

#### on

"Herbal Era - Role of Indian Herbal Medicine for Combating Covid 19: Scientific and Medical Aspects"

Under

Grant for Organizing Conference (GOC) Scheme

27th Jan-28th Jan 2022

**ORGANIZED BY** 

#### ORIENTAL COLLEGE OF PHARMACY

(A Constituent of Oriental Group of Institutes)

(Approved by PCI & AICTE, New Delhi & Govt. of M.P Affiliated to Rajiv Gandhi Proudyogiki Vishwavidyalaya, Bhopal)

Oriental Campus, Raisen Road, Bhopal-462021 (M.P) India



# Message from the Chairman (Oriental Group of Institute) & Chancellor Oriental University Indore (M.P)

It gives me great pleasure to know that AICTE Sponsored Two Days National E-Conference on "Herbal Era- Role of Indian Herbal Medicine for Combating COVID 19: Scientific and Medical Aspects" is being organized by Oriental College of Pharmacy, Bhopal.

I always feel that educational institutes have a duty to perform towards updating of knowledge through their persistent research efforts.

I am sure that this conference will be very successful and shall achieve its aim of creating more awareness about Herbal Era- Role of Indian Herbal Medicine for Combating COVID-19 among students and scholars of pharmacy.

I wish that type of conference should remain a regular feature of the college.

Shri. Praveen Thakral Chairman, OGI, Bhopal honourable Chancellor, Oriental University, Indore (M.P.)



#### **Message from Pro-Chancellor Desk**

Days National E-Conference on "Herbal Era- Role of Indian Herbal Medicine for Combating COVID 19: Scientific and Medical Aspects" among the young innovators in particulars and pharmacy fraternity in general. Oriental is known for its world class infrastructure and thereby promoting research climate in the educational institutes and it's my personal passion to gives the best facilities for advancement of knowledge and innovations.

I am sure this conference will boost the overall research endeavors throughout the country.

My best wishes to the participants of the conference which is being organized by Oriental College of Pharmacy on January 27<sup>th</sup> & 28<sup>th</sup>, 2022.

Er. Gaurav Thakral Honourable Pro-Chancellor Oriental University, Indore (M.P.)



#### Message from Chief Executive Officer (CEO) Desk

I am glad to know that Oriental College of Pharmacy, Bhopal is organizing AICTE Sponsored Two Days National E-Conference on "Herbal Era- Role of Indian Herbal Medicine for Combating COVID 19: Scientific and Medical Aspects" which is supported by All India Council For Technical Education, New Delhi.

I am sure that the students, research scholars, academicians and other participants will immensely benefitted from this conference.

My best wishes to organizers and all the participants being a part of this scientific event.

Shri R. K. Sahni CEO Oriental Group of Institutes Bhopal (M.P.)



#### **Message from the Executive Director**

For the conference theme "Herbal Era- Role of Indian Herbal Medicine for Combating COVID 19: Scientific and Medical Aspects" Oriental College of Pharmacy, Bhopal received overwhelming response of academics and research scholars from various parts of the country.

I am sure the contributed posters are going to benefit the pharmacy students, researchers in a big way. This conference, I consider is a step forward in this direction.

Faculty members, scholars and students of Pharmacy would find the conference very engrossing and enriching. Some renowned names of the pharmacy world are going to enlighten them on this occasion.

I want to convey my thanks to all the participants and wish them a healthy and innovative India.

Dr. P. K. Chopra
Executive Director
Oriental College of Pharmacy
Bhopal (M.P.)



#### **Message from the Convener- cum-Coordinator of National Conference**

Oriental College of Pharmacy is organizing AICTE Sponsored Two Days National E-Conference on "Herbal Era- Role of Indian Herbal Medicine for Combating COVID 19: Scientific and Medical Aspects" under Grant for Organizing Conference (GOC) scheme.

I give my heartfelt gratitude to All India Council for Technical Education, New Delhi Which supported us and gave the opportunity to organize this conference.

As a Convener and Coordinator of the National Conference I would like to invite all the Students, Researchers, Academicians and the Industry delegates to step forward and attend this conference and make it successful.

I would also invite them to participate in the e-poster competition and show us their strength and brilliance in the respective field.

I am also thankful to the Respective Chief Guest, Guest of Honour & eminent speakers to grace the event and share their valuable thoughts & knowledge.

I also express my sincere gratitude to the honorable Chairman, OGI & Chancellor Oriental University Shri Praveen Thakral Sir for their constant support and motivation.

Dr. Kavita R. Loksh
Director
Oriental College of Pharmacy
Bhopal (M.P.)



#### **Message from the Co-Coordinator of National Conference**

With the zest to support institutional development from AICTE, Oriental College of Pharmacy, has organized a Two Day National E-Conference on title "Role of Indian Herbal Medicine for Combating Covid 19: Scientific and Medical Aspects", from 27-28 Jan 2022 under Grant of Organizing Conference (GOC) scheme. It gives me immense pleasure in writing this message as Co-coordinator of this conference. The theme of the conference is "Herbal Era". The proceedings of conference include abstracts for Poster presentations provided by enthusiastic students, practicing researchers, industry personalities and academicians. I extend my warmest thanks to the authors for their interest, enthusiasm and timely submission of poster and participation in this event from all over the India. The idea behind this conference was to help and motivate researchers and student to increase the research and development in various infectious diseases including Covid-19.

My heartfelt gratitude to the **Chief Guest** of conference **Prof (Dr.) V.K.Dixit Sir** to accepting invitation and enlighten the conference.

I would like to extend my gratitude to **honourable Chairman, Shri Praveen Thakral Sir**, Prochancellor Er. Gaurav Thakral Sir, CEO Shri R.K. Sahni Sir, Execuive Director, Dr. P.K. Chopra Sir from Oriental Group of Institute, Bhopal for their continuation encouragement and support.

