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Stachytarpheta urtifolia Leaves**

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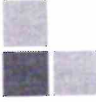
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Exploring the Antioxidant and *In Vitro* Anti-Diabetic Properties of *Stachytarpheta urtifolia* Leaves

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ABSTRACT

Diabetes mellitus is a chronic metabolic disorder caused by carbohydrate, fat, and protein metabolism problems. Genetic predispositions and environmental influences contribute to the disease, presenting significant challenges to patients' health. There are two types of diabetes, Type I and Type II. Both lead to elevated blood glucose levels (hyperglycemia). Several complications are associated with persistent hyperglycemia, including microvascular problems affecting the eye, kidneys, and nerves, as well as macrovascular problems like accelerated artery hardening, which increases heart disease, stroke, and peripheral artery disease risks. It is essential to focus on the prevention and management of diabetes-related complications in order to mitigate their impact on micro and macrovascular health. It is important to consider alternative treatment options as these medications can pose undesirable side effects. Medication, dietary adjustments, and regular exercise are all part of comprehensive diabetes management. Our study was aimed of the present study is to explore the anti-oxidant and anti-diabetic activity in the leaves of *Stachytarpheta urtifolia*. A comprehensive study was conducted to examine *Stachytarpheta urtifolia*, a traditional botanical remedy, for its phytochemical composition, antioxidant potential, and effectiveness against diabetes. In this study, *Stachytarpheta urtifolia* was found to exhibit significant diabetic-fighting and anti-oxidant properties. In addition to phenolic compounds, flavonoids, alkaloids, and terpenoids, *Stachytarpheta urtifolia* contains hundreds of bioactive compounds. Phytochemicals such as these, which possess anti-oxidant and anti-diabetic properties, are considered to be promising therapeutic choices for humans who are suffering from diabetes or metabolic disorders. *Stachytarpheta urtifolia* has shown remarkable antioxidant activity over the past few decades, which has been demonstrated to be helpful in preventing oxidative damage and preventing the onset of chronic diseases like diabetes by battling free radicals and combating oxidative stress. The *in vitro* studies of *S. urtifolia* were conducted in order to evaluate its anti-diabetic potential. There have been studies conducted *in vitro* that examined key enzymes associated with carbohydrate metabolism in an attempt to determine whether *Stachytarpheta urtifolia* inhibits carbohydrate digestion and absorption by inducing moderate inhibitory effects on amylase, glucose oxidase, and glucose uptake. There was no doubt that *S. urtifolia* is capable of reducing complications associated with diabetes and these findings suggest that it may be useful for patients with diabetes who need to mitigate these complications. As part of this study, we examined *S. urtifolia*, a well-known traditional plant, for its phytochemical composition and potential anti-oxidant and anti-diabetic effects. The anti-

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INTRODUCTION:
 Diabetes mellitus:

KEYWORDS: Antioxidant, *Stachytarpheta urtifolia*, Anti-Diabetic, Plant Extract.

on the results of this study, *S. urtifolia* might be of benefit to diabetic patients as a therapeutic agent.
 oxidant potential of *S. urtifolia* and its moderate anti-diabetic activity were also found in our study. Based
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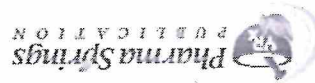
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 macrovascular problems like accelerated artery hardening, which increases heart disease, stroke, and
 hyperglycemia, including microvascular problems affecting the eye, kidneys, and nerves, as well as
 elevated blood glucose levels (hyperglycemia). Several complications are associated with persistent
 significant challenges to patients' health. There are two types of diabetes, Type I and Type II. Both lead to
 problems. Genetic predispositions and environmental influences contribute to the disease, preventing
 Diabetes mellitus is a chronic metabolic disorder caused by carbohydrate, fat, and protein metabolism

ABSTRACT

M. Palawat^{1*}, Shaik, Dishaq Begum¹, Anowar Hussain², Chithra Leela Sanyasath²,
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Formulation and evaluation of immediate-release capsules of pregabalin

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The aim is to develop and evaluate capsules with various excipient compositions that satisfy the reference product's specifications to achieve an in-vitro correlation with the reference product after that. Pregabalin I.R. capsules were formulated using Corn starch, Dibasic calcium phosphate, Lactose anhydrous, and Avicel pH 102(Microcrystalline cellulose). After compatibility studies for the capsule blend were completed, the Drug was determined to be compatible with all excipients used in various formulations. After the blend was put into capsules, several metrics were examined, including average weight, disintegration, and assay. The formulation containing D.C.P. disintegrates at a faster rate than other formulations. It was discovered that the percentage of drug release in the F7 in vitro dissolving profile was equal to that of the innovator product. Finally, it was concluded that the F7 formulation is better and similar to the innovator product.

