Breast Cancer in Hispanic Women as Compared to the General Population of Massachusetts

Diego Suchenski Loustaunau (Mass Academy)
Malaikah Wakadilo (Doherty Memorial High School)
Justin Phan (South High Community School)

(Metavivor, 2008)
Breast cancer consists of carcinomas of the epithelial cells lining the breast ducts.

What is Breast Cancer?

(Breast Cancer | World Cancer Research Fund International, 2021)
What is a Health Disparity?

systematically oppressed groups

(Braveman, 2014)
Breast Cancer in Hispanic Women

- Earlier development
- More aggressive forms
- More widespread
- More metastases
- Larger tumors

(Ren et al., 2018)
Hispanic women are more likely to die of breast cancer in Massachusetts than non-Hispanic White women upon diagnosis.

(Massachusetts Office of Data Management and Outcomes Assessment & Massachusetts Cancer Registry, 2020)
Environmental Factors

- Tobacco Smoking
- Alcohol Consumption
- Environmental Carcinogens

(Chalasani, 2021)
Alcoholism

Drinking alcohol, especially in excess, increases the risk of breast cancer.\footnote{Breastcancer.org, 2021}

Recently, alcoholism in Hispanic women has doubled, compared to previous generations.\footnote{NIH, 2021}

In primarily Hispanic communities in Massachusetts, the ratio of grocery stores to liquor stores is lower than in primarily non-Hispanic White ones.\footnote{Drago, 2017}
Tobacco Smoking

Rates of smoking amongst Hispanic women have increased in recent years.\textsuperscript{[1]}

Smoking is associated with an increased incidence of hormone receptor positive breast cancer.\textsuperscript{[2]}

1. (Kaplan et al., 2014) 2. (Breastcancer.org, 2021)
Environmental Carcinogens

Carcinogens in Massachusetts

Hispanic women demographic in Massachusetts

(Massachusetts Census, 2014)

(Contrada, 2010)
Language and Culture Barriers

- 853,735 population of Hispanic (2019)
- Difficulty accessing treatments\(^1\)
- Differences in culture creates inequality\(^2\)

1. (Sarcone, 2016)
2. (al Shamsi et al., 2020)
Discrimination

Systematic racism

Hispanics are treated as lesser
Less able to seek medical attention
Lower Income

(National Research Council, 2014)

(Kamira, 2017)
Genetic Risk Factors

1. (Lynce et al., 2016)
2. (Matthew (@MCeeP), 2019)
3. (Brzovic et al., 2001)

BRCA1 mutation: 185delAG

PDB ID: 1JM7

- Normal BRCA1 protein
- Mutated BRCA1 protein

4. (Baek et al., 2021)
Outcomes

Hispanic women are:

➢ 7% more likely than non-Hispanic White women to have late-stage breast cancer in Massachusetts

➢ Infected 8 years earlier, on average, compared to non-Hispanic White women

(Ren et al., 2018)
Assistance for Hispanic Immigrants and non-English Speakers
Genetic Counseling and Cancer Treatment
Summary

Due to environmental factors, socioeconomic inequities, and genetic predisposition, Hispanic women are at a higher risk of dying from breast cancer than non-Hispanic White women are in Massachusetts.
Questions?

(Shutterstock, 2014)


Citations


The PyMOL Molecular Graphics System, Version 1.2r3pre, Schrödinger, LLC.


Uninsured Rates for the Nonelderly by Race/Ethnicity. (2020, October 23). KFF. https://www.kff.org/uninsured/state-indicator/nonelderly-uninsured-rate-by-raceethnicity/?currentTimeframe=0&selectedDistributions=white--black--hispanic--asiannative-hawaiian-and-pacific-islander&selectedRows=%7B%22states%22:%7B%22massachusetts%22:%7B%22%7D%7D&sortModel=%7B%22colId%22:%22Location%22,%22sort%22:%22asc%22&%7D