

Background:

Due to small numbers of American Indians and great variability among tribes, it is difficult to get a clear picture of cancer among the Native American population¹. In order to get a better understanding of breast and cervical cancer among this population in Michigan, an analysis was conducted in order to observe screening rates for Native Americans, as well as family history of breast cancer and abnormal breast and cervical findings within the past 10 years.

The screening practices of Native Americans were also compared to that of the general population in order to observe any disparities that may exist. An analysis was conducted using data from the 2004 Special Cancer Behavioral Risk Factor Survey (SCBRFS), which is an ongoing surveillance designed to measure progress towards achieving the goals of the Michigan Cancer Consortium (MCC).

Introduction:

Data from the Surveillance, Epidemiology and End Results (SEER) Program shows that incidence for breast and cervical cancer is declining for Native Americans². Breast cancer mortality is also declining among this population, however, cervical cancer mortality is higher than that of the general population and appears to be increasing. These rates may be related to breast and cervical cancer screening among Native Americans.

Methods:

A disproportionate stratified, list-assisted random-digit dial sample design was used to conduct the telephone survey. Men and women in Michigan ages 40 and up were targeted for the survey. For this analysis only female cases were included, male cases of breast cancer were excluded from the analysis.

Native Americans, along with African Americans, Hispanics, Arab Americans and Asians were over sampled. The final sample included 2,386 females, of which 251 were Native Americans.

Data were weighted to adjust for the unequal probabilities of selection. Weighting adjusted for the number of phone lines in households, unequal sampling rate between listed and non-listed numbers within strata, and the disproportionate sampling.

Calculations were performed using SUDAAN, a statistical computing program designed for analyzing multi-stage sample survey data.

Figure 1: Abnormal Breast and Cervical Findings in Native American Women in Michigan Compared to Women in the General Population: Ages 40+

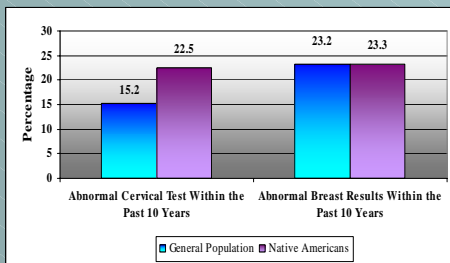
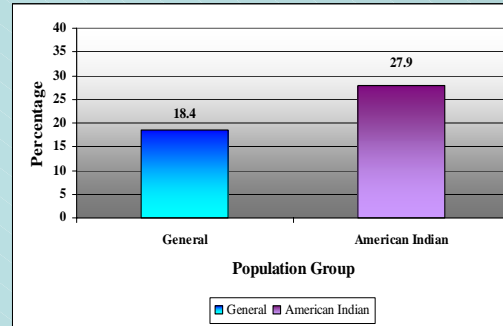


Figure 2: Reported Family History* of Breast Cancer Among Native American Women in Michigan Compared to Women in the General Population



* The woman has a mother or at least one sister with a history of breast cancer

Results:

23.3% ± 18.8% of Native Americans ages 40 and up reported having an abnormal breast finding in the last 10 years, which was approximately equal to the 23.2% ± 3.2% of the general population that had an abnormal breast finding. Native Americans, however, reported an abnormal cervical finding more often than the general population: 22.5% ± 14.5% vs. 15.2% ± 3.1% respectively. (Figure 1)

Native American women in the 2004 sample were more likely than the general population to report a family history of breast cancer. Approximately 18.4% ± 3.2% of the general population reported having either a mother or at least one sister diagnosed with breast cancer, while 27.9% ± 20.3% of Native Americans reported a family history of breast cancer. (Figure 2)

Native Americans were less likely than the general population to have ever had a mammogram or a clinical breast exam. Native Americans reported having ever had a mammogram 79.5% ± 29.0% and the general population reported ever having one 92.6% ± 2.6%. For Native Americans 79.2% ± 28.9% reported ever having a clinical breast exam and for the general population 95.4% ± 2.0% reported ever having a clinical breast exam. (Figure 3)

When looking at both clinical breast exam and having a mammogram in the past 2 years, a difference can still be seen for Native Americans. Reporting of both a mammogram and clinical breast exam in the past 2 years is 72.9% ± 3.9% for the general population and 65.3% ± 29.0% for Native Americans. Combined screening in the past year, however, is relatively the same for both the general population and Native Americans. (Figure 4)

Having a pap test ever, in the past year and in the past 3 years was also reported less frequently for Native Americans compared the overall population. Result for Native Americans reporting having ever had a pap test were 80.9% ± 29.4%, 52.9% ± 26.9% for a pap test in the past year, and 71.8% ± 31.8% for test in the past 3 years. In the general population reported result were 97.6% ± 1.8% for ever having a pap test, 58.7% ± 4.3% for having a test in the past year, and 80.5% ± 4.0% for a pap test in the past 3 years. (Figure 5)

Figure 3: Screening for Breast Cancer Among Native American Women and the General Population

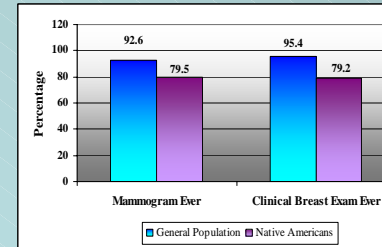


Figure 4: Combined Mammograms and Clinical Breast Exams Among Native American Women and the General Population

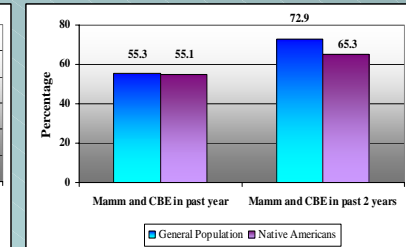
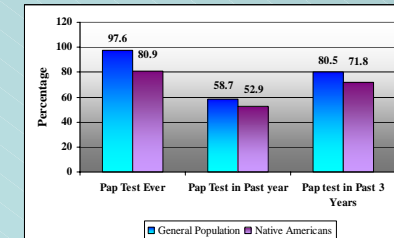


Figure 5: Screening for Cervical Cancer Among Native American Women and the General Population



Discussion:

Native Americans reported abnormal cervical findings as well as family history of breast cancer more often than the general population. Despite these facts, screening rates for breast and cervical cancer among Native Americans in Michigan appear to be lower than the rates for the general population. Increased cervical cancer mortality rates may be a result of a lack of screening among Native Americans.

Although Native Americans seem to have lower breast cancer screening rates than the general population in Michigan, SEER data indicates that they have a lower mortality and incidence than the general population in the U.S. This, however, may be a result of the low number of Native American respondents, as well as the fact that Native Americans are not a homogenous group.

Further investigation into the reasons behind lower screening rates among Native Americans in Michigan may be useful for future interventions.

References:

- Swan J, Edwards BK. (2003). Cancer Rates Among American Indians and Alaska Natives: Is There A National Perspective? *Cancer*, 98: 1262-1272.
- Ries LAG, Eisner MP, Kosary CL, Hankey BF, Miller BA, Clegg L, Mariotto A, Feuer EJ, Edwards BK (eds). *SEER Cancer Statistics Review, 1975-2002*, National Cancer Institute. Bethesda, MD, http://seer.cancer.gov/csr/1975_2002/, based on November 2004 SEER data submission, posted to the SEER web site 2005.