We would also like to thank the Organizing Committee members for their contribution in successfully organizing and managing this event. This wouldn't have been possible without their valuable suggestions and constant support.

Dr. Archana Bagre Co-Coordinator Oriental College of Pharmacy Bhopal (M.P.)



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### AICTE Sponsored Two Days National e-Conference

" Herbal Era - Role of Indian Herbal Medicine for Combating Covid 19: Scientific and Medical Aspects"

27th Jan 2022

#### Session 01



Dr. Vimal Kumar I/C Provost, ITM (SLS) Baroda University & Dean, School of Pharmacy, ITM (SLS) Baroda University Baroda Gujrat

TOPIC: Herbal Drugs in the Management of Lifestyle Disorders & Combating Covid -19





Dr. V.K. Dixit Ex-Prof. & Head, Dept. of Pharmaceutical Sciences, Dr. H.S Gour Central University, Sagar, M.P



Special Guest Dr. M.L. Kori Member M.P. State PCI, New Delhi

Session 02

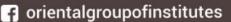


Dr. N.P. Yadav Principal Scientist, CSIR-CIMAP, Lucknow, UP

TOPIC: "Role of Indian Herbal Medicine for Combating Covid 19".











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AICTE Sponsored Two Days National e-Conference

on

# Herbal Era - Role of Indian Herbal **Medicine for Combating Covid 19:** Scientific and Medical Aspects"

28th Jan, 2022

Session 03



Dr. Vinod D Rangari

Professor & Head, Guru Ghasidas Vishwavidyalaya, Bilaspur, Chhattisgarh

#### TOPIC:

Old molecules-New potential, Bioavailability studies of Antiretroviral drugs.



Session 04



Dr. Gautam Prakash

Prof. & Head, Examination In-Charge, NAAC Criteria I Head Dept. of Pharmacognosy Teerthanker Mahaveer University, Moradabad, India

#### TOPIC:

Challenges and opportunities in drug discovery from natural resources

Session 05



**Dr. Millind Pande** 

**Professor and Head, Examination** In-Charge, NAAC Criteria I Head **Dept of Pharmacognosy Teerthanker** Mahaveer College of Pharmacy, Teerthanker Mahaveer University, Moradabad, UP, India

#### TOPIC:

Potential Traditional Indian/AYUSH Formulations for the Management of COVID-19









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AICTE Sponsored Two Days National e-Conference



**Eminent Speaker** 

Dr. Vimal Kumar

I/C Provost, ITM (SLS) Baroda University & Dean, School of Pharmacy, ITM (SLS) Baroda University **Baroda Gujrat** 

#### **TOPIC:**

Herbal Drugs in the Management of Lifestyle Disorders & Combating Covid -19

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Oriental Campus, Raisen Road, Bhopal-462021 (M.P) India

AICTE Sponsored Two Days National e-Conference



**Eminent Speaker** 

**Dr. Vinod D Rangari** 

**Professor & Head, Guru Ghasidas** Vishwavidyalaya, Bilaspur, Chhattisgarh

#### **TOPIC:**

Old Molecule- New Potential, Bioavailable Studies of Antiretroviral Drugs





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### **Eminent Speaker**

#### Dr. Gautam Prakash

Principal, Smt. Sharadchandrika Suresh Patil College of Pharmacy, Jalgaon, Maharashtra

#### TOPIC:

Challenges and opportunities in drug discovery from natural resources





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AICTE Sponsored Two Days National e-Conference



### **Eminent Speaker**

#### **Dr. Milind Pande**

Prof. & Head, Examination In-Charge, NAAC Criteria I Head Dept. of Pharmacognosy Teerthanker Mahaveer University, Moradabad, India

#### **TOPIC:**

Potential Traditional Indian/AYUSH Formulations for the Management of COVID-19





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### **Eminent Speaker**

Dr. N.P. Yadav

Principal Scientist, CSIR-CIMAP, Lucknow, UP

#### **TOPIC:**

Role of Indian Herbal Medicine for Combating Covid 19





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Shri Praveen Thakral

(Hon'ble Chairman, OGI) Chancellor Oriental University, Indore

Er. Gauray Thakral (Hon'ble Pro-Chancellor) Oriental University, Indore

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Dr. P.K. Chopra **Executive Director** OCP & OCM, Bhopal

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#### CO-COORDINATOR

Dr. Archana Bagre **Associate Professor** 

#### ORGANISING SECRETARY



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Dr. Sarita Karole HOD (UG)

Mr. Udit N. Soni HOD (Diploma)

#### **KEYNOTE SPEAKERS**



Dr. N.P. Yadav **Principal Scientist** CSIR-CIMAP, Lucknow, UP

Dr. Vimal Kumar Dean, School of Pharmacy & Science, ITM (SLS) Baroda University, Vadodara

Dr. Vinod Rangari Professor & Head, **Guru Ghasidas** Vishwavidyalaya, Bilaspur, CG

Dr. Gautam Vadnere Principal, Smt. Sharadchandrika Suresh Patil College of Pharmacy, Jalgaon, Maharashtra

Dr. Milind Pande Proffessor and Head, Teerthankar Mahaveer University Moradabad, U.P.