Keywords:

Immediate release, Capsules, Pregabalin

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INTRODUCTION

Infusions of entire plants have become less common as medical advances. Parts of plants, such as leaves and roots, are being ground up more and more, and by the 19th century, some of their active

components were being recognized and chemically created. Novel compounds and minerals with therapeutic potential were found. Powdered and liquid forms of several medications were made. The capsule and tablet, today's most widely used and precise dosing systems, are the products of methods to hide the taste of these drugs, make them more pleasant, and facilitate swallowing. Large-scale commercial production is carried out these days. Previously, the chemist made these items on a limited scale in the pharmacy. Hard and soft capsules are the two types of capsules available. Use hard capsules for powdered or semi-solid formulations; for liquids, use soft capsules [1]. In France, hard capsules were first created in 1833. They had two parts, a body, and a lid, and were (and still are) made of gelatin; the pharmacy filled them once they were

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A STUDY ON ETHANOLIC EXTRACT OF *PAVONIA PROCUMBENS* LEAVES: *INVITRO* ANTI-ANXIETY AND ANTI-DEPRESSANT ACTIVITY ON ADULT ZEBRA FISH

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ABSTRACT

The utilization of plants in herbal medicine, often referred to as "herbology" or "herbal medicine," has a rich history spanning back to prehistoric times. These medicinal plants encompass various plant parts, including fruits, seeds, stems, bark, flowers, leaves, roots, and more, with their use extending beyond medicinal purposes to food, perfume, and even spiritual practices. Depression was a prevalent mental illness affecting approximately 264 million people worldwide, with women being more affected than men. Symptoms included sadness, lack of motivation, guilt, fatigue, and difficulty concentrating, often leading to challenges in completing daily tasks and even suicidal thoughts. Treatment options included talking therapies like cognitive behavior therapy, psychotherapy, and, for moderate to severe cases, antidepressants. Our study was aimed to assess the anti-anxiety and anti-depressant properties of ethanol extracts of *Pavonia procumbens* in adult zebrafish (*Danio rerio*). Fresh leaves of *Pavonia procumbens* were harvested from a local area in Andhra Pradesh, during December. Conventional medications are associated with side effects and addiction risks that present challenges in treating anxiety and depression. Finding effective treatments for these disorders is challenging due to their neurological nature. Botanical-based medications were investigated as an alternative, with *P. procumbens* proving particularly effective. A zebra fish study aimed to exploit ethanol's anxiety-inducing properties as well as reserpine's depression-inducing properties using the herb extract. The extract showed minimal toxicity in acute toxicity tests. However, the plant extract did not show any significant anti-anxiety or anti-depressant effects compared to drugs such as buspirone and fluoxetine. In light of these findings, more research is needed to better understand and isolate the therapeutic potential of medications derived from *P. procumbens* for depression and anxiety.

KEYWORDS: Zebra Fish, *Pavonia procumbens*, Anxiety, Depression.

Introduction: The utilization of plants in herbal medicine, often referred to as "herbology" or "herbal medicine," has a rich history spanning back to prehistoric times. These medicinal plants encompass various plant parts, including fruits, seeds, stems, bark, flowers, leaves, roots, and more, with their use extending beyond medicinal purposes to food, perfume, and even spiritual practices.



