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ANTI MICROBIAL EFFICACY OF CINNAMOMUM ZEYLANICUM

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ABSTRACT

Cinnamomum Zeylanicum has antimicrobial property and has been studied against different diseses causing organism.Its leaf as well as the bark has antimicrobial properties in their oils .In the research study bark oil was found to be more effective.

KEYWORDS: Cinnamomum zeylanicum , aromatic oil , antimicrobial properties.

INTRODUCTION

Alternate medicine is domination the health scenario world wide especially from the past few years. The increased interest in herbal medicine has thus been a distinct trends in developed as well as developing countries.The world health organization (WHO)estimated that 80% of the total population use herbal medicine in one or the other form(Farnsworth *et.al 1985*).About I quarter of prescription drugs dispensed by community bed pharmacists in United States contains atleast one active ingradient derived from the plant material.In more developed Asian countries like Japan and China and also in India,patent herbal remedies are composed of dried and powdered whole herbs extract in liquidand tablet form.Liquid herb extract are used directly in form of medicinal syrup, tinctures and wines.Herbal medicines are the major components in allindiginous people tradional medicine is a common element in Ayurvedic, Homeopathic, Naturopathic and Traditional oriental medicine.

Aromatherapy is one of the most actively growing forms of alternative medicine, combining message together with counseling and nice odour. The actual mode of action of essential oil in still far from being known although there is strong in vitro evidence, that essential oil act as anti microbial or anti-oxidant agent or have pharmacological effect on various tissues. Studies have shown that essential oil have an effect on various tissues studied have shownthat essential oils have effect on brain waves and can also alter behaviours(Lis-Balchin-M, 1997).

Role of C.zeylanicum oil has been examined in reference to large no of bacteria.This work presumable forms of Cinamomum oil against some important pathogenic organisms.

MATERIALS AND METHODS

Fresh sample of Cinamomum zeylanicum leaf and bark was taken washned and air dried in shade for 5-7 days. They were crushed and weighed before being loaded for calculating the yields. Clevenger apratus was being used for the extraction of the essential oil.

Oil starts coming 5-10 mins after the water starts boiling.Emulsion was allowed to cool at room temperature , separated by separating funnel with ether .ether mixed oil was separated by filterationby separating funnel and ether was subsequently evaporated on water bath. Tween20 was used for preparation of different dilutions.Different dilutions were 25%,50% and 75% oil at the rate of 35ml each, with control i.e distill water with 0.1% tween.The experiments were carried on in replication. The organisms were, *Vibrio cholera,Salmonella senftenberg,Bacillus cereus,Klebsiella pneumonia,Proteus vulgaris and Shigella dysenteriae.*These all microorganism causes diseases related to digestive system.

RESULT AND DISCUSSION

Sheigella dysenteriae- Oil of *Cinnamomun zeylanicum* bark exhibited promising result at all concentrations showing zones ranging from 35mm – 52mm.these findings are compatible to the report made by Islam et.al 1090.how ever the reports are in sharp contrast with Chaurasia and Jain,1978.

Proteus vulgaris - *Cinnamomun zeylanicum* oil proved potent at all concentartionagainst *Proteus vulgaris* exhibiting zone ranging from 34mm-47mm.

Klebsiella pneumonia-All concentration of *Cinnamomun zeylanicum* bark oil proved potent against Klebsiella sp. Exhibiting growth near control only near control.
Leaf oil of *Cinnamomun zeylanicum* also exhibited good response against Klebseilla showing a zone of 24 mm.

Bacillus cereus- The oil gave a moderate response against *Bacillus cereus* showing a zone at all ranges from 19mm-26mm. the leaf oil also exhibited similar response exhibiting a zone of 19mm-25mm.

Salmonella senftenberg-All concentration of *Cinnamomun zeylanicum* bark oil was found to be over potent producing plate clearance. Against *Cinnamomun zeylanicum* leaf oil was found to be quite effective producing a range of 27mm-32mm inhibition zone. Presence of cinnamaldehyde and eugenol in bark and leaf of *Cinnamomun* zeylanicum respectively, mightbe acting as potential factor.

Vibrio cholera –All concentration of bark oil found to be potent as an inhibiyory agent against Vibrio Cjolerae culture.The growth was considerably effected with the formation of inhibitory zone ranging from 27mm-35mm at different concentration.

In case of Vibrio cholera leaf oil proved to be equally effective showing inhibition zone of 30mm at 75% concentration. Cinnamomum has proved to have good response in case of enteric pathogen, hence should be added as important ingradient in food as daily habit as Naturopathy

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