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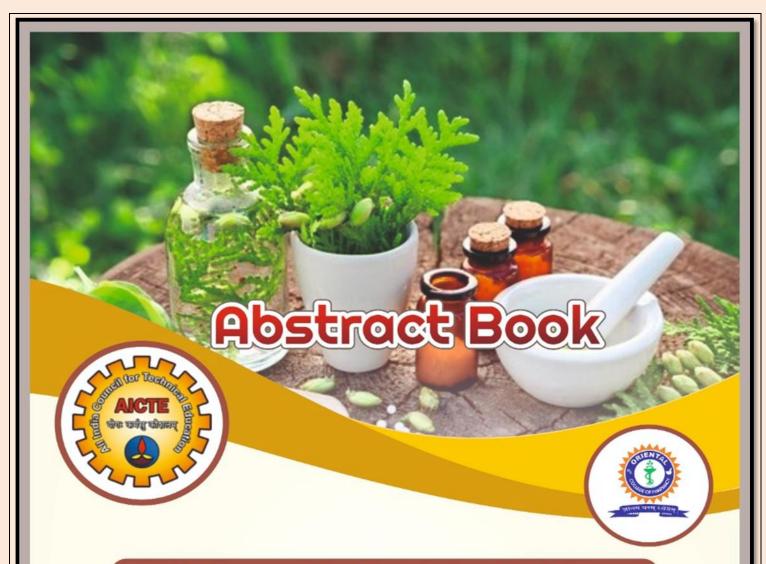
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**Grant for Organizing Conference (GOC) Scheme** 27th & 28th Jan, 2022

OCP/AICTE-GOC/P-001

#### EFFICACY OF HERBAL PHARMACOTHERAPEUTICS IN CLINICAL MANAGEMENT OF DISEASES AND DISORDERS

#### **Dr Satnam Singh**

Associate Professor, Pharmacology, Adesh Institute of Medical Sciences and Research (AIMSR), Adesh University, Co-ordinator Youth Affair's, Adesh University NH-7, Barnala Road, Bathinda-151101 (Pb.) M No: - 9872083238, E-Mail ID Is-sssaini76@gmail.com

#### **ABSTRACT**

As per latest reports of World Health Organization, more than three-quarters of population of the developing nations are relying on herbal medicine for their primary health care needs. This need of use of herbal medicinal products and supplements has increased tremendously during the past three decades. Herbal drugs and their constituents have advantageous effects on long-term fitness and can be used efficiently to treat human diseases or disorders. Approximately a total of 80% of people worldwide relying on herbs for their usefulness in managing various illnesses. Although therapies involving these agents have shown promising potential with the efficacy of good number of herbal products clearly established, many of them remain untested and their use are either poorly monitored or not even monitored at all. The consequence of this is an inadequate knowledge of their mode of action, potential adverse reactions, contraindications, and interactions with existing orthodox pharmaceuticals and functional foods to promote both safe and rational use of these agents. Since safety continues to be a major issue with the use of herbal remedies, it becomes imperative, therefore, that relevant regulatory authorities put in place appropriate measures to protect public health by ensuring that all herbal medicines are safe and of suitable quality. Latest advances in biology and medicine have introduced new technologies to study the biological significance of herbal drugs in various human diseases and disorders. Hence it is important to understand the mechanism(s) of herbal drug action for the knowledge and development of successful therapies.



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Grant for Organizing Conference (GOC) Scheme 27<sup>th</sup> & 28<sup>th</sup> Jan, 2022

OCP/AICTE-GOC/P-002

### ADVANCEMENTS IN PROTEIN BASED NANOPARTICULATE SYSTEM FOR TREATMENT OF PULMONARY INFECTIONS

Mr. Praveen Tahilani\*, Dr. Hemant Swami, Dr. Nirmal Dongre

Department of Pharmaceutical Science, SAGE University, Indore Madhya Pradesh, India

#### **ABSTRACT**

In addition to the so-called small molecule drugs, proteins and peptides are of increasing interest for pharmacotherapy, due to several advantageous properties. In general, those compounds are administered parenterally. However, non-invasive routes of administration represent a great part of research. Amongst others is the pulmonary application of proteins and peptides for local delivery in the case of pulmonary diseases, such as idiopathic pulmonary fibrosis, where the alveolar epithelium is affected. To ensure an intracellular delivery, nano particles in a size range of 150 nm will be prepared via charge-mediated coacervation, characterized for their physicochemical properties and loaded with several model-proteins. The material used for nano particle preparation was chosen to be positively and negatively charged starch derivatives, which were synthesized from potato starch. Although nano particles in that size range are known to show an increased cell uptake, they do not show a high deposition in the deep lung. Thus, an advanced carrier system consisting of a fast dissolving micro particle matrix with embedded starch nano particles will be developed and characterized. Due to its aerodynamic properties, that carrier system must be able to deposit a high fraction of the applied dose in the deep lung (~50%), while at the same time demonstrating (in in vitro models) the ability to facilitate uptake of starch nano particles into cells of the alveolar epithelium after fast dissolution of the micro particle matrix.

**Keywords**: Pulmonary diseases, charge-mediated coacervation, advanced carrier system, nano particles, aerodynamic properties.



#### "Herbal Era- Role of Indian Herbal Medicine for Combating COVID 19: Scientific and Medical Aspects"



Grant for Organizing Conference (GOC) Scheme 27th & 28th Jan, 2022

**OCP/AICTE-GOC/P-003** 

### ROLE OF GREEN SYNTHESIS BASED SILVER NANOPARTICLES IN HERBAL MEDICINES

Saurabh Sharma\* Swapnil Goyal
Faculty of Pharmacy, Mandsaur University, Mandsaur (M.P.) India

