key Words:** Colorectal cancer, American Indian, colonoscopy

### **INTRODUCTION**

In the United States, colorectal cancer is the second leading cause of death from cancer and the third most common cancer (Espey, Paisano, & Cobb, 2005). Previous studies of cancer-related outcomes have consistently reported that American Indians and Alaska Natives (AI/AN) have cancer mortality rates that are relatively high compared with other racial/ethnic groups (Clegg, Li, & Hankey, 2002; Li, Malone, & Daling, 2003; Ward, et al., 2002). In a recent report on the status of cancer by the Centers for Disease Control and Prevention, cancer death rates from 1975-2004 showed declines in cancer death rates for all racial/ethnic groups except American Indians and Alaska Natives, for whom cancer death rate trends did not decline (Espey, et al., 2005). In addition, a recent study reported that

American Indian cancer patients presented with higher rates of advanced-stage disease for screening detectable cancers, lower levels of basic cancer screening knowledge, and more negative attitudes (Guadagnolo, et al., 2009).

Studies have consistently shown that groups with higher screening rates have higher survival rates for colorectal cancer. The goal of cancer screening is to reduce mortality through a decline in incidence of advanced cancer. Overall, AI/AN are less likely than non-Hispanic whites to be diagnosed with early stages of colorectal cancer, with the disparity being the greatest in the Southwest, Northern Plains, and the Southern Plains (Espey, et al., 2005). Although many studies have described the screening rates and risk factors for colorectal cancer in other racial/ethnic groups, relatively few studies have focused specifically on AI/AN health disparities, especially related to colorectal cancer screening. Additional studies and information is needed to better understand and address the higher cancer related mortality in this high risk vulnerable population.

Colorectal cancer is the second most diagnosed cancer for both males and females in the American Indian and Alaska Native population (Parker, Davis, Wingo, Ries, & Heath, 1998). Colorectal cancer is also the second leading cause of cancer death in this population. Although cancer screening and mortality data at the national level are available for African Americans and whites, data on cancer in American Indians and Alaska Natives are not as readily available or published regularly. When data on American Indians and Alaska Natives are published it is often limited to one specific SEER (Surveillance Epidemiology and End Results) region such as the New Mexico site. Unfortunately, national level data on tribe or state-specific incidence patterns and screening behavior are not available.

We conducted a descriptive study of AI living in the Kansas and Missouri area to ascertain additional information related to colorectal cancer screening behavior and knowledge. Specifically, to examine gender differences within this high risk population with respect to colorectal cancer screening.

## **METHODS**

The data for these analyses came from focus group participants in a mixed-methods study that was conducted among AI living in the Kansas City Metro area of Kansas and Missouri, Northeast Kansas, and the Wichita Metro area in Kansas. The study protocol was approved by the University of Kansas Medical Center Institutional Review Board.

Focus group participants were recruited through our Community Advisory Board, posters and flyers in community locations and at community events (eg – pow wows, health fairs), and through listservs from several partner organizations serving the AI community (American Indian Health Research & Education Alliance, Heart of America Indian Center, American Indian Council, Inc., American Indian Heartland Cancer Network). Participants were eligible if they were over 18 years of age and were of AI descent. Written and verbal consent was obtained from each eligible participant. A total of 153 participants were recruited for the 22 focus groups that were conducted from 11/01/2007 through 6/18/2008. Focus groups were stratified by gender and age (35-49 vs. 50 and older). The age cut-off of 50 was chosen based on current colorectal cancer screening guidelines for normal risk individuals. Individuals under age 50 were recruited to begin to understand changing attitudes about screening and plans for screening. Participants were provided with a meal and a \$25 gift card. Also, one door prize worth \$30 was given away at each focus group.

Prior to the start of each focus group, participants were invited to fill out a short survey asking about their colorectal cancer screening status as well as knowledge and barriers to screening. In addition, questions regarding family history of colorectal cancer and its treatment were asked.

At the end of this period, a total of 153 surveys were collected and double data entered in a MS ACCESS database. There were 2 participants who did not list their date of birth. Data entry comparisons and data analyses were performed using SAS. Discrete variables are described using frequencies and percentages while continuous variables are described using means and standard deviation. Bivariate analyses were performed using Chi-square for discrete outcomes and t-tests for continuous outcomes.

## RESULTS

The mean age of participants was 50 years (11.7 SD) with 55.5% females (Table 1). The majority were either married or had a partner (56.9%). With respect to education, 41.4% reported at least completing college, 34.8% having attended some college, and 23.6% having a high school or less education level. The majority of participants reported having health insurance (81.1%) and 43.5% received their health care at an Indian Health Service clinic. About half the participants reported discussing colorectal cancer testing with their physician.

