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Lactation May Be Linked to Aggressive Cancer in Mexican Women

UC San Diego Moores Cancer Center researcher says breast cancer in women of Mexican descent occurs despite seemingly protective factors

Scientific data suggest that a woman reduces her risk of breast cancer by breastfeeding, having multiple children and giving birth at a younger age. A study led by the University of California, San Diego School of Medicine and recently published online by *Cancer Epidemiology, Biomarkers & Prevention*, indicates that women of Mexican descent may not fit that profile. In fact, results suggest that women of Mexican descent with more children and those who breastfeed are more likely to be diagnosed with an aggressive form of breast cancer.

During the four-year Ella Binational Breast Cancer Study, scientists assessed the association between reproductive factors and tumors subtypes in 1,041 Mexican and Mexican-American female cancer patients.

The study looked at the occurrence of three tumor subtypes: luminal A, HER2 and triple negative. The luminal tumor starts in the inner cell lining of the mammary ducts and is most common. The HER2 tumor is so-named because it is positive for human epidermal growth factor receptor 2 (or HER2) – a protein shown to play a role in aggressive breast cancer. Triple negative breast cancer does not have targeted treatment options, making it difficult to treat and giving it the worst prognosis.

“We found that breastfeeding in women of Mexican descent is associated with triple negative breast cancer,” said María Elena Martínez, MPH, PhD, UC San Diego Moores Cancer Center Sam M. Walton Endowed Chair for Cancer Research and co-director of the Reducing Cancer Disparities research program and lead author of the study. “This was quite surprising. No other study has seen this correlation before. Most studies show health benefits of breastfeeding.”

The average age when women in the Ella study gave birth to a first child was 23 years old. These women had an average of two to three children and were likely to breastfeed for long periods of time. Based on existing research, primarily based on non-Hispanic white women, this reproductive pattern would be classified as low risk. Yet all of the women in the study developed breast cancer, says Martínez.

The Ella study enrolled breast cancer patients, 18 years old and older, at the University of Arizona Cancer Center, the University of Texas M.D. Anderson Cancer Center and three sites in Mexico – the Universidad de Sonora, the Instituto Tecnológico de Sonora and the Universidad de Guadalajara.

The study showed that patients of Mexican descent who breastfed for 12 months or more were more than twice as likely to have triple negative breast cancer. They were younger at diagnosis and younger during their first full-term pregnancy. Patients who had three or more children were also more likely to have triple negative breast cancer. Martínez said that it is important to note that prior studies, mainly in non-Hispanic white women, have shown that these reproductive characteristics reduce the risk of breast cancer overall, possibly due to effects on the more common, better prognosis, of luminal A cancers.

“Our results are both puzzling and disconcerting because we do not want to give the wrong message about breastfeeding,” said Martínez. “If you treat breast cancer as one disease, breastfeeding is beneficial to both mother and baby. That should not be dismissed.”

Martínez said the most important takeaway from this report is that the scientific community needs to do further research into populations with unique risk-factor patterns that might benefit from different screening or prevention approaches. She added that the observations made in the Ella study need to be replicated in populations with similar reproductive profiles to determine if the results are due to common biologic factors or specific genetic or environmental factors of the women in the Ella study.

Additional contributors to the study include Betsy C. Wertheim and Patricia A. Thompson, University of Arizona Cancer Center; Loki Natarajan and Richard Schwab, University of California, San Diego Moores Cancer Center; Melissa Bondy, Dan L. Duncan Cancer Center at Baylor College of Medicine; Adrian Daneri-Navarro, Universidad de Guadalajara; Maria Mercedes Meza-Montenegro, Instituto Tecnológico de Sonora; Luis Enrique Gutierrez-Millan, Universidad de Sonora; Abenaa Brewster, University of Texas M.D. Anderson Cancer Center; and Ian K. Komenaka, Maricopa Medical Center.

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