#### **ABSTRACT**

In recent time rapid research and innovation done in the field of herbal drug industry as well as nanosciences and nanotechnology. They open the different door of research related to the field of diagnosis, treatment, cure, and prevention of disease etc. Herbal medicines have their own advantages and limitations in relation to the modern medicines. In current time scientific platforms they always required the systematic study of their safety, efficacy and quality profiles of herbal medicines. Herbal based formulation containing a nano range particles shows the good effectiveness and better bioavailability in the systemic circulations. In herbal drugs there are different phytoconstituents are present in the same drug so it not a easy task to confirm the particular lead compound, but in the recent time the various research have been done in this field and several nano-formulations are present in the market containing the specific marker or a specific pytoconstituent respect to the whole extract of the particular drug. Nanoparticles are sub-nanosized colloidal structures prepared of synthetic or natural polymers in different size range from 1-1000nm. The active drug is dissolved, entrapped, encapsulated or attached to a nanoparticle size matrix. Green synthesis based inorganic silver nanoparticles are a fresh and promising alternative to chemically produced nanoparticles. Eeco-friendly methodology includes use of inorganic metallic based compounds with biological agents, vegetation or microbial agents used as reducing and capping agents for the formulation purpose. Some example of herbal nanopartcles containing formulations are, Artemisinin nanoparticles active ingredient is Artemisinin. Application of this formulation is antimalerial agent with sustain release effect. Another example is Taxus brevifolia formulation of taxol used under in Anti-cancer treatment.

Keywords: Nanotechnology, Nanoparticles, Herbal formulation, artemisinin nanoparticles



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#### IN VIVO DISTRIBUTION STUDIES ON RADIO-LABELED 5-FLUOROURACILLIPOSOMAL GEL FOR TREATMENT OF ACTINIC KERATOSIS

**R Rajagopalan<sup>1\*</sup>**, Sanjay K Jain<sup>2</sup>, Piyush Trivedi<sup>3</sup>, Ankur Kaul<sup>4</sup>, R Senthamarai<sup>1</sup>

#### **ABSTRACT**

To prepare technetium-99m (99m-Tc)-labelled liposome gel loaded with 5-fluorouracil (5-FU) containing synthesized gallic acid-stearylamine (GA-SA) conjugate in order to reduce its systemic toxicity and provide site-specific delivery to actinic keratosis. Lipid nanocarrier-based 1 % (w/w) 5-FU liposome gel containing GA-SA conjugate was successfully formulated. Parameters that included pH, viscosity and entrapment efficiency were measured. Furthermore, 1 % (w/w) 5-FU liposome gel and 1 % (w/w) 5-FU commercial formulations were radio labeled with 99m-Tc. The radio labeled 99m-Tc-5-FU liposome gel and commercial formulations were subjected to successive preclinical assessments with respect to radiochemical stability, distribution, and gamma scintigraphy in BALB/c mice. The 5-FU liposome gel formulation exhibited excellent radio labeling efficiency (> 93 %) and high stability. The skin/blood ratio of 5-FU liposome gel showed higher values for the formulated 5-FU than for the marketed 5-FU, indicating targeted delivery of the drug to the skin, thereby preventing drug entry into non-targeted locations in the body. Gamma scintigraphy and biodistribution studies showed that topically administered 99m-Tc-5-FU liposome gel was distributed mostly in skin, when compared to marketed 5-FU formulation. 5-FU liposome gel enhances specific delivery of 5-FU at targeted sites and decreases its toxicity in tissues distant from the site of application. The results suggest that liposome gel loaded with 5-FU containing synthesized GA-SA conjugate is a novel effective approach for the treatment of actinic keratosis.

**Keywords:** 5-Fluorouracil, 99mTechnetium, distribution, gamma scintigraphy.

<sup>&</sup>lt;sup>1</sup>Department of Pharmaceutics, Periyar College of Pharmaceutical Sciences, Tiruchirappalli, Tamilnadu,

<sup>&</sup>lt;sup>2</sup>Department of Pharmaceutics, Dr Hari Singh Gour University, Sagar (M.P),

<sup>&</sup>lt;sup>3</sup>Department of Pharmaceutics, School of Pharmaceutical Sciences, Rajiv Gandhi Technological University, Bhopal (M.P),

<sup>&</sup>lt;sup>4</sup>Division of Cyclotron & Radiopharmaceutical Sciences, Institute of Nuclear Medicine and Allied Sciences (INMAS), DRDO, New Delhi, India,

<sup>\*</sup>For correspondence: **Email:** rajagopalan10@gmail.com; **Tel:** +91-9179626663.



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#### NUTRACEUTICALS FROM HERBAL SOURCRS

#### Rishu Yadav

Department of Pharmaceutical Sciences, Lovely Professional University, Phagwara, Punjab School of Pharmacy, Maharaja Agrasen University Baddi, H.P.

#### **ABSTRACT**

Nutraceuticals It is composed of nutrition pharmaceuticals when human body get nutrition in the form of dosage form it is known as Nutraceuticals. There are several plants which have some medicinal value ,one of them is green tea. Green tea is a strong antioxidant because of their chemical constituents and in several researches it was found that person who consumes green tea in the morning have, good metabolism, better digestion, good healing potential, good immune system and it also prevents our body from certain fatal diseases like cancer. There are several doase form is available in market like green tea capsule, pressed tablets, green tea powder etc and these contains all the catechins, flavanoids in huge amount. Green tea based nutraceutical growing very rapidly in market.

**Keyword**: Nutraceuticals, Green tea, Antioxidant, Nutrition





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# PHYTOCHEMICAL AND PHARMACOLOGICAL PROFILE OF *ELYTRARIA ACAULIS* LINN: A REVIEW

Priyanka Namdeo\*, Hemant Kumar Sharma

School of Pharmacy, Sri Sat<mark>ya Sai University of Technology & Medical Sciences, Sehore, Madhya Pradesh, 466001, Mob. No. 07470541802: Mail ID- pnpharma1990@gmail.com</mark>

#### **ABSTRACT**

Elytraria acaulis is one such important medicinal plant which is being used the world over in the traditional system of medicines. Elytraria acaulis, Acanthaceae (Family) also known as the Asian scalystem places itself an important position in the history of Indian system of medicine. Various parts of the plant such as leaves, roots, aerial parts, flowers, and stems are used in the traditional system of medicine. A wide variety of biologically active constituents such as glycosides, phenol, proteins, flavonoid, saponin, steroid and tannins are present in his plant. This plant exhibits anti-inflammatory, antioxidant, antihyperglycemic, antifertility, antidiarrheal, Hepatoprotective and antihelmintic sactivities. In olden days the roots were made into paste and were topically applied for the treatment of leucorrhoea, snake bite and piles. This review will focus on the traditional uses, phytochemical constituents isolated from the plant and pharmacological properties of Elytraria acaulis.

