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

Evelyn Robles-Rodríguez, DNP, APN, AOCN®, Linda Houser, PhD, MSW, Belkys Sanchez, LCSW, Catherine Ormerod, MSS, MLSP, Stefanie Washburn, MSW, LSW, Staci K. Oertle, MSN, APN, ANP-BC, AOCNP®, and Bonnie Jerome-D’Emilia, PhD, MPH, RN

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