Determining the Antibacterial Efficacy of Ylang Ylang (Cananga ordorata) Plant Extract on Esherichia coli

Journal of Health Disparities Research and Practice

Volume 9
Issue 5 *Special Issue - NIDDK STEP UP*

Article 30

2016

Determining the Antibacterial Efficacy of Ylang Ylang (Cananga ordorata) Plant Extract on Esherichia coli

Noemi Caacbay
Hervin Jacinto, MD, RN , *Northern Marianas College*

Determining the Antibacterial Efficacy of Ylang Ylang (Cananga ordorata) Plant Extract on Esherichia coli

Abstract

Esherichia coli (E.coli) is a bacterium with high prevalence in the gastrointestinal tract of humans and animals. Discovered in 1885, *E. coli* is part of normal gut bacteria flora. However, some strains can be pathogenic and may also lead to serious infection. For instance, the pathogen *E. coli* O157:H7 produces a Shiga toxin, a toxin also produced by the bacterium *Shigella dysenteriae*, and can cause dysentery in humans. This pathogen is notorious for causing illness, hospitalizations, and deaths annually.

The objective of our research is to determine the antibacterial effectiveness of the Ylang Ylang (*Cananga odorata*) and its essential oil extract on *E. Coli*. Ylang Ylang is a widespread plant on Saipan and has been a prevailing medicine used by locals. Medicinal properties that attribute the plant include its anti-depressant, hypotensive, and antiseptic related substances. We will utilize these properties by extracting the essential oils through steam distillation. Moreover, we hypothesize that due to its medicinal properties the Ylang Ylang plant will have a significant impact on *E.coli*. We expect the findings of our research to enable a better comprehension of local medicinal plants and their effect on distinct bacteria

Keywords

Esherichia coli; local medicine; Cananga ordorata

Journal of Health Disparities Research and Practice
Volume 9, Special Edition 1, Summer 2016, pp. 48

School of Community Health Sciences
University of Nevada, Las Vegas

Determining the Antibacterial Efficacy of Ylang Ylang (*Cananga ordorata*) Plant Extract on *Esherichia coli*

Noemi Caacbay
Hervin Jacinto, MD, RN, Northern Marianas College
Coordinating Center: University of Hawaii John A. Burns School of Medicine

ABSTRACT

Esherichia coli (E.coli) is a bacterium with high prevalence in the gastrointestinal tract of humans and animals. Discovered in 1885, *E. coli* is part of normal gut bacteria flora. However, some strains can be pathogenic and may also lead to serious infection. For instance, the pathogen *E. coli* O157:H7 produces a Shiga toxin, a toxin also produced by the bacterium *Shigella dysenteriae*, and can cause dysentery in humans. This pathogen is notorious for causing illness, hospitalizations, and deaths annually.

The objective of our research is to determine the antibacterial effectiveness of the Ylang Ylang (*Cananga odorata*) and its essential oil extract on *E. Coli*. Ylang Ylang is a widespread plant on Saipan and has been a prevailing medicine used by locals. Medicinal properties that attribute the plant include its anti-depressant, hypotensive, and antiseptic related substances. We will utilize these properties by extracting the essential oils through steam distillation. Moreover, we hypothesize that due to its medicinal properties the Ylang Ylang plant will have a significant impact on *E.coli*. We expect the findings of our research to enable a better comprehension of local medicinal plants and their effect on distinct bacteria
.

Key Words: *Esherichia coli*, local medicine, *Cananga ordorata*

ACKNOWLEDGEMENTS

The STEP-UP HS program is supported by the National Institute of Diabetes and Digestive and Kidney Diseases of the National Institutes of Health, Grant number: R25DK078386.