**Keywords:** *Elytraria acaulis*, Phytochemistry, Antioxidant, Flavonoids





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#### ROLE OF AYURVEDA RASAYANA THERAPY AS IMMUNOMODULATOR: DEALING WITH COVID-19

Varsha Vishwas\*, Dr. Dipti B. Patel

Shree S. K. Patel College of Pharmaceutical Education & Research, Ganpat University.

Ganpat Vidyanagar, Mehsana, Gujarat, India

#### **ABSTRACT**

Coronavirus disease (COVID-19) caused by the SARS-CoV-2 virus became a global pandemic in a short time. There was an urgent need to find a specific treatment for the disease, and efforts around the world are aimed at developing antivirals and immunomodulators specific to SARS-CoV-2. Traditionally natural medicines used in India for immunomodulatory and adaptogenic effects, Ayurvedic Rasayana therapy has recently been adopted as an adjunctive therapy for various diseases. Rasayanchikitsa also plays an essential role in infectious disease which directly spreads or indirectly from man to man, animal to animal or from the environment to animal or man. Rasayana promotes phys-ical health, improve dhatus (tissues), acts as immunomodulation and rejuvenate the system. It is possible to develop effective antiviral and / or immunomodulatory agents for the potential or adjuvant therapy of SARS-CoV-2, based on the classical texts of Ayurveda, especially Rasayana. Ayurveda Rasayana not only resists body strength, gravity, or the progression of the disease, but also works by promoting the strength of the body to prevent the onset of the disease. Rasayan drugs help by modulating the neuro-endocrine-immune system and also a rich source of antioxidants. In Ayurveda, Immunity comes under the heading of Vyadhiksamatwa. In Ayurveda, many single drugs or compound formulation were mentioned as Rasayana to boost up Immunity. These Rasayana plants are actually common as immunomodulators. Rasayana's research can provide insights into future research directions for the development of effective COVID-19 management through the use and development of a variety of traditional medical systems. The purpose of this review is to highlight the results of immunomodulatory research derived from plant origin. This study suggests some important medicinal plants that can be further studied for the drug development process and subsequent clinical setup of these plants.

**Keywords:** Immunization, Ayurveda, natural source, traditional herbs.



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#### NIGELLA SATIVA AS IMMUNOMODULATOR FROM NATURAL SOURCES

Snehal U. Kashid<sup>1</sup>, Ashish Suttee<sup>1</sup>, Prasad Kadam<sup>2</sup>

<sup>1</sup>Department of Pharmacognosy, School of Pharmaceutical Sciences, Lovely professional university Panjab, India.

<sup>2</sup>Associate professor, Department of Pharmacognosy, MarathwadaMitra Mandal College of Pharmacy, Pune, India.

#### **ABSTRACT**

A WHO specifies an upsurge in the use of herbal medicines globally for day to day life. Traditional medicines have been part of culture from many decade and gained popularity. Medicinal Plants have been comprehensively studied since historic times and plentiful significant chemical constituents with tremendous ethno-pharmacological, pharmacological potential are identified. Various secondary metabolites for instance Polysaccharides, terpenoids, flavonoids, alkaloids, glycosides, and lactones are the vital phytochemicals, described to be chiefly serve as immunomodulation agents. Immunity plays a vibrant role via protecting body from harmful substances, micro-organism. Plant based products are predominantly known to chiefly modulate the immune system in broad way. The aim of the current study is to define and highlight the immunomodulation potential of *Nigella sativa* along with their bioactive chemical constituents. Nigella sativa, a dicotyledonous herbaceous plant that belongs to the Ranunculaceae family, has been used for many decades as a food and spice preservative. Ethno medicinally, N sativa used in treatment of difficulty in breathing, headaches, cough, cold, leprosy, skin related issue, etc. It possess remarkable active constituents such as Alkaloids, Terpenoids, Flavonoids, Fatty acids, Sterols, Volatile oils etc. which contribute in plant for its pharmacological potential. N. sativa extracts and oil modifies cellular as well as humoral immune system. It is extremely suitable Immunomodulatory with patient suffering from asthma, respiratory system related diseases, arthritis, allergies, etc.

**Keywords**: Immunomodulation, herbal medicine, *Nigella sativa*, Immunity, phytoconstituents



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#### MEDITIONAL PLANT AND HEALTH

Mrs. Prashali G.Shinde\*, Dr.Gurdeep Singh

Department of Pharmaceutical Chemistry, School of Pharmaceutical Sciences, Lovely Professional University Panjab, India.