**Table 1. Demographics of the American Indian Sample for Colorectal Cancer**

	N	%
<b>Age (mean, std)</b>	50	11.7
<b>Gender</b>		
Male	68	44.4
Female	85	55.5
<b>Race</b>		
American Indian	140	91.5
Multi-racial	13	8.4
<b>Marital Status</b>		
Married/Partner	86	56.9
Divorced/Widowed	48	31.7
Never Married	17	11.2
<b>Education</b>		
High school or less	36	23.6
Some college	53	34.8
College +	63	41.4
<b>Health insurance*</b>		
No	29	18.9
Yes	124	81.1
<b>Health care received at</b>		
IHS	64	43.5
Other facility	83	56.4
<b>Discussed Colorectal cancer testing</b>		
No	76	51.7
Yes	71	48.3

\* In addition to IHS

Table 2 shows the differences in colorectal cancer screening rates by gender and age group. For fecal occult blood test (FOBT), among participants over 50 years of age, a much higher percentage of females (56%) reported ever having had a FOBT compared to males (31%). There was no significant difference between men and women for ever having a sigmoidoscopy. Finally, for colonoscopy, a much higher percentage of women (56.8%) reported ever having a colonoscopy compared to men (34.6%). Though participants under 50 years of age are not in the age range of current colorectal cancer screening guidelines for average risk individuals, several of our participants had completed FOBT, sigmoidoscopy, or colonoscopy for screening or diagnostic purposes at the request of their physician. In this age group, rates were higher for men compared to women for all three types of screening tests.

**Table 2. Colorectal Cancer Screening by Age Groups and Gender.**

	<b>Male</b>				<b>Females</b>			
	<b>&lt; 50 years old</b>		<b>50+ years</b>		<b>&lt; 50 years old</b>		<b>50+ years</b>	
	<b>(N=39)</b>		<b>old (N=29)</b>		<b>(N=31)</b>		<b>old (N=52)</b>	
	N	%	N	%	N	%	N	%
Discussed colorectal cancer testing								
No	29	76.3	7	25.0	24	82.7	15	30.0
Yes	9	23.6	21	75.0	5	17.2	35	70.0
	<b>FOBT</b>							
Ever had a FOBT								
No	27	72.9	20	68.9	26	86.6	22	44.0
Yes	10	27	9	31.0	4	13.3	28	56.0
	<b>Sigmoidoscopy</b>							
Ever had a Sigmoidoscopy								
No	33	84.6	21	75.0	28	93.3	36	72.0
Yes	6	15.3	7	25.0	2	6.6	14	28.0
	<b>Colonoscopy</b>							
Ever had a Colonoscopy								
No	33	84.6	17	65.3	30	100	22	43.1
Yes	6	15.3	9	34.6	0	0	29	56.8

## DISCUSSION

Prevention of colorectal cancers through screenings is a high priority for the American Indian population. Although effective screening methods exist for colorectal cancer, such as colonoscopy, screening rates in this population remain low. Limited information exists with respect to the American Indian population and the descriptive epidemiology of screening for colorectal cancer. In addition, most data on cancer screening among American Indians are aggregate information for the nation or major regions due to the limited sample size of participants.

This study of American Indians in the Midwest area of the country found that the majority of participants had at least some level of college education and an overwhelming majority reported having some type of health insurance. Although our sample was a highly educated sample with health insurance, the colorectal cancer screening rates were low, especially for men compared to women.

Previous studies have found that American Indians have less basic knowledge of cancer screening and more negative attitudes toward the impact of cancer treatment.(Guadagnolo, et al., 2009) Furthermore, in addition to culturally tailored education programs and screening programs, patient navigation outreach and coordination may be needed to provide American Indians with information to advocate for and access available screening tests as well as effective care.

To our knowledge, very few studies of colorectal cancer screening in American Indian populations have been conducted. The results of this current study have important implications with respect to the designing of interventions aimed at improving cancer screening for all American Indians, especially men since they reported much lower rates of ever having a colonoscopy.

In conclusion, the current study describes the characteristics of American Indians in the Midwestern states of Kansas and Missouri with respect to their colorectal cancer screening rates as well as gender differences. Since most data on American Indians are aggregated across major regions or the entire country, it is important to provide tribe or state specific information to better understand the needs of this population with respect to colorectal cancer screening.

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