Formulation and evaluation of bioadhesive suppository dosage form

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Article History:



Abstract

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Keywords:

Formulation,
Evaluation,
Bioadhesive,
Suppository,
Dosage form

The current study aims to formulate and evaluate a dosage form for bio-adhesive suppositories. Using CB and HPS (CE and SS) as suppository bases, optimized manufacturing techniques successfully made suppositories containing bio-adhesive polymers (CBP, PVP, HPMC, and CMCTS). Analyzing dosage forms is crucial to determining the quality of a product. The suppositories produced in this investigation had good weight consistency, with minimal variation ($\pm 1\%$) between the goal and actual weight. All formulations showed melting values between 32.5 and 35.5 degrees Celsius, while the melting points of suppositories made with CB and SS were 1-2 degrees Celsius greater than those of CB suppositories. Incorporating bio-adhesive polymers did not cause a substantial change in the suppositories' melting point (less than $\pm 1^\circ\text{C}$), keeping it around body temperature and appropriate for rectal administration. More than 95% of the required DCNA content was present in every formulation tested. All formulations, however, had softening durations of three to seven minutes, which was suitable for rectal medication delivery. The physical characteristics of the suppositories this chapter looked at were determined to be appropriate for administration by the rectal route. Compared to CB suppositories, HPS suppositories have an additional benefit due to their longer softening time and melting point of $34.5 \pm 1^\circ\text{C}$.

*Corresponding Author

INTRODUCTION

With the best patient acceptability rate, oral drug delivery is still the most popular method of drug administration. Nonetheless, taking medicine orally isn't always the best course of action. For instance, medications like salbutamol, diclofenac sodium (DcNa), and lidocaine go through a lot of first-pass metabolism or pre-systemic degradation. On the other hand, drugs given to the lower rectum bypass the hepatic first-pass metabolism and are mostly absorbed into the bloodstream, providing higher bioavailability [1].

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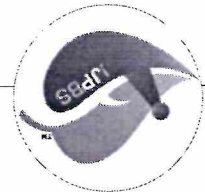
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Preliminary Phytochemical Screening of Tecoma Stans

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In the present study, an attempt was made to investigate Phytochemical evaluation of different parts of *Tecoma Stans*. The crude drug powder extracts of the leaves of the above plants were taken for the study. The Phytochemical Screening was done for the selected plants.

Keywords

Phytochemical screening, *Tecoma Stans*

INTRODUCTION:

Herbal medicine also known as botanical medicine or phytomedicine-refers to using plants seeds, flowers, roots for medicinal purpose. Herbalism has a long tradition of use of outside of conventional medicine. It is becoming more main stream as improvements in analysis and quality control along with advances in clinical research show the value of herbal medicine in the treating and preventing disease. The medicinal action of plants is unique to a particular plant species, consistent with the concept that the



Tecoma stans twig

EXPERIMENTAL SECTION: Plant Materials

The different parts of plants *Tecoma Stans* were authenticated by Mrs N Deepa Ramani, Associate Professor Nimra College of Pharmacy. They were collected from different areas of NTR district of Andhra Pradesh.

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Deepa madan

A Novel Drug Delivery System Through Quantum Dots in Pharmaceutical Applications - A Review

Dr.G.Surendra¹, Dr.Sathvik B. Sridhar², M.Ramakrishna Reddy³, Srikala Kamireddy⁴, Dr. Ch K V L S N Anjana MALE⁵, Kota Sandhya⁵, D Veeresh⁵

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KEYWORDS

Quantum dots, pharmaceutical applications, diagnosis, Bioimaging process

ABSTRACT:

Owing to their small size and quantum confinement effects, semiconductor nanoparticles called quantum dots (QDs) exhibit unique electrical and optical capabilities. QDs have been studied for drug delivery, bioimaging, and sensing for pharmaceutical applications. QDs may be used in customized medicine in the future. Targeting disease biomarkers with QDs improves diagnosis and treatment. QDs can also be employed with other nanoparticles in multifunctional drug delivery and imaging systems. Targeted drug delivery systems can be prepared by coating the QDs with biocompatible polymers. Due to their intense fluorescence, QDs can also be utilized as contrast agents in bioimaging. They are promising for various applications, including bioimaging, because of their narrow emission spectra, high brightness, and long-term photostability. Dots have enormous medicinal potential owing to their unique features. Their use in drug delivery, bioimaging, and sensing has been extensively studied, and their future application in personalized medicine is promising. Further research is needed to address concerns about their toxicity and investigate alternative ingredients for their synthesis.

1. Introduction:

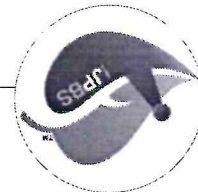
Quantum Dots (QDs) are 1-10 nanometer semiconductor nanoparticles[1,2]. Their narrow emission spectrum, high brightness, and long photostability are attributed to their small size[3-5]. QDs are used in electronics, optoelectronics, catalysis, and biomedicine[6-10].

QDs improve the display and lighting of electronics. QD-based LED lighting and display panels deliver high-quality, energy-efficient illumination with a wider color spectrum and better color saturation[11]. Owing to their high absorption coefficients and tunable bandgaps, QDs are considered for next-generation solar cells that have produced high-performance photodetectors, sensors, and lasers in optoelectronics. QDs are appealing for optoelectronic applications owing

to their unique optical and electrical features[12-15]. QD lasers, owing to their wide emission wavelength range and strong optical gain, are interesting options for telecommunications and other applications[16-20]. QDs are used as photocatalysts for water splitting and CO₂ reduction. QDs transform light energy into chemical energy to power chemical reactions. QDs are also photocatalysts for air and water cleaning, making them environmentally friendly [21-26].

QDs have been utilized for bioimaging and medication delivery. QDs coated with biocompatible materials can deliver medications to specific cells or tissues. Owing to their strong fluorescence, QDs can be used as bioimaging contrast agents for the high-resolution imaging of biological structures and processes. QDs have





Preliminary Phytochemical Screening of *Cassia Angustifolia*

Jakubi Ahmed, Monjuma Parbin, M Kavya Sri, P V Mallika, Y Vijaya Lakshmi, N Deepa Ramani and Averineni Ravi Kumar
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In the present study, an attempt was made to investigate phytochemical evaluation of different parts of *Cassia angustifolia*. The crude drug powder extracts of the leaves of the above plants were taken for the study. Phytochemical screening was done for the selected plants.

Keywords

Phytochemical screening, *Cassia angustifolia* *****

INTRODUCTION

Herbal medicine, also known as botanical medicine or phytomedicine-refers to using plants seeds, flowers, roots for medicinal purposes. Herbalism has a long tradition of use outside of conventional medicine. It is becoming more mainstream as improvements in analysis and quality control along with advances in clinical research show the value of herbal medicine in treating and preventing disease. The medicinal action of plants is unique to a particular plant species, consistent with the concept that the combination of secondary metabolites in a particular plant is taxonomically distinct for three medicinal plants and their description and uses respectively.

EXPERIMENTAL SECTION

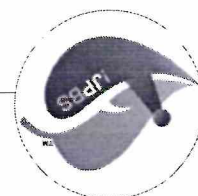
Plant Materials

The different parts of the plants *Cassia angustifolia* were authenticated by Mrs. N Deepa Ramani Associate Professor Nimra College of Pharmacy They were collected from different areas of NTR district of Andhra Pradesh.

Figure 1: A twig of *Cassia angustifolia*



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Preliminary Phytochemical Screening of

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In the present study, an attempt was made to investigate Phytochemical evaluation of different parts of *Ocimum sanctum*. The crude drug powder extracts of the leaves of the above plants were taken for the study. The Phytochemical Screening was done for the selected plants.

Keywords

Phytochemical screening, *Ocimum sanctum* *****

INTRODUCTION

Herbal medicine also known as botanical medicine or phyto-medicine-refers to using plants seeds, flowers, roots for medicinal purpose. Herbalism has a long tradition of use of outside of conventional medicine. It is becoming more mainstream as improvements in analysis and quality control along with advances in clinical research show the value of herbal medicine in the treating and preventing disease. The medicinal action of plants is unique to a particular plant species, consistent with the concept that the

EXPERIMENTAL SECTION

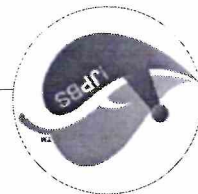
Plant Materials

The different parts of plants *Ocimum sanctum* were authenticated by Mrs N Deepa Ramani Associate Professor Nimra College of Pharmacy They were collected from different areas of NTR district of Andhra Pradesh.

A twig of *Ocimum sanctum*



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Preliminary Phytochemical Screening of *Azadirachta Indica*

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In the present study, an attempt was made to investigate Phytochemical evaluation of different parts of *Azadirachta indica*. The crude drug powder extracts of the leaves of the above plants were taken for the study. The Phytochemical Screening was done for the selected plants.

