

**ANTIMICROBIAL POTENTIAL OF CREAM FORMULATION CONTAINING ESSENTIAL OIL
(CITRONELLA OIL) OF *CYMBOPOGON NARDUS* LINN.**

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Abstract: Objective- The main objective is to prepare an efficacious, stable and economic cream containing the essential oil (citronella oil) of *Cymbopogon nardus* for its antimicrobial activity.

Methods- Topical formulations containing essential oil of *Cymbopogon nardus* were developed for their promising antimicrobial activity against selected microbes. The formulations (cream-w/o type) were prepared using standard methods and assessed for different pharmaceutical parameters. An in vitro antimicrobial study of the formulation was performed by using Agar-cup plate method. The cream formulations evaluated for pH, Viscosity and Spreadability.

Result- Among the four formulations (F1-F4), F4 showed good spreadability, viscosity & pH. The pH result shows that the formulations are considered acceptable without the risk of any irritation on application to the skin. As the formulation F4 was found to be the most suitable preparation and hence subjected for the antimicrobial activity. Cream formulation shown range for zone of growth inhibition (ZGI) 22.6 ± 0.58 for *Staphylococcus aureus* & 23.8 ± 1.15 mm for *Escherichia coli*. The BOROLINE and BOROPLUS cream are used for the comparative study. The Data obtained in the form of zone of growth inhibition (mm in diameter) indicate that the activity of cream formulation was more pronounced against *Staphylococcus aureus* & *Escherichia coli*.

Conclusion- From the present work it was concluded that the formulated antimicrobial cream using essential oil is natural, safe, effective, usable for the skin and stable too.

Keywords- Cream, Citronella oil, *Cymbopogon nardus*, Antimicrobial cream

Introduction: Infectious diseases represent prominent health issues in both developed and

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Received on: January 2019

Accepted after revision: March 2019

DOI: 10.30876/JOHR.8.1.2019.01-05

developing nations with an alarming increase in the incidence of new and emerging drug resistant microbes due to indiscriminate use of antibiotics and other drugs. To combat the challenge of multi drug resistance pathogens, scientists, researchers and pharmaceutical industries have been looking into natural products derived from plants as an alternative to