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Investigation of Cream and Ointment on Antimicrobial Activity of Mangifera Indica Extract

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Abstract: ***Medicinal plants have curative properties due to the presence of various complex chemicals substances of different composition which are found as secondary plants metabolites in one or more parts of these plants mangifera indica linn (MIL) is a species of mango in the an acardiaceae family. Phyto constituents in the seed extract may be responsible for the antimicrobial activity of the plants. The purpose of the study was to formulate and evaluate the antimicrobial herbal ointments and creams form extract of the antimicrobial herbal ointments and cream bases in different concentration 1%,5%,and 10% the formulation ointments and cream of MIL .we're subjected to evaluation of uniformity of weight measured of ph viscosity, spreadability acute skin irritation study stability study and antimicrobial activity. Our study shows that M.I has high potential as an ointments and creams for topical use .thus the present study concluded that formulation of the M.I are safe and efficient carrier with potent antimicrobial activity.***
Keywords: Creams and antimicrobial activity Mangifera indica ointment.

I. INTRODUCTION

Herbal medicine also called botanical medicine or phytomedicine refers to the use of any plants seeds, barriers, roots ,leaves, barks , or flowers for medicinal purposes long practiced outside of conventional medicine herbalism is becoming more mainstream as up to date analysis and research shows their value in the treatment and prevention of diseases recently the world health organizations established that 80% of people world wide rely on herbal medicine for some aspects of their primary health care plants drugs are frequently considered to be less toxic and freer form side effects than the synthesis ones. Along with other dosage forms herbal drugs are also formulation in the form of ointments and creams.

Medicated ointments contains a medicament dissolution suspension or emulsified in the base ointments are used topically for several purposes, example as protectants, antiseptic, emollient antiprutics , keratolytics and astringents ointments bases are also formulated in the form of ointments and creams medicine dissolved suspended Mangifera indica (M.I) also known as mango has been an important herb in the Ayurvedic and indigenous medical systems for the over 4000 year. M.I linn (L) belongs to the family Anacardiaceae the tree is a native of though it is now completely naturalized in many parts of the tropics and subtopics. According to Ayurvedic, varied medicinal properties are attributes to different parts of the mango tree . The presence of phytoconstituents in the mango tree the presence of phytoconstituents in leaf and seed extract may be responsible for antibacterial activity of the plants there are scanty reports on the activity of the plants.

II. MATERIAL AND METHODS

Plant collection and identification fresh seeds of M.I.L were collected form the wild form around Khartoum vegetable, Sudan and were identified and authenticated by DR.Hyder elshik research center for medicinal and aromatic plants and toxic sudun the sudens M.I.L was identified as mango the collection seeds were kept at plastic begs at room temperature tillus.

A. Extraction Of Mango Seeds

Thousands gram of air dried and coarsely powdered of clean seed of M.I seeds were extracted in soxhlet appratus to obtain methanolic and ethanolic extract were filter and the filterate were vaporized to dryness and weight in order to determined the percentage yield of the extract following the formula.

% yield = (weight of extract)/(weight of ground plants material)×100

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The stock solution of the crude ethanolic extract were prepared by dilution the dried extract with 50% methanol then ethanolic respectively to obtain the desired final concentration of 5mg/ml,1.875 mg / ml, 3.125 mg/ ml ,2.5 mg / ml.were used to impregnate filters paper disks (5.5mm diameters) and 50 ethanol was used as control while standard antimicrobial disc's; amikacin chlorophenicol, oxacillin, amoxillin, nystatin and metronidazole (difco) were used as positive control.

B. Preparation of Extract

The extract was carried out using menthol and ethanol (separately) 400g of dry seeds of (m.i) fruit were extracted with 80% methanol using Sox- 8h till the color of the solvent returned colorless .solvent was evaporation under reduced pressure using the rotators evaporator allowed to dry at air at room temperature till complete dryness ,extract using ethanol followed the above procedures.

C. Determination of Phytochemical Constituents

Preliminary phytochemical analysis was undertaken using standard analysis was undertaken using standard quality methods the different crude extract obtained were qualitative tested for the presence of various phytochemical constituent using standard protocols the extractive value of mango were calculated as per standard method (1g/100ml,w/v) .

D. Formulation of Cream and Ointment

Mangifera indica fruit seed after the extraction process was formulated as cream and ointments by different concentration 1%,5%,and 10% selection of oleaginous base for the formulation based on the preliminary studies showed the best formulation compared to the best formulation compound to the best formulation compared to the emulsion water in oil (w/ o) type the emulsion water in oil creams bases in different concentration 1% 5%,and 10 % .

E. Evaluation

The above formulation ointments and creams of M.I.L were subjected to evaluation for the following parameters as per the method described.

F. Physical Evaluation Of The Formulation

The formulation were inspected visually for their color homogeneous consistency and phase separation.

G. Measurements of PH

The ph was measured using a ph meter which was calibrated before each use with standard buffer solutions at ph 4,7,9 the sample 10 min prior to taking the reading at room temperature.

H. Uniformity Of Weight

A total of 10 bottles were filled randomly and weighed ointments and creams were removed form each bottle and each empathy bottle was washed with methanol. The different between two weight was calculated as net weight of the bottle. The average of net weight of ointments and cream of 10 bottles was noted .average bottle content = total content of 10 bottle/ no of bottles.