#### **ABSTRACT**

Medicinal plants are a rich source of phytochemicals and natural compounds such as alkaloids, terpenes, glucosinolates, phenolic compounds, and flavonoids. Plant-derived products and their corresponding metabolites have garnered considerable interest at the clinical, pharmacological, cosmetic and even industrial levels. Indeed, natural products are extremely rich sources of biomolecules useful for a multitude of applications. Cancer is the second leading cause of death worldwide. World Health Organization estimates that 80% of the world's population still rely mainly on traditional medicines for their basic health care. During the last decades of the 20th century, medical researchers have developed new methods for cancer treatment by combining surgery with chemotherapy, radiations and various phytochemicals obtained from different plant species. It is important to note that chemotherapy not only kills the cancer cells but it also has some side effects on normal cells too. Medicines obtained from plants have less or no side-effects. *Euphorbia pulcherrima* belong to the Euphorbia genus containing beta-sitosterol have great potential against breast cancer and also used as synergistic effect with other plant constituents. These plants were targeted for studying their antioxidant potential andanticancer action specially breast cancer



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### DEVELOPMENT AND EVALUATION OF FLOATING AND EXPANDING GASTRORETENTIVE FILM OF FUROSEMIDE

Suvarna Chittam<sup>1\*</sup>, Dr. Ashok Bhosale<sup>2</sup>

<sup>1\*</sup>Research Scholar, Department of Pharmaceutics, PDEA'S Seth GovindRaghunath Sable, College of Pharmacy, Saswad, Pune. <sup>2</sup>Principal, PDEA'S ShankarraoUrsal College of Pharmaceutical Sciences and Research Centre, Pune,

#### **ABSTRACT**

Objectives: Furosemide is BCS class IV drug which shows pH dependent solubility and permeability. It is very poorly soluble in stomach medium (0.006 mg/mL) and having highly permeability through stomach, but its solubility increases with pH but it is impermeable through intestine due to its permeation limitation. The objective of this study is to develop integrated floating film of Furosemide to enhance its solubility by increasing gastric residence, by changing pH so that insoluble furosemide get dissolved, convert from crystalline form to amorphous form so ultimately enhance its bioavailability. Methods: Drug loaded polymeric film prepared by solvent casting method using different polymers such as gelatin and carboxy methyl cellulose sodium (sodium CMC), sodium alginate and glycerin as plasticizer, sodium hydroxide as solubility enhancer. The prepared floating films were evaluated for physicochemical parameters such as thickness, weight variation, floating properties, drug content, stability study, and in vitro drug release. The drug- polymer interaction was studied by Differential Scanning Calorimetry (DSC) and Fourier transform infared (FT-IR). Results: The result of in vitro drug buoyancy and drug release study showed that the floating films were found to be floated up to maximum period of 18.58 ± 2 hr and maximum 86.78±0.86 % drug release up to 12 h Conclusion: Floating Film enhance the bioavailability of Furosemide by prolonging its duration in the stomach via the floating dosage forms and also enhance its solubility by using natural polymers and sodium hydroxide as solubility enhancer.

**Keywords:** Floating and expanding film, BCS class IV, Furosemide, bioavailability



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### ROLE OF GREEN TEA CATECHIN IN DIABETES AND B CELL REGENERATION OF PANCREASES

Mrs. Reshma Vishal Pawar

Research Schlolar, VISTA, Vels University, Chennai

#### **ABSTRACT**

The catechins are from flavonoid family and found in Green tea, Wine, etc. Catechins are potent antioxidants, hence it have role in oxidative damaged diseases or in oxidative stress conditions. The Increasing experimental and clinical studies suggest that there is a close link between hyperglycemia, oxidative stress and diabetic complications. The Pancreatic  $\beta$  cells are extremely susceptible to oxidative stress due to a high endogenous production of reactive oxygen species (ROS) and a low expression of antioxidative enzymes. Hence present study is plan to investigate the effect of Green tea catechins in diabetes and  $\beta$  cell Regeneration of Pancreases. It would be the novel approach for restoring the beta cell of pancreases





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#### NUTRACEUTICALS FROM NATURAL SOURCE

Ms. Aishwarya Jain
Elixir Institute of Pharmacy, Pune

#### **ABSTRACT**

Nutraceuticals are food or part of food that provides medical or health benefits including the prevention and/or treatment of a disease. Nutraceutical has advantage over the medicine because they avoid side effect, have naturally dietary supplement, etc. Nutraceutical; on the basis of their natural source, chemical grouping, categories into three key terms -nutrients, herbals, dietary supplements, dietary fiber, etc. Fruits and vegetables are rich in nutraceutical compounds that bring to the prevention of a number diseases such as antidiabetic, anticancer, antihypertensive, neuroprotective, anti-inflammatory, antioxidant, antimicrobial, antiviral, stimulation of the immune system, cell detoxification, cholesterol synthesis, anticonvulsant and their ability to lower blood pressure. The nutraceutical compounds are also found, often in even higher concentrations, in the co-products and by-products from fruit and vegetable during processing. Some researchers have observed that different kind of food wastes obtained from fruits, vegetables, cereal and other food processing industries can be utilized as potential source of nutraceutical compounds and which has significant application biological activities against disease. Such reality makes these co-products and by-products a lovely supply for the sources of bioactives. There has been lately regenerated interest in extraction methods, notably with a process increase using physical phenomena and the search for alternative solvents. In the meantime these approaches could allow a modern approach to enhance the production yield of particular compounds for use as nutraceuticals or as constituents in the innovation of healthy foods. The objective of this poster is to provide information on the most recent developments of extraction method of bioactive compounds from the fruit and vegetables and medicinal properties of nutraceutical compounds.



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### SYNTHETIC METHODS, CHEMICAL CHARACTERISTICS AND BIOLOGICAL POTENTIAL OF QUINAZOLINONE AND TRIAZINE DERIVATIVES

Phoolsingh Yaduwanshi\*

IES Institute of Pharmacy, Bhopal, M.P.; Mobile No. 9584316489

#### **ABSTRACT**

Triazine and Quinazolinone is an attractive class of heterocyclic compounds. Numerous synthetic analogs of triazine and Quinazoninonehave been prepared and evaluated for many pharmacological activities in different models. Some analogs have shown potent pharmacological activity and may be considered as lead molecule for the development of future drugs. Triazine and quinazolonione ware first synthesized over a century ago, but still attracts the attention of scientists, chemists, biologists, and other specialists. In recent years, antiviral, anti-inflammatory, antifertility, anti-tubercular activity, anticancer activity, antimicrobial activity, antimalarial activity, protein kinase inhibitor activity, anti-angiogenic activity, antitrypanosomal activity, the antioxidant activity of triazine has been published. This review is an attempt to organize the chemical and pharmacological aspects of triazines and Quinazolinoe analogs reported to date systematically since 1970.

