Antibiotic Properties of Moringa oleifera to Combat Superbugs

Nair, Srijith

Studies are predicting that by 2050, the microbes that reduce the effectiveness of antibiotics known as the antibiotic-resistant superbugs will kill 10 million more people per year, which is more than the number of people killed by cancer, and the cost impact is estimated to be $100 trillion. Stemming from the overuse, these superbugs are already a big concern for the scientists and public health officials. Scientists have identified strains of E. coli resistant to the antibiotic ciproflaxin and another, Shigella, resistant to the last resort drug, colistin. US Defense research and the CDC are raising concern that there is potential for more outbreaks in the future and the scientific community needs to address this quickly to avoid loss of lives and sufferings. Researchers are looking at safer methods of treating bacterial infections using naturally occurring alternatives. M. oleifera is a naturally occurring plant that has healthy and bioactive compounds. It is very nutritious and has many properties including reducing inflammation. Investigations on the effectiveness of whole leaf M. oleifera for its antibiotic properties were studied as an alternative to the available drugs and the results seem very promising. The researcher decided, based on the literature and data of the M. oleifera extract, to investigate the antibiotic properties of the chemical groups (sub-fractions) found in the M. oleifera compound. The results indicate that not all of the sub-fractions display antibacterial properties, however some do, most notably sub-fractions 4 and 5. This would imply that not all the groups act directly in the antibacterial affect, but may instead be acting in tandem with those groups that do to create the strong antibacterial affect already found in previous studies.

Awards Won: