Experts Seek More Studies on Prostate Cancer Disparity

Some of the best brains in cancer research from across the world recently converged at Covenant University, Ota, Ogun State, for an International Cancer Genomics and Bioinformatics Training Workshop. The workshop was aimed towards understanding the disparities in diagnosis and prognosis of the scourge, especially as it relates to the black man.

Professor Folakemi Odedina of the University of Florida Health, Lead presentation

The lead presentation delivered by Professor Folakemi Odedina of the University of Florida Health showed that the burden of prostate cancer disparity was still there in major nations of the world, but had reduced significantly. She noted that a recent study showed that prostate cancer disparity was highest amongst United States' black males and highest mortality among Caribbean black males.

Professor Odedina, who is a Principal Investigator and Programme Director, Prostate Cancer Transatlantic Consortium, said it had been realised that biotic, abiotic and sociocultural environmental factors also affected the development and progression of prostate cancer, therefore, it was necessary to confirm shared environmental factors that might also predispose African-American men and their ancestral relatives to the disease.

She advised that to fully understand the role of environment and genetics in Prostate cancer disparity, more studies needed to be conducted among black men of similar ancestral origin to African-Americans.

She stated that several studies indicated high prostate cancer burden in Nigeria and Ghana. That disproportionate burden of prostate cancer among other black men of West African ancestry, according to her, followed the established routes of the transatlantic slave trade.

Professor Odedina noted that inequitable access in the area of prevention, early detection and high quality treatment posed serious challenges to prostate cancer health disparities. She posited that the burden on prostate cancer in black males was prevalent with higher incidence and mortality with a five-year relative survival period. Furthermore, she averred that underrepresentation of blacks in clinical trials or biomedical research and also, limited biological samples were situations that needed to be addressed.

Professor Odedina, who works in the Colleges of Pharmacy and Medicine, University of Florida, said, on the human genome research for precision medicine, there was need for increasing diversity of Genome Wide Association Studies (GWAS) to help understand and effectively address health disparities.

While acknowledging that some progress had been made on prostate cancer care and research, she stated that the world was still faced with significant challenges, which should prompt researchers to make the next decade a period of focusing on unique approaches such as multi-level, translational and global research, better representation of black males in GWAS and a platform should be created for collaboration through consortium-level research.

Making a presentation on 'Cancer Genomics: Its Application in African Descent Population', Professor John D. Carpten, Chairman, Department of Translational Genomics Keck School of Medicine, University of Southern California, Los Angeles,

said the better researchers could analyse DNA, the faster they would come up with new clinical tools for battling cancer.

He asserted that a number of technologies had been developed for each of two or more alternative forms of genes that arose by mutation during the interrogation of DNA organic molecules that served as the monomers.

Professor Carpten suggested that the next generation sequencing technologies could make all measurements with that single technology at unprecedented resolutions in areas such as point mutations, copy numbers, gross rearrangements and transcriptional profiling.

He stated that, "genomics can assist the world in defining who we are via race, population genetics, and phenotypes". This, Professor Carpten, said could be accomplished through the Ancestry Information Markers (AIMs) because they served as genetic markers with large allele frequency difference between parental populations.

He said, for example, Multiple Myeloma (MM), a cancer of the plasma cells in the bone, was one of the most significant health disparities among African-Americans based upon Surveillance, Epidemiology and End Result (SEER) data, and all that could show how ancestry can influence disease risk; while race could influence outcome.

Professor Carpten said through Myeloma disparity, it had been observed that African-Americans might have tumors enriched for features associated with favourable outcomes. "Although, mortality rates have historically been reported as two-fold greater in African-Americans when compared with European-Americans, recent data suggests a leveling off in outcome," he stated.

"From a recent study, data obtained for the first time showed a significant difference in vegetal cell mutation frequency for a major cancer driver gene in tumors from African-Americans and European-Americans cancer patients. A vital part of the data suggested that African-Americans Multiple Myeloma patients may have tumors with molecular features associated with more favourable outcomes," he explained.

Rounding off, he predicted that exciting time awaits researchers in the genome science area of research. That, according to him, would provide opportunities to collaborate and build consortiums to understand the biology and etiology of cancer across the Africans in diaspora. Such collaboration, he added, would among other things provide resource sharing opportunities, knowledge sharing and giving back to the community through education and outreaches.

Other key presentations were made by Professor Frank Chinegwundoh, a Consultant Urological Surgeon in London and a member of the Prostate Cancer in Ethnic Sub-Groups (PROCESS); Kofi K. Gyan, Programme Director, International Centre for the Study of Breast Cancer Subtypes; and Dr. Seyi Idowu, Consultant Orthopaedic Oncologist, National Orthopaedic Hospital, Lagos.

Earlier in his welcome address, Professor Emeka Iweala of the Department of Biological Sciences, Covenant University, said the workshop would among other things provide training in the area of cancer genomics and bioinformatics to foster genomics research in Africa, and explore molecular genomics in accessing population and disease heterogeneity among people of West African ancestry.

In addition, he said the workshop would bring together cancer scientists and clinicians to share ideas and practices and establish effective collaborations among researchers interested in controlling prostate, breast and colorectal cancers in people of West African ancestry.

The workshop attracted experts in the areas of breast and prostate cancer, technicians, clinicians, medical professionals and academia from the South-Western part of Nigeria.

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