



AIDS WORK WINS TWAS-LENOVO PRIZE

Quarraisha Abdool Karim of South Africa is a pioneer of high-impact research that protects African women from HIV/AIDS and tuberculosis. Her work is already saving lives, and it could save millions more.

 by Sean Treacy

South African epidemiologist Quarraisha Abdool Karim's work on strategies against HIV is already saving lives, and she has led research on a preventative strategy that could save millions more. Now, her extraordinary achievements have been recognized with this year's TWAS-Lenovo Science Prize.

Abdool Karim's discoveries have shaped life-saving clinical guidelines for patients infected with a combination of HIV and tuberculosis in countries across the world. It has also found the potential basis for an HIV vaccine. But her most celebrated work is for a finding that could save millions of lives: a study demonstrating the effectiveness of tenofovir gel, a substance that women can use to protect themselves from HIV infection with no cooperation necessary from men.

Abdool Karim said she is humbled by the award. "South Africa is an important and key population in terms of AIDS research," she said. "With our contributions to this field, I think it adds an advantage to have this kind of acclamation. I feel very privileged and honoured to be the recipient of this award."

The annual prize is one of the most prestigious honour given to scientists in the developing world, and includes an award of USD100,000 provided by Lenovo, the global leader in consumer, commercial, and enterprise technology that is the largest PC company in the world. It was announced in a special

ceremony during the yearly General Meeting of TWAS in Muscat, Oman.

"We have great admiration and respect for the work of Dr. Abdool Karim," said TWAS President Bai Chunli. "She has an exemplary record of high-impact science, and there is a deep humanity to her work. Just as important, she has helped to train hundreds of young African scientists who are expanding the research into HIV and tuberculosis. She really is a model scientist, and a tremendous inspiration to colleagues across the world."

"Innovation is how Lenovo achieves competitive differentiation and drives new



◀ South African epidemiologist and TWAS-Lenovo Prize winner Quarraisha Abdool Karim

▼ Quarraisha Abdool Karim, centre, receives the TWAS-Lenovo Science Prize from Lenovo Senior Vice President George He, left, and TWAS President Bai Chunli, right. [Photo: Oman Ministry of Higher Education]

market opportunities. Lenovo’s global scale and emphasis on innovation give us a degree of visibility regarding the health and well-being of the communities and markets we serve,” said Yuanqing Yang, Chairman & CEO of Lenovo. “Dr. Abdool Karim stands out for her exceptional record of research and her remarkable grassroots engagement. Through her creativity and hard work, she has helped to save countless lives. We are very proud that she has won the 2014 TWAS-Lenovo Science Prize.”

In Sub-Saharan Africa, HIV and AIDS are an ever-present threat. The region includes a majority of the 33 million people worldwide who live with HIV. In South Africa alone, an estimated

South Africa was at an early stage of an HIV epidemic, that women were already three times more likely than men to be infected and that women also became infected at an age five to seven years younger than men.

It eventually became clear that these women felt powerless to negotiate their partners’ monogamy, and were stuck in these relationships because they’re economically dependent on the men. “If you are dependent on a man for survival in whatever form, or even if you love someone, and this person has other partners, you’re at risk,” she said.

In 1994, Abdool Karim began looking for a way for women to protect themselves from HIV that didn’t depend on the cooperation of men. After she co-founded the Centre for the AIDS Programme of Research in South Africa [CAPRISA] in Durban, South Africa, in 2002, her team tested a gel version of an antiretroviral drug called tenofovir in a study of 889 women that spanned nearly three years. It turned out that tenofovir gel, when topically applied to the genital area, reduced HIV infection in women by 39% – and by 54% among those who used it the most. The results were published in the prestigious journal *Science* in 2011 and won

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6.1 million people suffer from HIV infection, more than any other nation in the world. And women who are younger than 24 are up to eight times more likely to have HIV than young men of the same age group.

Abdool Karim grew up in apartheid South Africa, where social inequality was notorious and pervasive. In 1988, she went into AIDS research because social justice is a part of epidemiology. “AIDS brought together two separate things for me,” she explained. “I saw a convergence between advocacy work and science.” Her initial work uncovered the frightening reality that

widespread acclaim, making headlines in major newspapers around the world.

The finding generated excitement largely because models have shown that widespread use of tenofovir gel in South Africa could prevent over 500,000 new HIV infections over the next decade. But before tenofovir gel can be licensed, it must pass a second trial currently under way and expected to finish in 2015.

“By preventing HIV infection in women,” said Abdool Karim, “we have the potential of altering the epidemic in many settings and saving many millions of lives.” ■

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