

Response to Claims of a COVID-19 cure by Biobert Research group

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Over the past few days there has been a you tube Video and a letter circulating on social media on a COVID-19 cure by a one Robert Mijumbi,an independent researcher and a university graduate in biology with experience in molecular medicine.

The researcher claims to have designed an enzyme(protein) which he previously administered intravenously to one patient who he claims to have been cured of HIV.He further states that he has a belief that through the same procedure he has developed a cure for COVID-19.

First and foremost , what has been fronted is a hypothesis or scientific thought for treatment of COVID-19 and not a cure for COVID-19 as the title of the letter suggests.It is important at this point to guide the public and Robert about drug research. Use of proteins as a means of treatment falls broadly under a term called biologics.This is a growing area. Most drug treatments have been chemicals in nature such as paracetamol and produced through chemical synthesis involving a few chemical reactions.

Biologics however, is a more advanced and sophisticated process which can be done either through use of micro-organism cells or direct synthesis of the biologics. A common example is insulin,a protein which is produced by removing the human insulin Gene and inserting it into the Gene of the bacteria or animal or cell to produce the insulin.In essence, one uses the body of a micro-organism,a cell or even an animal as a biological factory to produce the medicine as opposed to a chemical factory.

The biggest challenge is not it's production however ,but the purification process which has to be done to avoid introduction of the bacteria,cell or animal components including even it's diseases into the patient through the insulin injection.To date ,there are only a handful manufacturers of insulin in the world.Vaccines are another example of biologics. There are other more complex methods for production of proteins and enzymes which would need highly sophisticated equipment and advanced techniques to produce.

Secondly, production of any new drug requires it to undergo pre-clinical studies which are known as in vitro(outside the human body) studies such as in an animal model like a guinea pig or mice that mimics a human model and clinical trials which has to be done in vivo (inside the human body) to determine it's efficacy and safety.

In light of the above, it is therefore important to state the following from BioBERT's research claims.

✎ As an independent researcher, it is important to cite the lab where he has been conducting his research. As highlighted, the level of sophistication needed to produce an enzyme is quite high unless he has developed a much simpler method to do so. In addition, the said lab would need to have capabilities of handling viruses for him to have carried out the HIV experiments!

✎ He cites having administered his product intravenously to an HIV patient. Any product administered intravenously has to be sterile and hence needs a highly controlled environment to do so. Being a protein, makes it even more complex since it cannot be sterilized by commonly applied methods such as an autoclave sterilization that uses steam. Proteins are heat sensitive and would need advanced filtration methods to purify.

✎ The researcher cites one key patient as evidence for cure of HIV/AIDS. It is important to note that evidence of cure has to be sufficient without bias and one patient cannot suffice to claim it as an HIV cure. Hundreds of patients have to be tested. One would also need to rule out the possibility that the patient was on ARVs at the same time he administered his drug. However, his pre-liminary findings could show that the product could be useful in HIV patients. The extent of its usefulness nevertheless will necessitate further studies to be carried out both at pre-clinical and clinical trial level.

✎ The researcher further talked about the efficacy of the product but didn't mention any adequate findings on its safety. Among the greatest concern on biologics is their safety, especially if not well purified. This is more so due to the presence of other materials and impurities that are components of proteins during production. Their non-removal can trigger adverse reactions in the human body.

✎ The researcher claims that he has strong belief that the same drug and approach could yield positive results for a cure for COVID-19 and has created a protein as a result. This is merely a hypothesis though presented as a fact without experimentation in the title of the letter. Such statements are unprofessional. As a result, some section of the public have responded by asking him to infect himself with the Coronavirus and confirm whether his treatment works.

✎ In addition, enzymes are highly specific on their targets as he says and operate through a lock and key hypothesis. A key that starts a Toyota Landcruiser is unlikely to ignite a Mercedes Benz. Likewise, because it worked on an HIV virus doesn't guarantee that it will work on a Coronavirus. If that was the case, the ARVs would have easily worked for COVID-19 patients.

Mr Robert Mijumbi should therefore desist from creating unnecessary anxiety among the public as it can derail ongoing government efforts in containing the COVID-19 pandemic by creating a false sense of security. In addition, it makes the public question our competencies as scientists especially when we make unverified claims. He should rather focus on engaging National drug authority, Ministry of health, Uganda National council of science and technology and various scientists to better guide him on his research.

There are mechanisms of doing this without revealing the intellectual property details of his innovation. In this way, it will build confidence to other scientists and the public of his research. Engaging in YouTube videos only makes others perceive him with caution and suspicion even if his intentions are good as witnessed recently where a group of super geniuses were instead mistaken as super conmen!

Mr Kijumbi, let the clinical trials and experiments on your drugs talk for you not the YouTube videos.

Per medicatum servium (with medicines we serve)