

3rd International Conference and Exhibition on Food Processing & Technology

July 21-23, 2014 Hampton Inn Tropicana, Las Vegas, USA

Does bitter melon (*Momordica charantia*) have antibacterial property?

Debolina Ghosh

Hathaway Brown School, USA

Introduction: The basic research studied whether the *Momordica charantia* more commonly known as the bitter melon had any antibacterial property like it was claimed to have. The study conclusions can help those in the alternate medicine/nutrition fields to either eliminate or enforce their beliefs in the medicinal values of the bitter melon as antibiotic. It was hypothesized that the bitter melon known for having many supposed health benefits would kill or inhibit the growth of both Gram positive and negative bacteria. This study was undertaken to prove or disprove the above hypothesis so that herbal and alternative medicine could use this information to purify the compound of interest in bitter melon and use as antibiotic.

Material and Methods: The bitter melon was divided into three parts, interior, middle, and exterior skin, which were then formed into liquid extracts. Unprepared disks were then soaked in these solutions and put on petri dishes with *Staphylococcus aureus* already growing on them. Similar procedures were followed with the control untreated disk and distilled water soaked disc groups. The ready-made penicillin and erythromycin disks were directly put in the petri dishes from their dispensers as active control.

Results: After 24 hours of incubation the dishes were observed. These petri dishes with dishes with penicillin and erythromycin disks showed clear zones of inhibition around the disks whereas the background was golden yellow. These dishes with penicillin and erythromycin had averages of 11.6mm and 9mm thick zones of inhibition respectively. Whereas those petri dishes with the control unprepared disk, distilled water, and all bitter melon extract containing petri dishes had no significant clear zones of inhibition around the disks. Additionally there was no change in the color of the liquid media containing the bacteria after treatment with bitter melon extract.

Discussion/Conclusions: The bitter melon was therefore proven not to have an antibacterial property, going against the common belief. Though this study drew a negative conclusion, but the inference drawn has significant implication in the field of nutrition and alternative or herbal medicine. It is however, important to acknowledge that though the hypothesis was not supported in this study, bitter melon still may have health benefits other than as antibacterial agent.

Biography

Debolina Ghosh is a student of the prestigious Hathaway Brown High School in Shaker Heights, Ohio, recipient of the best middle school student award, member of the Honor Council, and an active participant in her school's speech and debate team. She participates in the Science, Research, and Engineering Program (SREP) at school. A finalist in the state level competition of the National Geographic Bee, she is also a graduate of Indian classical dance (Bharatanatyam); she has received many awards at regional and state level competitions. She also enjoys singing Indian classical music and takes part in her school's choir.

lghosh17@hb.edu