Breast Cancer and Westernization among Mexican and Mexican American Women

Jesse Nodora, DrPH
AZ Cancer Center

Funded by the American Cancer Society-Institutional Cancer Research Grant
Breast Cancer in US Hispanics

- Breast cancer is an understudied and poorly understood disease in Hispanic/Latina populations in the US.
  - The profile of tumor presentation in Hispanic women is consistent with a more aggressive disease pattern and less favorable prognosis than that of NHWs.

- Hispanics, particularly Mexican Americans, are the largest growing minority population in the US.

- As the Hispanic population grows, ages, and adopts lifestyles common to the US, we could be looking at a major public health problem and higher burden of breast cancer in this population.
Breast Cancer in Mexico

- Breast cancer mortality rate is on the rise in Mexico.
- Since 2006, breast cancer became the number one cause of cancer deaths in women; data indicate that mortality rates in northern regions as well as more industrialized states of Mexico are higher than those in rural and southern states.
- In 2006, there were 4,451 breast cancer deaths reported.
- Data suggest an early age of onset among Mexican women (approximately 10 years younger than in Caucasian women).
Importance of Partnering with Mexico

- Hispanic population in U.S. is largely Mexican, underserved, and underrepresented in research studies and clinical trials.
- U.S. Hispanic population easily lost to follow-up, particularly those from lower SES groups.
- Unclear whether immigrant populations are representative of native country.
- Cancer risk factors attributed to acculturation and westernization are not well understood.
Binational Breast Cancer Study
Estudio Binacional de Cáncer de Mama

Funded by the Avon Foundation and The National Cancer Institute
ELLA Study Sites
ELLA Investigators Would Like to Understand

- What types of breast cancers are common in women of Mexican descent?
- What type of breast cancer occur in women migrating from Mexico to the U.S.?
  - Does the pattern of disease change?
- Are certain risk factors more strongly associated with specific types of breast cancer?
Problem Summary

- Breast cancer among women of Mexican descent is characterized by late stage, larger tumors, higher grade, and earlier age of diagnosis compared to non-Hispanic white women.

- It is not known if/how a greater degree of westernization is impacting “lifestyle” cancer risk factors (obesity, exercise, tobacco use).
Westernization (US influence)


- Health - commonly focused on lifestyle influence of diet “meat-sweet” and exercise

- Worldwide changes in breast cancer incidence and mortality highlight a more complex influence from Westernization
“Westernizing” Women’s Risks? Breast Cancer in Lower-Income Countries

Peggy Porter, M.D.
Dr. Porter’s Key Points

- Westernization’s positive influence (increased life expectancy, more control over reproduction) and negative impacts (diet changes, less exercise) can increase breast cancer risk through delayed childbearing, lower parity, reduced breast-feeding, use of hormone-replacement therapy, decreasing age at menarche, and obesity.

- There is a growing need to understand the Genetic and biological influences on breast cancer (e.g., ER-/-+).

- Will successful breast cancer prevention strategies be feasible and/or effective in lower-income countries with culturally, ethnically, and racially varied populations?
Breast Cancer and Westernization Study Aims

- Develop and pilot test a westernization questionnaire.
- Assess relationship between westernization, lifestyle, reproductive factors and clinical characteristics of breast cancer (histology type, stage, age at diagnosis, and tumor grade) among Mexican and Mexican-American women.
- Explore association between westernization and specific tumor marker (ER, PR, Her2/neu) profiles.
Exploratory Hypotheses

1. Mexican women with a greater degree of westernization will exhibit lifestyle (e.g., obesity, adult weight gain, body composition, tobacco use) and reproductive factors (low parity, late age at first birth, early menarche) more representative of those in US women.

2. Mexican women with a high degree of westernization will exhibit lifestyle, reproductive factors, and clinical characteristics of breast cancer (histology type, stage, age at diagnosis, and tumor grade) similar to highly acculturated Mexican-American Women.
Study Methods

- Interview 200 Mexican women diagnosed with breast cancer (ELLA Binational Breast Cancer Study).
- Assess the relationship between westernization, lifestyle factors, reproductive factors, and clinical characteristics.
- Use results as basis for further research and practice.
Team

- Jesse Nodora, AZ Cancer Center-UofA (DrPH Health Promotion)
- Kathryn Coe, Mel and Enid Zuckerman College of Public Health-UofA (PhD Anthropologist)
- Rebeca Robles, Instituto para el Fortalecimiento de las Capacidades en Salud, Mexico DF (PhD, Psychologist)
- Francisco Paez Agraz, Instituto para el Fortalecimiento de las Capacidades en Salud, Mexico DF (MD, Psychiatrist)
Key Measures of Westernization

- Self reported level of American influence
- English language
- American media consumption (TV, Radio, etc.)
- American Internet consumption
- American product consumption (Coke, KFC, etc.)
- Independent rather than traditional family dynamics
- Materialism/consumerism
- Ancestral self identification (European, mestizo, indigenous)
- Time in US
- Place of residence (urban/rural)
Summary and Future Direction: the “So What”

- Most cancer-related “lifestyle” risk factors (tobacco use, diet, exercise) are preventable.
- As more traditional cultures become westernized they adapt unhealthy “lifestyles.”
- Greater understanding of the relationship among lifestyle risk factors, westernization, and breast cancer characteristics can help develop optimal prevention, screening, and diagnosis.