**Keywords:** Anticancer activity, antimicrobial activity, antiprotozoal, *in vivo*, triazine, Quinazolinoe and Quinazoline





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### IMPROVING AMIODARONE BIOAVAILABILITY IN POST OPERATIVE ATRIAL FIBRILLATION

#### Ragni Kumari\*

Lakshmi Narayan College of Pharmacy, Bhopal

#### **ABSTRACT**

Arrhythmia is the too fast, too slow, or an irregular beating of heart. Due to the side effects and low bioavailability of Amiodarone (AMD), it is limited for use in emergency situations. Several formulation methodologies have been described to overcome the serious side effects and improve solubility and bioavailability of AMD. The aim of this article is to summarize some of the delivery strategies used for delivering AMD to target tissue in post operative atrial fibrillation. These strategies included improving the solubility using solid dispersion, inclusion complex, self emulsifying emulsion techniques for improving the bioavailability. Delivery strategies such as nanoparticle formation, use as liposomes, nanofilms, co-crystal formation, fast dissolving tablets, and transdermal delivery methods have been reviewed for delivery of amiodarone.

**Keywords:** Arrhythmia, atrial fibrillation, amiodarone, transdermal, liposome, inclusion complex, solid dispersion, nanocarrier



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### HERBAL BASED PHARMACEUTICAL BIOACTIVES IN THE MANAGEMENT OF RHEUMATOID ARTHRITIS

Ganesh Lal, Meenakshi Bajpai

Institute of Pharmaceutical research GLA University Mathura U.P., India Email- ganesh.shri0101@gmail.com

#### **ABSTRACT**

Health problem is very big problem in the society, without fitness nothing is possible to do. When people get affected by any disease or autoimmune disorder, lifestyle become disturbed fully. To get rid from these health issues, peoples are taking allopathic medicine to get instant relief from these pain. But allopathic medicines in long term use causes severe side effect as well as major toxicity for the organ along with body. Hence herbal medicines are taking attention of researchers in management and treatment of diseases only because of its more safety and efficacy than synthetic one. Joints inflammation, stiffness, redness and cartilage destruction causes severe pain characterized by autoimmune disorder Rheumatoid arthritis (RA) in any age group of people mostly in more than 50-year age group peoples among 0.5-1% of the population are suffering from this RA associated pain. In these review, treatment of RA, based on herbal approach were studied in contrast of some herbal compound with anti-Rheumatoid arthritis activities. Pharmacokinetics and drug likeness properties of herbal compounds wereinvestigated as alternative bioactives for the management of RA. Cheminformatics tools were used to identify drug-likenessproperties of the herbal bioactives. Here, some herbal compounds were reported to be effective on RA models and listed out in the management of RA which can be helpful in finding effective treatment of RA by herbal compound. Most of the bioactive compounds from herbal source can be the better alternative choice in the management of RA. Due to natural sources and easily availability of herbal source for the treatment of disease are very preferential.

**Keywords:** Herbal Bioactives, Rheumatoid Arthritis, Herbal Medicines, Autoimmune disorder



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LUTEOLIN: A NATURAL REMEDIES FOR SARS-CoV-2

Patel Mimansha\*, Gajjar Umang

Shree S K Patel College of Pharmaceutical Education & Research
Ganpat University, Mehsana, Gujarat.

#### **ABSTRACT**

At the present time, the entire world is at war with the COVID-19 pandemic, that have progressively prompted everyone to a more compromised "new normal" way of life. The pathogenic microorganism responsible for the recent COVID-19 epidemic, SARS-CoV-2, is highly contagious in nature, giving rise in an unusual number of infections and deaths worldwide. The increasing number of cases of this highly communicable disease has highlighted the critical need for a powerful drug. The absence of a clinically tested therapeutic medication for COVID-19 has thrown the world's healthcare system into disarray. As a result, the development of efficient treatment scheme is now in high demand.

Luteolin is a flavonoid derived from plants that is abundant in edible herbs and vegetables. Clinically it is proven that Luteolin have a variety of pharmacological properties, including anti-inflammatory, anti-cancer, anti-oxidant, anti-apoptotic, and neurotrophic properties. Several researches have revealed Luteolin's protective nature by blocking virus entry and fusion with human receptors in old SARS-CoV that arises in 2003. Thus, regular ingestion containing a sufficient quantity of Luteolin in our diet may be beneficial in retarding the SARS-CoV-2 infection as well as preventing the resulting symptoms in COVID-19 patients.

Keywords: COVID-19, SARS-CoV-2, Luteolin



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### "NATURAL PRODUCT IN DRUG DEVELOPMENT AND FOR COVID-19 TREATMENT"

#### **Gaurav Gupta**

Shree S K Patel College of Pharmaceutical Sciences and Research, Gujrat

#### **ABSTRACT**

There has been high interest in the use of traditional medicines for COVID-19 fromearly in the course of the pandemic. The Coronavirus disease (COVID-19) caused by the virus SARS-CoV-2 has become a global pandemic in a very short time span. There is an urgent need to find a specific cure for the disease and global efforts are directed at developing SARS-CoV-2 specific antivirals and immunomodulators. Ayurvedic Rasayana therapy has been traditionally used in India for its immunomodulatory and adaptogenic effects, and more recently has been included as therapeutic adjuvant for several maladies. Amongst several others, Withania somnifera (Ashwagandha), Tinospora cordifolia (Guduchi) and Asparagus racemosus (Shatavari) play an important role in Rasayana therapy. However, the wider integration of natural products into the modern drug discovery process will require enhanced collaboration amongstthe pharmaceutical industry, academic research units, regulatory bodies, ethicsreview committees and local, regional, continental and international organizations. Revisiting this topic holds promise of benefit for both the current and futurepandemics.