Keywords

Phytochemical screening, *Azadirachta indica* *****

INTRODUCTION

Herbal medicine also known as botanical medicine or phytomedicine refers to using plants seeds, flowers, roots for medicinal purpose. Herbalism has a long tradition of use of outside of conventional medicine. It is becoming more mainstream as improvements in analysis and quality control along with advances in clinical research show the value of herbal medicine in the treating and preventing disease. The medicinal action of plants is unique to a particular plant species, consistent with the concept that the



A twig of *Azadirachta indica*

EXPERIMENTAL SECTION

Plant Materials

The different parts of plants *Azadirachta indica* were authenticated by Mrs N Deepa Ramani Associate Professor Nimra College of Pharmacy They were collected from different areas of NTR district of Andhra Pradesh.

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Principal

Formulation and Evaluation of herbal ointment to treat psoriasis with *Indigofera aspalathoides*

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The current study aims to prepare an herbal ointment using several extracts of the complete *Indigofera aspalathoides* plant and assess the extracts' antimicrobial effectiveness for psoriasis. The entire plant's morphological and physicochemical characteristics were evaluated. Different extracts of powdered whole plant were made, and these extracts underwent phytochemical analysis. Alkaloids, carbohydrates, flavonoids, steroids, and other phytoconstituents were all present in the ethanolic extract. The extracts' antimicrobial activity was examined throughout. Even at low concentrations, the ethanolic and acetone extracts demonstrated promising efficacy and a maximum zone of inhibition. The antifungal activity of the ethanolic extract was assessed at 4%w/w and 2%w/w concentrations in an ointment formulation. The antifungal activity of the ointment made with ethanolic extract was on par with that of regular clobetasol cream. The ethanolic extract cream's activity was shown to outperform that of the typical ointment.

Keywords:

Herbal ointment, psoriasis, ethanolic extract, antimicrobial, *Indigofera aspalathoides*

INTRODUCTION

Around 80% of the world's population receives primary healthcare from herbal remedies, mostly in developing nations. They have endured over time because of their safety, effectiveness, cultural acceptability, and lack of adverse consequences. In addition, herbal remedies for age-related illnesses such as memory loss, osteoporosis, osteoarthritis, diabetes, immune system, liver, and other ailments are mentioned in ancient literature. For these conditions, palliative care is the only treatment available. Since their chemical components are involved in the physiological processes of live plants, they are thought to be

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A REVIEW ON THE PROPERTIES AND PHARMACOLOGICAL STUDIES OF

ACALYPHA INDICA

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INTRODUCTION:

Acalypha indica, commonly called Indian nettle or cat's tail, is a flowering plant belonging to the Euphorbiaceae family. This herbaceous perennial is native to tropical regions and is found across Asia, Africa, and the Pacific Islands, typically growing to heights of 1 to 2 meters.

Characteristics

- **Leaves:** The plant has large, dark green leaves that are ovate to lanceolate in shape, reaching lengths of up to 15 cm.
- **Flowers:** *Acalypha indica* produces small, clustered flowers in spike-like formations. These flowers are generally red or greenish and are attractive to various pollinators.

ABSTRACT:

Acalypha indica is a medicinally significant plant with a rich phytochemical profile, making it a valuable resource in traditional and modern herbal medicine. Its constituents, including flavonoids (quercetin, kaempferol), tannins, saponins, alkaloids, and essential oils, contribute to a broad range of pharmacological effects. *Acalypha indica* exhibits notable anti-inflammatory properties, aiding in conditions such as arthritis, and possesses antimicrobial activity effective against bacterial and fungal pathogens. Its antioxidant properties help neutralize free radicals, reducing oxidative stress, while its analgesic effects relieve pain, including headaches and muscle aches. Additionally, it shows anti-diarrheal activity for gastrointestinal disorders and hepatoprotective benefits for liver health. This diverse therapeutic potential highlights *Acalypha indica* as a promising candidate for further research and application in modern healthcare.

KEYWORDS: *Acalypha indica*, Medicinal Uses, Pharmacological Properties

A REVIEW ON THE PROPERTIES OF THE PLANT AERVA LANATA

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INTRODUCTION:

Aerva lanata is an intriguing plant with a well-defined taxonomic classification. Below is a comprehensive breakdown of its classification and characteristics [1].