I. Viscosity

he viscosity was determined by the cap -2000 Brookfied viscometer test samples was taken in clean and dry 250 ml beaker and the viscosity of the test sample procedure of viscometer using spindal nos.1- 4 each spindle was used for finding the viscosity of the sample at speed of 0.3 ,0.6 ,1.5,3.6 ,12,30 and 60 r.p.m respectively the Rheology character shows also tested at 250 using Brookfield viscometer. S= m.L / T .where ,M= wt.tied to the upper slide .

L= length of glass slides.

T= time taken to separate the slide.

J. Spreadability

Time taken by two slides are determined by spreadability.

S= m.L/ T .

K. Acute Skin Irritation

STUDY: albino rats are using they getting six rats for solution cheack and 150to 200 g wt of rat to they apply on solution and 48hr time to change color and body skins shows .

L. Stability Testing

The stability on they form of five weeks and to for(ICH guidelines 1993).

III. RESULT AND DISCUSSION

THE M.I fruit are treatment on antimicrobial and antifungal, antiseptic, antibiotics,are used and disease control. And to shows the seed are getting and to extract it and getting the extractive part and water are deep and washed it and shows properly slide in and dried and powder shows and ethanol and methanol solution are using and soxhlet appratus used to preparation formed.

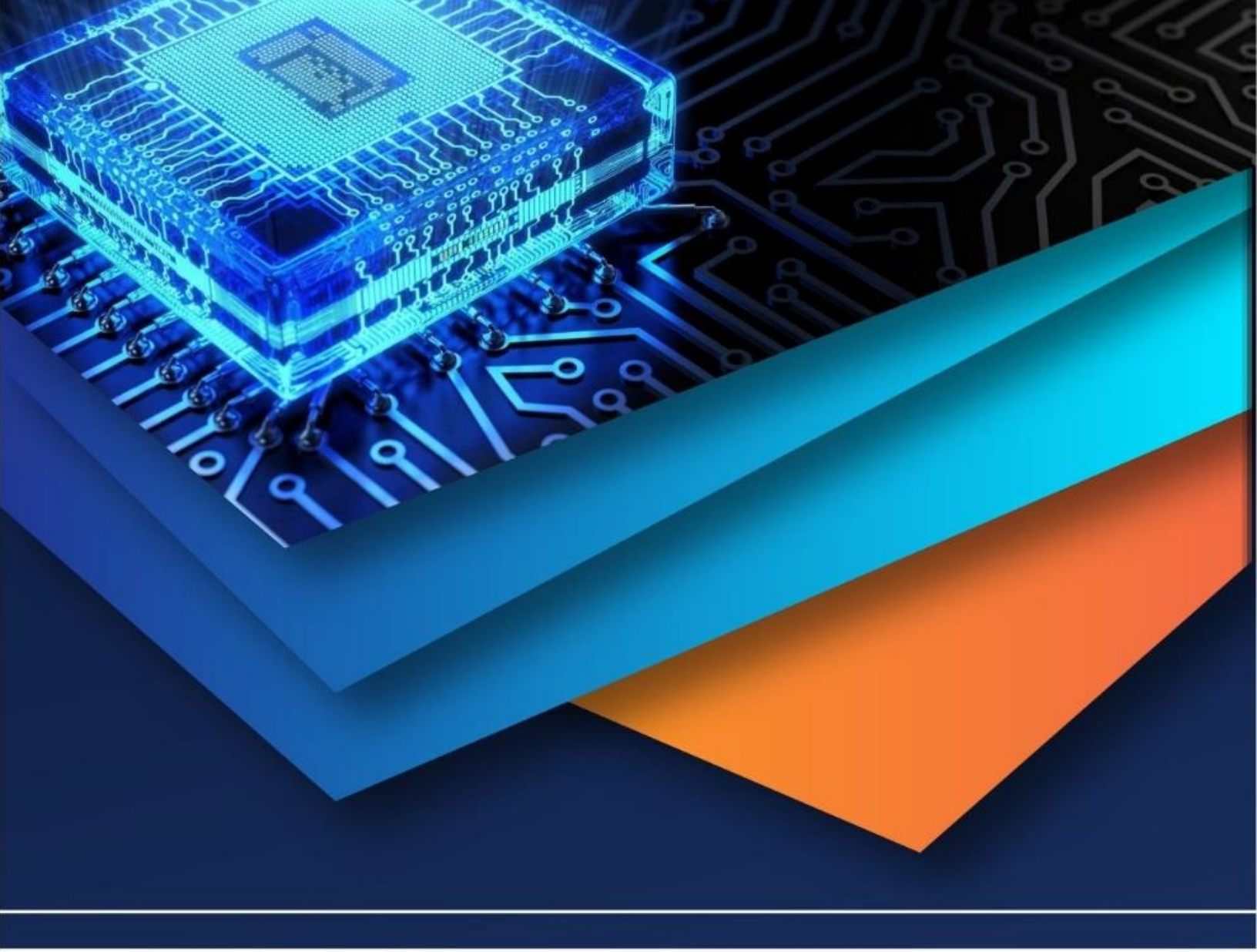
IV. CONCLUSIONS

The M.I linn are used to prepare ointments and creams for antibacterial, antimicrobial activity shows.

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