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Komen Post-doctoral Fellowship Grant

## Scientific Abstract

The prevalence of a BRCA1 or BRCA2 gene mutation in individuals of Ashkenazi Jewish descent is 1 in 40. While carrying such a mutation significantly increases the risk of breast or ovarian cancer, there are several effective risk management options for mutation carriers, including intensive screening and risk-reducing surgeries. Orthodox Jews are an under-studied population, in whom unique issues may arise surrounding BRCA genetic testing due to their obligations under Jewish law. Based upon our survey data among Orthodox Jewish women in the Washington Heights community, 43% reported having a family history of breast cancer and 5% reported having a relative with a BRCA mutation. Only 49% of these women had adequate genetic testing knowledge, 46% had accurate breast cancer risk perceptions, and nearly three-quarters had not thought about genetic testing or stated that they will not get tested. Focus groups among this population revealed the desire for information regarding BRCA testing, the influence of religion in genetic testing, and concerns about the consequences of testing, including stigma and marriageability. We have developed a web-based decision aid, RealRisks, which is designed to improve genetic testing knowledge, accuracy of breast cancer risk perceptions, and self-efficacy to engage in a collaborative dialogue about BRCA genetic testing. Our goal is to develop a culturally tailored decision aid for Orthodox Jewish women to enhance informed decision-making regarding BRCA genetic testing. We propose the following aims: 1) To conduct a cross-sectional survey in a broad population of Orthodox Jews (N=5000) to determine knowledge, attitudes, and decision-making preferences about BRCA genetic testing; 2) To apply a user-centered design to tailor the RealRisks decision aid to the cultural needs of Orthodox Jewish women with participatory workshops (N=20) and usability studies (N=6); and 3) To determine whether exposure to the modified RealRisks improves BRCA genetic testing intention/uptake among 50 Orthodox Jewish women using a pre/post-test design. Secondary outcomes include genetic testing knowledge, decision self-efficacy/conflict, BRCA self-concept, autonomy, breast cancer worry, and accuracy of perceived breast cancer risk/BRCA mutation risk. This project involves an active collaboration between investigators at Columbia University and the Institute for Applied Research and Community Collaboration (ARCC), whose mission is to conduct and disseminate rigorous research on psycho-social issues in the Orthodox Jewish community. This proposal seeks to overcome important barriers to BRCA genetic testing among Orthodox Jewish women in order to enhance uptake of risk-appropriate cancer screening and prevention strategies. Ultimately, changes in these behaviors will reduce the incidence and mortality of breast and ovarian cancer.