ABSTRACT:

Aerva lanata, often referred to as "Aerva," is a flowering plant from the *Amaranthaceae* family, thriving in tropical and subtropical regions, particularly in parts of Africa and Asia. This plant is recognized for various traditional medicinal uses, with health benefits acknowledged across different cultures. Traditionally, *Aerva lanata* is known for its diuretic properties, promoting urine production to aid in flushing out toxins and excess salts, which can be beneficial for conditions like urinary tract infections and kidney stones. Its anti-inflammatory effects are utilized to alleviate symptoms of arthritis and rheumatism, while research suggests its antimicrobial properties may be effective against infections caused by bacteria and fungi. Additionally, the leaves and stems of *Aerva lanata* are applied topically for wound healing, aiding in recovery and infection prevention. Rich in antioxidants, *Aerva lanata* may help combat oxidative stress, reducing the risk of chronic diseases. It has also been traditionally used for digestive health, addressing issues such as diarrhea and dysentery, and is employed in some cultures for respiratory relief, including alleviating coughs and colds, likely due to its anti-inflammatory and antimicrobial effects. Furthermore, herbal practitioners sometimes recommend *Aerva lanata* to manage menstrual irregularities and related discomfort.

Properties

KEYWORDS: *Aerva lanata*, Medicinal Uses, Pharmacological

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A REVIEW OF PALM OIL ADULTERATED AGAINST HEART ATTACKS

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ABSTRACT:

Adulterated palm oil, often mixed with cheaper oils or other substances, can pose significant health risks. Its consumption may elevate the risk of heart attacks, mainly due to its high saturated fat content. Diets rich in saturated fats can raise cholesterol levels, leading to atherosclerosis and other cardiovascular issues. Choose Quality: Select pure, high-quality palm oil or healthier alternatives like olive or canola oil. Limit Intake: Reduce your overall saturated fat intake and aim for a balanced diet filled with fruits, vegetables, whole grains, and lean proteins. Stay Informed: Pay attention to food labels and sources to avoid adulterated products.

KEYWORDS: Palm Oil, Heart Attacks, Adulterated

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Research Article

FORMULATION AND INVITRO EVALUATION OF NANO SUSPENSIONS OF NATEGLINIDE USING POLOXOMER AS POLYMER

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ABSTRACT

Several pharmaceuticals are lipophilic today, and many of them are soluble in water only in small amounts, especially anti-diabetic pharmaceuticals like Nateglinide. As a result of the low water solubility of this medicine, its bioavailability and effectiveness are significantly reduced. A new class of oral hypoglycemic drugs is being developed to control blood glucose fluctuations following meals. Even though it doesn't work like sulfonylureas, a lot of metabolic processing occurs during its first passage through the body, limiting its bioavailability. Drug particles are dispersed in colloidal dispersion with surfactants to make nanosuspensions. Low soluble and high permeable chemicals present significant challenges to formulators. In our study, we examined the spectra of medication, pure polymers, and nanosuspension formulations for their biological properties. There was no significant interaction between the medication and polymer. In vitro drug release, penetration efficiency, amount of drug, surface morphology, and yield were examined in the formulations. It was found that drugs are distinctive, round, and smooth in nanosuspensions. A very rapid release of Nateglinide was observed in vitro, followed by a very slow release of the drug during a later period of time. When the nanoparticle is first released, some of the drug remains on the surface of the nanoparticle in a rapid first release situation. When compared to other formulations, NNF4 is found to have the best performance regarding the release of a drug than those other formulations. There is a clear preference for Peppas and Higuchi's models regarding drug release, while R2 values tend to indicate a greater release rate in all formulations. We found the 'n' value to be less than 0.50 for all formulations. This indicates a Fickian diffusion mechanism is likely to be involved.

