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Mak scientists use viruses to fight bacteria

Research. Scientists say the ongoing study involves the separation from the environment a family of virus that eat up the harmful bacteria.

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KAMPALA. Makerere University scientists have cultured viruses as an alternative to treat bacterial infections that are increasing becoming resistant to antibiotics.

The increased resistance of bacterial infections, common among Ugandan children, to antibiotics has left many households without alternative treatment, increasing their healthcare budget and dilemmas.

Spearheaded by Makerere University's College of Veterinary Medicine, Animal Resources and Bio-Security (COVAB), the ongoing study involves the separation from the environment a family of virus that eat up the harmful bacteria.

Dr Jessica Nakavuma, the COVAB principal investigator, said the method has proven effective in other countries such as the United Kingdom and Russia where a different strain of a virus is already used as an alternative treatment.

"What we do is that we extract by tapping from the environment these particular types of viruses, which live alongside the [harmful] bacteria. This can be from the kraal or any place where animals stay," Dr Nakavuma said.

"In humans, they can be got from the throat, mouth, stomach and other places where humans stay. We study and purify it (the virus), extract it and use it to eat up or destroy the harmful bacteria," she added.

Pattern

Dr Nakavuma said these viruses, which are not dangerous to humans, live side by side with the harmful bacteria in both humans and animals and can be used to feed on the bacteria in order to get rid of them.

"Within a period of one year, we shall have come up with products in both liquid and solid forms as an alternative treatment for bacterial infection," she said.

This progress registered by the Makerere academics, although significant, is far from providing actual drugs on the shelf because of an overly bureaucratic approval process and pending overhead investment in manufacturing.

Some British and Russian scientists are currently training the Makerere undergraduate students.

Mr Nelson Bukamba, a final-year student of Veterinary Medicine, specialising in microbial application, said they have since gained skills in isolating the virus that infects and replicates within a bacterium from the environment.

"We are doing the purification and isolations within the laboratories, but the sequencing and studying of their characters is done outside so that they are brought back when we know what we are dealing with," he said in an interview last week.

The World Health Organisation reported based on a 2014 survey that three in every 10 cases of new tuberculosis infections, caused by a bacterium, and two in every 10 previously treated TB cases are estimated to be multidrug-resistant.

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