

Scientists call for population-wide BRCA testing for higher risk group

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Following a Queen Mary University of London study, researchers are calling for population wide BRCA testing in the Jewish community after finding it to be more effective than current approaches, cost effective and had a high satisfaction rate with those undergoing testing.

The research, published today in the *BJOG: An International Journal of Obstetrics and Gynaecology* and funded by leading gynecological [cancer](#) research charity, The Eve Appeal, found that 60 percent of the people found to have the BRCA gene through population testing wouldn't have qualified for familial based testing, which is the current UK policy.

The Genetic Cancer Prediction through Population Screening (GCaPPS) study led by Dr. Ranjit Manchanda at Barts Cancer Institute, Queen Mary University of London, compared population and clinical criteria or [family history](#) based approaches to BRCA testing.

Shifting our healthcare landscape towards

prevention of cancer

Dr. Ranjit Manchanda, Consultant Gynaecological Oncologist at Barts Health NHS Trust, and Clinical Senior Lecturer at Queen Mary University of London, said: "The current NHS system is set up to prioritize diagnosis and treatment, and is not utilizing the full potential of newer technologies for [cancer prevention](#)."

"The current system of restricted access to BRCA testing is associated with huge underutilization. Our improved understanding of genetics and the technological capabilities we now have provide us with a fantastic opportunity to shift our healthcare landscape towards prevention of cancer."

The study was carried out from University College London and collaborators include the University of New South Wales. Population wide BRCA tested individuals had lower levels of feelings of overall anxiety and depression in the long term than those who were tested based on their family history alone. Anxiety levels decreased with time in both groups.

Mutations on the BRCA genes put women at a higher risk of both ovarian (17-44 percent) and breast (69-72 percent) cancers, and also increases the risk of male breast cancer, prostate and pancreatic cancer. Testing for the BRCA gene mutations offers women the opportunity to take measures to reduce their risk of cancer, either by increased monitoring (screening) or preventative surgery such as a double mastectomy and surgery to remove the ovaries and tubes (oophorectomy). Medication (chemo-prevention) can also reduce the risk of certain types of breast cancer.

Ashkenazi-Jewish community

In the general UK population, 1 in every 200 people will carry the BRCA mutation, but in the Ashkenazi-Jewish community, individuals are five times as

likely to carry a BRCA mutation and therefore be at a much higher risk of these related cancers.

Currently in the UK, to receive BRCA genetic counseling on the NHS you must have first-degree relatives diagnosed with a BRCA related cancer, that is either a parent, sibling or child. This policy requires the development of cancer to appear in a family before any relatives can be tested for BRCA, as well as the need for healthcare professionals and individuals to be aware of their family history, the link between cancers and BRCA. Only individuals with a 1 in 10 chance of carrying a BRCA mutation can currently access testing. But the majority of people with BRCA mutations fall below this threshold.

Dr. Manchanda, the GCaPPS team and The Eve Appeal are now calling for the policy to be changed for the Jewish community and for the first population wide genetic testing to be made available. This will enable many more people from this higher risk group to opt for the opportunity to be informed of their cancer risk so that they can make empowered decisions to manage their health and cancer risk.

Potential to save many lives

Dr. Manchanda added: "Ovarian cancer is a devastating disease that is usually diagnosed late, with less than half surviving five years and only a third surviving ten years after diagnosis. BRCA testing would give women the power to prevent ovarian and breast cancer and has the potential to save many lives.

"Our findings support introduction of genetic testing for breast and [ovarian cancer](#) genes across the entire Jewish population, beyond just the current criteria-based approach. This new model of [population](#) genetic testing, could in the future potentially be expanded to other populations for cancer predisposing inherited genetic changes and even other diseases."

Provided by Queen Mary, University of London
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