First Paper of Research Papers in the Journals notified on UGC CARE list in Academic Session 2020-21

2020 -21

IJMPR 2021, 5(4), 222-232

International Journal of Modern Pharmaceutical Research
www.ijmpronline.com

ISSN: 2319-5878
IJMPR
Research Article
SJIF Impact Factor: 5.273

RESEARCH ARTICLE ON ANTI-BACTERIAL EFFICACY OF ETHANOLIC EXTRACT OF *THYME* AND *CINNAMON* IN TREATMENT OF *ACNE VULGARIS*

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Received on: 13/06/2021
Revised on: 03/07/2021
Accepted on: 23/07/2021

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ABSTRACT

In current scenario, Herbal Formulations are being treatment of choice, as Allopathy drugs posing harmful side effects and additionally, microbes developing resistance to Allopathy drugs. Hence, the development of herbal formulation is going to be essential for enhancing the patient's quality of life, safety and avoiding harmful side effects. In this study, we have explored anti-bacterial activity of ethanolic extract of *Thymus vulgaris* and *Cinnamomum verum* against *Propionibacterium acnes*.*Thymus vulgaris* and *Cinnamomum verum*were macerated with aqueous-ethanolic solution to get extracts.The formulated proniosomal gel by using surfactants, lecithin, cholesterol with extracts. Formulations were evaluated for its physicochemical parameters and other parameters like TEM, DLS, *in vitro* study, optical microscopy. The efficacy of Thyme and Cinnamon was determined by evaluating zone of inhibition against standard Clindamycin.The formulated proniosomal gel was found effective against the acne and it was able to kill acne causing bacteria (*P.acnes*) and provide controlled release upto 24 hours.

KEYWORDS: Proniosomes, Thyme, Cinnamon, Propionibacterium acne, Dynamic light scattering (DLS), Transmission electron Microscopy (TEM).

INTRODUCTION

Acne is the most prominent disorder among adolescents with 15-25 years of age. It begins prominently at puberty age. Preferentially, it occurs on facial portion and includes back, shoulders, chest as non-facial parts. As per the statistics, it affects population from almost every age group i.e., approximately 85% of young people aged between 12-25 years, 8% of adults aged between 23-34 and 3% of elders aged between 35-44 across the world. Major factors responsible for acne include exposure to sunlight, less intake of water, dietary habits and stress. Other causes include hormonal imbalance, excessive production of sebum in sebaceous glands, depression and anxiety. Acne is characterized by inflammatory, non inflammatory lesions, Sebocyte differentiation and proliferation. Occurrence of papules, pustules, open and closed Comedones. *Propionibacterium acne* present on the skin significantly promotes acne lesions. Treatments for acne comprise of topical gels, creams and oral dosages forms. Reduced preference for Anti-acne treatments pose side effects and hence, antibiotic resistance while herbal medicines overcome it Propionibacterium acne is the anaerobic gram positive bacteria responsible for acne vulgaris. The bacterium promotes inflammation along with chemotactic factors, lipolytic and proteolytic enzymes in acne. The enzymes due to hydrolytic action convert triglycerides present in the glands into free acids that aggravate inflammation and edema. This further leads to breakdown of the follicular wall. The major reasons behind inflammation are higher sebum production, release of pro-inflammatory mediators and activity of the bacteria.[11,43]

Pathogenesis

The major etiology of acne includes high levels of sebum production, sebocyte differentiation and inflammation by virtue of Propionibacterium acne. The anaerobic gram positive bacteria is typically present on normal skin flora but grows rapidly on the areas of skin which are preferably block and have high levels of sebum. This causes inflammation and converts triglycerides into fatty acids which are presents in the glands. The bacterium also promotes Proinflammatory mediators and cytokines.[14]

The pathogenesis of *acne vulgaris* associated with multifactorial process involves follicular hyperkeratinization, obstruction and increased sebum production. *P.acnes* binds to immune receptors and stimulates inflammation. Microcomedones are caused by obstruction in the follicular orifice due to follicular hyperkeratinization and deposition of keratinocytes. Comedones can be classified as open and closed Comedones. Open Comedones are visible and easily

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IJMPR 2021, 5(3), 198-203

International Journal of Modern Pharmaceutical Research
www.ijmpronline.com

ISSN: 2319-5878
IJMPR
Review Article
SJIF Impact Factor: 5.273

A REVIEW ON HOLY IMPROVING PLANT *NYCTANTHES ARBOR-TRISTIS LINN.* (NIGHT JASMINE) WITH MONSTER THERAPEUTIC POSSIBILITIES

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Received on: 03/05/2021
Revised on: 23/05/2021
Accepted on: 13/06/2021

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ABSTRACT

The current study of this review is exploration and compiling the comprehensive information of *Nyctanthes arbor-tristis* Linn and find out some medicinal values, therapeutic use, chemical properties, pharmacological actions and some of biological activities so can emphasizes the need for further exploring available information. A traditional plant *Nyctanthes arbor-tristis* Linn is a most useful medicinal plant found in India. Every part of this plant having different kind of medicinal properties and values thus it is commercially exploitable. *Nyctanthes arbor-tristis Linn* commonly known as Harsingar or Parijat is a traditional herbal medicine which is being used to treat the rheumatism and inflammatory diseases. It is also known as a night jasmine. Night jasmine is widely distributed in sub-Himalayan regions to southwards to Godavari.

