

Informing children of a mother's genetic cancer risk does not impact their health behaviors

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Telling a child about their mother's risk of hereditary breast and ovarian cancer does not adversely influence the offspring's lifestyle or quality of

life in the long term, according to a new study led by researchers at Georgetown Lombardi Comprehensive Cancer Center.

The finding appeared July 21, 2022, in *Pediatrics*.

The study looked at the mutation status of mothers' BReast CAncer (*BRCA*) genes. Children inherit a copy of both *BRCA1* and *BRCA2* genes from each parent. Testing positive for a mutation in one of these genes (being *BRCA+*) can have [cancer risk](#) implications for biological relatives, including children.

The researchers enrolled mothers who had undergone *BRCA* genetic testing one to five years before the start of the study and whose children were between the ages of 12 and 24 years old. The mothers had obtained [genetic counseling](#) and testing at regional cancer centers in either Scarborough, Maine, Boston, Washington, D.C. or Houston. Of the children enrolled, most had mothers who tested negative for *BRCA* mutations, but 17% had mothers who were *BRCA+*. The majority of mothers were [cancer survivors](#).

The researchers assessed offsprings' lifestyle behaviors and found that detrimental health activities, such as tobacco and alcohol use as well as lack of physical activity, did not vary among the children, regardless of the mothers' *BRCA* status. Similarly, maternal *BRCA* status was unrelated to children's [emotional distress](#) about cancer.

"Our findings underscore the resilience of children of mothers who are *BRCA+*, especially those adolescents and [young adults](#) who have grown up around cancer in the family and learned how to cope," says Kenneth P. Tercyak, Ph.D., a professor in the Departments of Oncology and Pediatrics and leader of the Cancer Prevention and Control research program at Georgetown Lombardi and the study's senior author. "The study's findings will help us learn how to build on [young people's](#) cancer

awareness and their interest in knowing more about their family's health history."

For teens and young adults who had mothers who survived cancer, they considered themselves to be at greater risk for, and were more knowledgeable about, cancer than youth of healthy mothers.

Additionally, children of *BRCA*+ mothers were more concerned about cancer, held stronger beliefs about the role of genes in determining their health, and placed a higher value on learning about genetics.

In particular:

- Female youth whose mothers survived cancer perceived themselves to be among those at the greatest risk of developing breast/ovarian cancer;
- Youth whose mothers had cancer exhibited the greatest understanding about cancer's causes; and
- With respect to children of *BRCA*+ mothers, they were among the most concerned about the possibility of their mothers developing breast or [ovarian cancer](#), which is consistent with historical data. They also believed most strongly in genes determining cancer risk and the importance of learning about such risk.

"There is a lot of complexity in how parents talk with their kids about familial cancer risk in ways that are truthful but nonthreatening," says Beth N. Peshkin, MS, a professor of oncology and the Director of Genetic Counseling and Education Director for the Jess and Mildred Fisher Center for Hereditary Cancer and Clinical Genomics Research at Georgetown Lombardi. "These families benefitted from support from their genetic counselors and other health professionals. One of the goals of this counseling strategy is to foster open and individualized conversations with relatives about cancer risk, screening and risk

reduction, and [genetic testing](#) choices."

A predominantly non-Hispanic white sample limited the generalizability of the findings to members of underrepresented racial/ethnic groups. To ensure the broadest applicability of outcomes, Tercyak and Peshkin say that future studies will incorporate a more diverse population.

At present, the team is focusing on evaluating a new program designed to help mothers who carry *BRCA* gene alterations make informed choices about when and how to share cancer risk information with their adolescent and young adult children.

More information: Long-Term Adaptation among Adolescent and Young Adult Children to Familial Cancer Risk, *PEDIATRICS* (2022). [DOI: 10.1542/2020-000123](https://doi.org/10.1542/2020-000123)

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