INTRODUCTION

Capillary basement membrane thickening is associated with hyperglycemia and negative nitrogen balance. It occurs when vessels wall matrix is abnormal and cells proliferate, causing ketoacidosis [1]. Atherosclerosis and glomerular capillary sclerosis can also result as well as retinopathy, neuropathy, and peripheral arterial insufficiency [2,3]. Ketosis is more prevalent in patients with type I diabetes who have low insulin levels. This type is less common and has low genetic predisposition [4]. 10% of diabetics have type II diabetes. Peripheral

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When repaglinide is taken, insulin is released rapidly and for a short time. Short-acting medications may cause less hypoglycemia since they are shorter then.

thiazolidinedione acidosis have been introduced since glucosidase inhibitors, and drugs targeting advance by developing a sulfonylurea tobutamide [8]. It was soon followed by many others. Meglitinides, - these oral drugs. It became possible to exploit this occur. Blood sugar levels are effectively lowered with hypertensive patients [6,7], but hypoglycemia does not in insulin receptors [5]. Insulin resistance is common in tissues become less sensitive to insulin due to reduction

Keywords Nateglinide, Nanosuspension, Fickian Diffusion, Oral Hypoglycemic Drugs.

FORMULATION AND INVITRO EVALUATION OF NANO SUSPENSIONS OF NATEGLINIDE USING POLOXOMER AS POLYMER

Bhagya Sri T^{1*}, Cherukuri Vidyalatha chowdary¹, Pallavi M¹, Reshma Kaja¹, Muthineni Bharath Chandra²

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LEONOTIS NEPETIFOLIA ETHANOLIC EXTRACT EVALUATED FOR ITS ANTI-UROLITHIATIC ACTIVITY IN VITRO

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ABSTRACT

Drugs that increase urination are known as diuretics. Acute oedema of the lung, nephrotic oedema syndrome, arterial hypertension, and fluid retention diseases may be treated with these drugs, which act on the kidney to increase urine excretion. Minerals that are solid and non-metallic and adhere to the urinary tract are referred to as urolithiasis. Worldwide, there are millions of people suffering from urolithiasis. A kidney stone is formed when promoters and inhibitors in the kidney are imbalanced. In the world, 12% of the population develops renal stones, with men causing 70% to 80% of the cases, and women experiencing 47-60% of the cases. Supersaturation, nucleation, growth, aggregation, and retention of the molecules within the kidneys are some of the stages involved in this process. This study aimed to evaluate in-vitro antiurolithiatic activities of ethanolic extracts of *Leonotis nepetifolia* whole plants. The whole plant of *Leonotis nepetifolia* were collected from the roadside area of Aditya Group of Institutions. The freshly collected plant were cleaned from dirt, dried under shade and then coarsely powdered manually. The powder was macerated in ethanol for a period of 7 days and course of turbidity changes in artificial urine due to calcium oxalate crystallization after adding sodium oxalate solution determined the effect of extract on calcium oxalate precipitation. Turbidity at 620nm was measured using a UV-VISIBLE spectrophotometer to study calcium oxalate precipitation at 37°C and pH 6.8. The use of this plant in drug development may be possible as a result of this research. The extract should, however, be studied in animal models of lithiasis to find out how it works. Since the observed activity of the plant extract is due to other phytochemicals in it, it is vital to further analyse and isolate the major active components.

Keywords: *Leonotis Nepetifolia*, Plant Extract, Therapeutic Efficacy, Anti-Urolithiatic Activity.

INTRODUCTION

An increase in urination is caused by diuretics [1]. Drugs of this type act on the kidneys and are able to increase urine excretion, which is why they are commonly prescribed for cardiac failure, chronic and moderate cardiac insufficiencies, acute oedema of lung, nephritic oedema syndrome, arterial hypertension, and diseases associated with fluid retention [2]. Solid nonmetallic minerals accumulate in the urinary tract due to urolithiasis [3]. The problem of urolithiasis is widespread around the world. Approximately 12% of the world's population suffers from

kidney stones with a recurrence rate of 70-80% in men and 47-60% in women. Kidney stone formation, or urolithiasis, is a complex process caused by imbalances between promoters and inhibitors. It is the result of a series of physical processes, including supersaturation, nucleation, growth, aggregation, and retention inside the kidneys [4]. Calcium stones mostly occur in men, while phosphate stones mostly occur in women. The pathogenesis of lithiasis seems to be multifactorial and complex. Medical management of lithiasis today includes lithotripsy and surgical procedures and local calculus disruption with high-power laser is rarely employed

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