Point-of-Care Identification and Determining the Susceptibility of Causative Organisms in Skin Infections, Using Chromogenic Principles

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The aim of the project is to develop a point of care method of identifying and determining the susceptibility of the causative organism in skin infections without the need of specialised laboratory infrastructure, personnel or equipment as such a method is needed in rural areas, warzones and natural disaster zones. Increasing antibiotic resistance is an international problem that is direly in need of a solution. It was hypothesized that chromogenic principles can be used to provide a suitable solution to these problems in the form of the Rainbow strip method. The Rainbow strip is founded on the principle that the human body acts as an incubator. The Rainbow method can identify and determine the susceptibility of micro-organisms that cause skin infections without the need for laboratory infrastructure or equipment at the point of care. Its credibility was tested by culturing seven different micro-organisms on Rainbow strips and the susceptibility was determined using antibiotic discs. Results obtained were compared to laboratory determined antimicrobial susceptibility patterns for the identified organisms. The Rainbow method is more cost-effective than a standard laboratory test, with a 1-day turnaround time. A user-friendly table was designed to ensure that medical personnel would not need extra training at the point of care.

Awards Won:

U.S. Agency for International Development: USAID Science for Development Third Place Award of $2,000.