



Latina Sisters Play a Key Role in the Sister Study!

“Latinas may have different exposures, reproductive history, and cultural beliefs which could impact our breast cancer risk and experiences. Sister Study Latinas are making unique and lasting contributions.”

- Dr. Mary Díaz Santana



Dr. Mary Díaz Santana will be leading a **new Sister Study project with Latinas** at the center. While she was a doctoral student, her work focused on the role of acculturation in cancer screening among **Latinas** as well as the role of phthalates (a family of chemicals that are used in cosmetics as solvents and to make PVC plastic more flexible) in breast cancer risk and obesity. Dr. Díaz Santana is most interested in lessening the burden of chronic diseases among Latinos and she and her team plan to examine risk factors for breast cancer subtypes in **Latinas** participating in the Sister Study.

You are helping the Sister Study team learn more about Latinas' health!



Important facts about breast cancer in Latinas¹:

- Breast cancer is the most common cancer among **Latinas**
- **Latinas** are often diagnosed with breast cancer at later stages—when it is more dangerous and more difficult to treat
- It is the leading cause of cancer death among **Latinas**

This matters for women in the Sister Study

Although breast cancer is less common in **Latinas** (5.5% of participants) compared to non-Latina whites (7.4% of participants) in the Sister Study, **Latinas were more likely to be diagnosed at stage 3 or higher (9% versus 6%).**

Here are some other ways the information you give us is being used—

Sleep and Discrimination

Sleep is important in good health. Many things can affect sleep duration and quality. In a recently published Sister Study paper, we learned that:

- 18% of **Latinas** reported experiencing at least one episode of major racial/ethnic discrimination
- 36% of **Latinas** reported everyday (or “minor”) discrimination
- Both types of discrimination (major and minor) were associated with a higher prevalence of short sleep duration (less than the recommended 7 hours) for all races/ethnicities
- Experiencing both minor and major discrimination was associated with higher prevalence of insomnia symptoms
- The association between major discrimination and insomnia was most pronounced among **Latina shift-workers**

Metabolic Syndrome and Sleep

Individuals who have high blood pressure, abdominal obesity, high cholesterol, high blood sugar, or high triglyceride levels often have several of these conditions at the same time. Clustering of these conditions is known as **metabolic syndrome** which has been linked to higher risk of cardiovascular diseases.

A Sister Study paper showed that **poor sleep is associated with metabolic syndrome**³. Among **Latinas**, researchers found that:

- Postmenopausal **Latinas** with short sleep duration and insomnia had a higher prevalence of metabolic syndrome compared to postmenopausal **Latinas** without sleep problems.
- There was also an association between poor sleep and abdominal obesity in postmenopausal women that was stronger for **Latinas** than for other women.

What other factors contribute to the risk of developing metabolic syndrome?

- Overweight, obesity and inactive lifestyle are thought to be major risk factors for metabolic syndrome.
- Age, family history, and some medical conditions (e.g. polycystic ovary syndrome - PCOS) are also important.

Ongoing and new research specific to Latina Sisters:

Subtype-specific risk factors for breast cancer in Latinas

Not all breast cancer is alike. There are **different subtypes that are characterized by the presence or absence of certain types of hormone receptors in the tumor tissue** (e.g., estrogen receptors). These breast cancer subtypes have some differences in their risk factors, prognoses, and treatments. We know that:

- Breast cancer subtypes vary in frequency across different racial/ethnic groups.
- Risk factors can differ for the different breast cancer subtypes.
- But, there is *limited information about whether breast cancer risk factors differ by subtype among Latinas*.

The new study by Dr. Díaz Santana is designed to fill this knowledge gap about breast cancer in **Latinas**.

Vitamin D and breast cancer in Latinas

We recently showed⁴ that higher levels of vitamin D in blood and regular use of vitamin D-containing supplements were associated with **decreased** breast cancer risks. Our study sample was not large enough for us to consider differences by race or ethnicity.

Evidence suggests that **Latinas** are less likely to take vitamin D-containing supplements and to have lower levels of vitamin D in their blood than non-Latina whites.

In a new project, *we are examining the association between vitamin D and breast cancer in Sister Study participants who identify as Black or Latina/Hispanic.*

How can you keep helping the Sister Study answer important questions about the health of Latinas?

- **Complete your yearly questionnaires.** You can call our study Helpdesk if you need help.
- **Keep us updated on any major life changes.** Did you move? Have you experienced any major changes in your health?
- Allow us to **obtain important medical records**, if we ask for them.
- Remember that every woman has a unique health story. We want to hear all of them!

References:

1. Miller KD, Goding Sauer A, Ortiz AP, et al. Cancer Statistics for Hispanics/Latinos, 2018. *CA Cancer J Clin* 2018; 68(6): 425-45.
2. Lee S, Chang AM, Buxton OM, Jackson CL. Multiple Types of Perceived Job Discrimination and Sleep Health among Working Women: Findings from the Sister Study. *Am J Epidemiol* 2020.
3. Gaston SA, Park YM, McWhorter KL, Sandler DP, Jackson CL. Multiple poor sleep characteristics and metabolic abnormalities consistent with metabolic syndrome among white, black, and Hispanic/Latina women: modification by menopausal status. *Diabetol Metab Syndr* 2019; 11: 17.
4. O'Brien KM, Sandler DP, Taylor JA, Weinberg CR. Serum Vitamin D and Risk of Breast Cancer within Five Years. *Environ Health Perspect* 2017; 125(7): 077004.

The Sister Study
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