KEYWORDS: Nyctanthesarbor-tristis Linn., Night jasmine, rheumatism, Biological activity, Therapeuticactions.

INTRODUCTION

Nyctanthes arbor-tristis Linn 'a night time flowering sad tree' of own family Oleaceae (Nyctaginaceae) is well known in India and its neighbouring international locations as one of the maximum flexible medicinal plant lives having a wide spectrum of biological sports and is widely cultivated in tropical and subtropical areas all over the international. It is a terrestrial woody perennial having life span of five - twenty years. It is mostly a shrub or a small tree having brilliant, incredibly fragrant plant life, which bloom at night and fall off earlier than sunrise, giving the floor below a pleasant combination of white and crimson. Thus, at some point of the day the plant loses all its brightness and hence is known as "Tree of sadness" *(arbor-tristis)*. It is likewise referred to as Harsinghar, Coral Jasmine, Parijat, queen of the night and night time flowering jasmine.[1] It is also generally known as a Night jasmine.[11-12] The use of the medicinal flowers and plant parts for curing illnesses or diseases has been documented in history of all civilizations. The interest in medicinal and fragrant flowers has been shown all over the world because of their safe and effective energetic principles.[2-5] Folk human beings of Tripura expect the weather and rainfall variant via flowering phenology of night flowering jasmine which help them to plan agroforestry activities and catastrophe prevention.[6,7] Every part of the tree has been used as traditional medication for family remedies against numerous human illnesses from antiquity.[8]

Figure-1: *Nyctanthes arbor-tristis* Linn.

Name of the plant in different languagesas below:

English	:	Night jasmine
Hindi	:	Harsingar
Bangali	:	Sephalika
Sanskrit	:	Parijatha
Kannada	:	Parijatha
Malayalam	:	Parijatakam
Marathi	:	Parijathak
Gujarathi	:	Javaparvati
Oriya	:	Gangasiuli

Morphology

Nyctanthes arbor-tristis Linn is a huge shrub growing up to 10 m tall, with quadrangular branches and flaky gray difficult bark. The leaves are tough, furry, decussately opposite, easy, 6–12 cm lengthy, 2-6 cm extensive with a whole margin. The vegetation is organized at the hints of branches terminally or inside the axils of leaves and are

IJMPR 2021, 5(3), 247-251

International Journal of Modern Pharmaceutical Research
www.ijmpronline.com

ISSN: 2319-5878
IJMPR
Review Article
SJIF Impact Factor: 5.273

REVIEW ARTICLE ON NOVEL OPERATING POLICIES, PURPOSES AND PROCEDURES FOR THE STANDARD PHARMACY PRACTICE FOR INDIAN HOSPITALS

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Received on: 20/05/2021
Revised on: 10/06/2021
Accepted on: 30/06/2021

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ABSTRACT

Health and socioeconomic developments are so closely interrelated that it is impossible to achieve one without the other. Although economic development in India has been gaining momentum over the past decade, our health system is at crossroads. Even though government initiatives in public health have recorded some remarkable success over time, the Indian health system is ranked 118 among 191 WHO countries on the health programme. The vision and mission statement of an organization is to help it in preparing the policies and guidelines for its smooth operation. The vision and mission statements need to be published and popularized among the staff and the public as guiding principles for the optimum functioning. The hospital pharmacy should function within the administrative and financial policy of the hospital. Nevertheless, the pharmacy can have its own policy and planning majors to improve the quality and efficiency in service.

KEYWORDS: pharmacy practice; hospital pharmacy; policies, counseling.

INTRODUCTION

A hospital, in the modern sense of the word, is an organization utilizing combinations of complex, specialized scientific equipments and functioning through a group of trained persons educated to meet the challenges of modern medical science. These are all blended together with the common objective of restoration and preservation of good health. A hospital is an institution that provides facilities by trained personnel to facilitate the work of the physician in his/her primary position relating to care of the patient, who is central to all activities performed in all hospitals. The medical and the para-medical staff including nurses, pharmacists, laboratory technicians and dieticians is the most important in providing quality services to patients. Hospitals has been assuming increasing responsibility for programs of prophylactic medicines to serve as the medium of many communities through which expert staff and official health agencies direct their activities for improvement of public health.[6]

Hospital offers means and methods by which persons can work together in groups with the purpose of care of hospital department, patient and community. It enhances the value of law and general principles of medical practice. It provides a common link between the general public and policy makers. It lowers the frequency of disease through early detection and treatment. It participates in and conducts safely and infection control programs.

Realizing that a new hospital must have immediate organization and guidelines for interdepartmental, cohesiveness and mutual understanding, these proposed policies are more general in scope that than of a more mature hospital. As all policies develop with broader scope and responsibility as the hospital assumes more programs (e.g. Clinical Pharmacy) and expertise, so will the new policies of operations. Understanding the desire of India to furnish and provide its people with the very best in medical care, the proposed policies and procedures will develop with this goal as its own.[9,10]

The main objective will be to provide the most accurate and efficient methods of providing medications and intravenous solutions to the patients by the implementation of a total Unit Dose Drug Distribution system and an Intravenous Admixture Program, a Drug Information Center for the information and the most up to date and current publications on Drugs and Drugs Therapy.

Health Care in India

Currently there are over a million pharmacists in India with around 55 % of them in community, 20 % in hospital, 10 % in industry & regulatory & 2 % in academia In India, formal pharmacy education leading to a degree began in 1937, with the introduction of a 3-