Feasibility of *BRCA1* and *BRCA2* testing among Nigerian women with breast cancer

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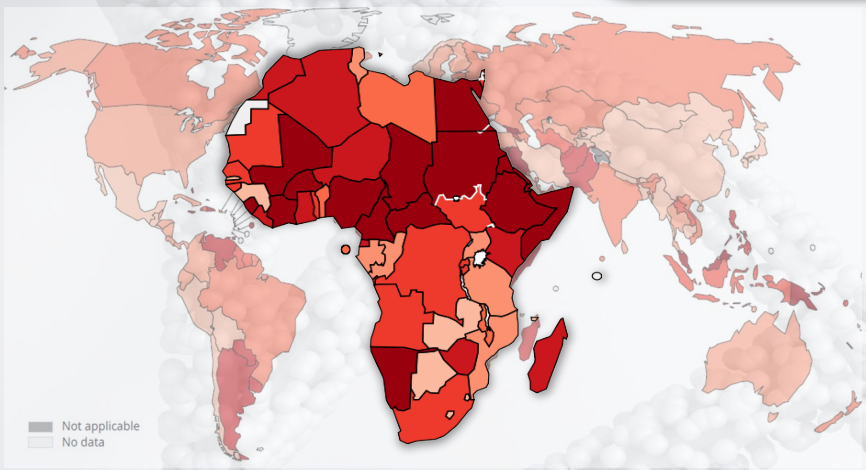
Background



Breast cancer is the most common female malignancy in Nigeria, the most populous country in Africa

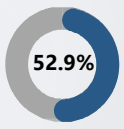
- Breast cancer is diagnosed at a younger age and later stage
- A higher proportion of patients have tumors that are triple negative
- Both overall and stage-specific survival are lower compared to North American or European populations.

Impact

Our preliminary data suggests that lack of genetic counseling services, pathways for referral, and testing facilities impede the implementation of genetic testing in clinical practice.

Lack of a genetic counselling services

No Pathway for Referral



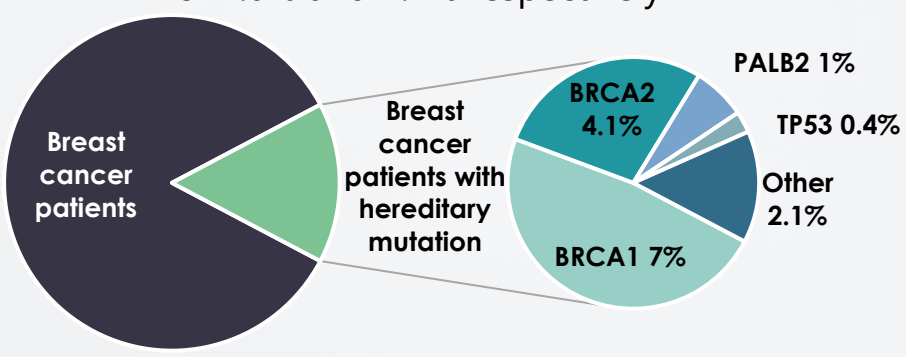
Lack of testing facilities

Despite barriers to access, there is interest in expanding care to include genetic testing and improve understanding of familial risk.

This work lays the foundation for introducing breast cancer genetic testing as the standard of care in Nigeria

Hereditary Predisposition

The prevalence of BRCA1 and BRCA2 mutations in Nigeria are exceptionally high, with rates of 7.0% and 4.1% respectively



The objective of this study is to assess the feasibility of BRCA1/2 testing among Nigerian women with breast cancer.

Methods

Our preliminary data suggests that lack of genetic counseling services, pathways for referral, and testing facilities impede the implementation of genetic testing in clinical practice.

This observational study aims to enroll **100 patients** with invasive breast cancer from three teaching hospitals in Nigeria over six months.

Participant **saliva samples** will be collected at enrollment and shipped for remote testing

Participants will subsequently receive **interpretation of their results**, **genetic counseling**, and **clinical follow-up** to explore risk reduction options.

This study will assess the feasibility of saliva-based *BRCA1/2* remote genetic testing and offer **clinical feedback** to breast cancer patients in Nigeria

Secondary endpoints include determining the prevalence of *BRCA1/2* mutations in this population, clinical evaluation of treatment-related events, and patient-reported outcomes and experience through qualitative surveys

Expected Outcomes

Potential clinical impacts include:

✓ Risk stratification & assessment of *BRCA1/2* carriers
✓ Personalized breast cancer management
✓ Cascaded family screening

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