Women's Knowledge of Genomic Testing and Precision Medicine in Breast Cancer Treatment Decision-Making

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PURPOSE: To understand awareness of genetic and genomic testing, as well as decision-making, in women diagnosed with breast cancer.

PARTICIPANTS & SETTING: 29 African American/Black and Latina/Hispanic women diagnosed with breast cancer.

METHODOLOGIC APPROACH: A semistructured interview guide was used in focus groups conducted via videoconference. Transcripts were analyzed using thematic analysis.

FINDINGS: Many of the women understood the concept of genetic testing to identify the *BRCA1/BRCA2* variant, but none of them were aware of genomic testing and its implications for personalized medicine. Participants discussed provider and patient roles in treatment decision-making, identifying roles that the physician might play in treatment planning, from primary decision-maker to collaborator.

IMPLICATIONS FOR NURSING: As the number of precision cancer treatments expands, patients must be able to comprehend the information provided to make informed decisions about their treatment. Providers should do a better job of explaining potential treatments so that patients feel they are part of the decision-making process. Addressing gaps in treatment access and uptake requires providers to prioritize patient engagement and understanding.

KEYWORDS breast cancer; genetic testing; genomic testing; decision-making

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Breast cancer (BC) surgery can be considered preference sensitive in that women diagnosed with the disease may have choices to make regarding their treatment. For example, there may be two or more surgical treatment options that are equally effective (Baliski & Hamm, 2020). Because of the opportunity to weigh in on treatment options, there has been an active effort to increase shared decision-making, particularly for women with early-stage cancer (Shickh et al., 2023). Advances in genetic and genomic testing have increased the amount of data available to women as they consider their options for BC treatment (Baliski & Hamm, 2020; Shickh et al., 2023). Covvey et al. (2019) found that barriers to shared decision-making included feelings of uncertainty about treatment decisions, fear of negative side effects of treatment, and inadequate patient–provider communication.

Genetic testing checks for variants or changes in a person's DNA, but genomic testing examines a tumor's molecular composition. Advances in genomic testing have led the way toward precision medicine, a treatment that is specific to a tumor's genetic polymorphism. This focused treatment has been found to improve the overall efficacy of cancer treatment in clinical trials and practice. However, according to a study by Pinilla et al. (2022) about precision medicine in early-stage triple-negative BC, translating research into practice in BC continues to be a long-term challenge.

Various factors contribute to the underuse of precision medicine in clinical practice, including patient-level factors, such as a lack of knowledge and awareness and serious concerns about the possible release or misuse of test results (Erdmann et al., 2021); physician-level factors, such as a lack of knowledge