

Monica Francis

National Public Health Laboratory, Tanzania

Monica Fredrick Francis is a molecular biologist with a master's of science degree in Health and Biomedical sciences from Nelson Mandela African Institution of Science and Technology, Tanzania. Monica is currently working as a laboratory scientist at the National Public Health Laboratory – Tanzania. Monica is interested in research work which involves the applications of molecular biology, genomics, biotechnology, and bioinformatics. Monica's current work is focused on surveillance and research activities of infectious diseases such as Measles, Rubella, Rotavirus, Dengue, COVID-19, and HIV Drug Resistance surveillance. Also, Monica has basic knowledge and practice in using R packages for statistical analysis.

Project

Molecular characterization and phylogenetic analysis of human leptospirosis infection among agro-pastoral communities in Northern Tanzania

By 2030, the World Health organization (WHO) aspires to end the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases and other communicable diseases. However, this goal remains far reaching if we do not have a full understanding of the serotypes, genotypes and the overall distribution of the epidemics and their agents. While substantial interventions have been launched and proven to be effective against other diseases (such as HIV and malaria), neglected tropical diseases are still a burden to many low and middle-income countries (LMICs). In Tanzania, for instance, more than 500, 000 human cases of leptospirosis are reported annually with mortality ranging from 5 - 10%. Leptospirosis is caused by a spirochete bacterium belonging to the genus *Leptospira*. Based on serological tests, Leptospirosis in humans has been reported in 10 regions of Tanzania, however, the prevalence can be higher if these tests are combined with genotyping. In this study, therefore, we aim to contribute to the realization of SDG 3 targets and Tanzania Neglected Tropical Diseases by characterizing the serotypes, genotypes, and geographic distribution of *Leptospira* sp. affecting humans living in agro-pastoral communities in Northern Tanzania. The project is envisaged to substantially contribute in reducing morbidity due to NTDs in Tanzania to a level that they are no longer a public health problem.