

Large study targets prostate cancer in black men

A Stellenbosch University (SU) researcher is part of a team of international scientists undertaking the largest study to date to explore the genetic causes of prostate cancer (CaP) in black men.



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“In addition to gaining valuable insight into the origins of CaP in ethnic populations, this project will also develop genetic and epidemiological capacity and resources on the continent that can be used by other African researchers,” says Dr Pedro Fernandez, with the division of urology at SU’s faculty of medicine and health sciences.

Collaborative project

The study, known as MADCaP (Men of African Descent and Carcinoma of the Prostate), is funded by the American National Cancer Institute (NCI), and is a collaborative project between researchers from America, South Africa, Ghana, Senegal, and Nigeria.

Professor Timothy Rebbeck from the Harvard TH Chan School of Public Health and the Dana-Farber Cancer Institute in the US will lead the project. Fernandez is the principal investigator and was awarded a US\$3m (approximately R45m) grant to lead the collection and genomic analysis of biosamples for the study.

Double the risk

CaP is the most common type of cancer affecting South African men and international statistics suggest that men of African descent have double the risk of developing CaP compared to men from other population groups.

“The majority of cases in sub-Saharan Africa are diagnosed with aggressive disease, often at late, incurable stages. In both sub-Saharan Africa and African American men, this pattern may be due to a combination of tumour aggressiveness and late detection,” the MADCaP research team statement says.

Looking for common features

“Thus there may be common features of CaP aetiology in men of African descent that may explain the observed mortality patterns. Knowledge gained from studies of prostate cancer in sub-Saharan African may improve the understanding of

aggressive prostate cancer in men of African descent around the world.”

While numerous prostate carcinoma genome-wide association studies (GWAS) have been reported, only one has been reported in an African population, and most of the GWAS-identified loci have not been replicated in men of African descent. “There is a pressing need to identify African-specific alleles and thereby to elucidate the aetiology of prostate carcinoma with regards to risk and disease aggressiveness,” the research team said.

Four-country project

The NCI-funded MADCaP project aims to address this current knowledge disparity by conducting a GWAS with samples collected in South Africa, Senegal, Nigeria and Ghana and the entire project will run over a five-year period.

“The project as a whole will be open to engagement with the SSA scientific community, with a particular emphasis on boosting cancer research capacity in Africa. Owing to the sample volume to be processed in the study, cancer researchers will benefit from having access to an African-centric cancer genotyping array application. This will facilitate the design and execution of small-to-medium size pilot studies which may in turn lead to further large-scale GWAS studies in African populations,” the MADCaP team concludes.

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