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#### BOERHAAVIA DIFFUSA: TREATMENT FOR KIDNEY AILMENT

Nisha G. Bhat

Department of pharmacognosy, Smt. S. S. Patil College of Pharmacy, Chopda, KBC North Maharashta University, Jalgaon.

#### **ABSTRACT**

Herbal medicines have been used in traditional medical practices for centuries. While practitioners of herbal medicines are often comfortable with the application and results of such medicines. The development of herbal medicine within the framework of evidence-based medicine is relatively new. Two recent scientific studies have claimed that herbal formulations, based on traditional medicinal plants like punarnava, could be effective in preventing and managing ailments related to the kidney. Dialysis is a way of life for many patients suffering from kidney ailments in the country. In view of limited options for treatment of the kidney disease in allopathy, experts representing the traditional medical system claimed on the eve of the World Kidney Day that herbs could slow the disease's progression and offer relief from the symptoms, along with careful diet and exercise.

Boerhaavia diffusa is a species of flowering plant in the four o'clock (Nyctaginaceae) family which is commonly known as punarnava (which rejuvenates or renews the body in Ayurveda). Punarnava helps maintain efficient kidney and urinary functions with its diuretic, laxative, stomachic, diaphoretic, expectorant, rejuvenative, emetic, root-purgative, febrifuge anthelminthic, antispasmodic and anti-inflammatory action. An extract from the root is used as a kidney and liver tonic. It improves the functioning of kidneys damaged by diabetes. Being a diuretic and mild laxative, it helps in detoxification and prevents fluid retention. It also helps in treating obesity and also be taken in managing lipids and cholesterol in healthy limits. The bioactive compounds like flavonoids, alkaloids, phenolic compounds, saponins, tannins, terpenoids, glycosides, steroids etc. are present in the extracts prepared from plant of *B. diffusa*.

According to a study, a woman suffering from kidney ailment was given punarnava-based syrup for a month, significantly bringing the creatinine and urea level in her blood to a healthy level. Besides, her haemoglobin level had also improved, concluding that the punanrva-based drugs not only improve the functioning of the kidney but also improve haemoglobin level. Another study published in the Indo American Journal of Pharmaceutical Research, too, stated the efficacy of the punarnava-based herbal formulations, including lotus leaves, patharchur and other major herbs when given to the subjects. It was found that the drug had helped in maintaining histological parameter of kidneys, apart from reducing high levels of uric acid and electrolytes.

The syrup (Neeri KFT) is a potent nephro-protective formulation, protecting kidneys from nephrotoxins, including oxidative damage induced by lead acetate."Punarnava (Hogweed) literally means 'bring back to life' or 'renewer'.

KEYWORDS: Traditional herbs, Boerhaavia diffusa (punarnava), kidney ailment, nephroprotective.



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# DEVELOPMENT AND CHARACTERIZATION OF DICLOFENAC SODIUM LOADED EUDRAGIT RS100 POLYMERIC MICROSPONGE INCORPORATED INTO IN SITU GEL FOR OPHTHALMIC DRUG DELIVERY SYSTEM

Rajashri B. Ambikar<sup>1\*</sup>, Ashok v. Bhosale<sup>2</sup>

PDEA's Seth Govind Ragh<mark>unath Sable College of Pharmacy, Saswad</mark>, Purandar, Pune, Maharashtra, India,

PDEA's Shankarrao Ursal College of Pharmaceutical Sciences and Research Centre, Kharadi, Pune,
Maharashtra, India

### **ABSTRACT**

**Objective:** Purpose of the study to design and formulate Diclofenac sodium (DIC) microsponges.

Methods: With varied polymer: drug ratio DIC loaded microsponges were prepared with Eudragit RS100 polymer by quasi solvent diffusion method. Microsponges evaluated for particle size, entrapment efficiency, drug content, *in vitro* drug release, Fourier Transform Infrared Spectroscopy (FTIR), Differential scanning calorimetry (DSC) and Scanning electron microscopy (SEM). DIC loaded microsponges incorporated into ocular *in situ* gel to attained controlled release by microsponge and improved residence time by gelling system. Ocular *in situ* gel evaluated for pH, drug content determination, gelling capacity, *in vitro* drug release and sterility study.

Results: DSER4 microsponge formulation having polymer to drug ratio 1:7 showed satisfactory production yield (68.13%), entrapment efficiency (62.86%), drug content (80.73%), requisite particle size (less than 10 μm) (7.52 μm) and *in vitro* release 87.94% after 6 h. Selected DSER4 formulation was incorporate into *in situ* gel. Carbopol 940 forms stiff gel at higher pH so used as a gelling agent, whereas Hydroxypropyl Methylcellulose E4M was used as a viscosity-enhancing agent for the formulation of *in situ* gel in varied compositions. *In situ* gel formulation IG4 showed sustained release of 76.92% till the end of 8 h and satisfactory gelling capacity so IG4 further evaluated for sterility test. Rheological studies reveal the sol-gel transition of *in situ* gel occur at the physiological condition to form stiff gel.

**Conclusion:** Prepared *in situ* gel formulations showed sustained drug release for a period of 8 h, which is satisfactory for management of ocular pain.



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OCP/AICTE-GOC/P-020

#### TOPICAL HERBAL FORMULATION FOR SKIN DISORDERS: A REVIEW

Shalini Kumari\*

GLA University, Mathura

### **ABSTRACT**

Topical Herbal Formulations for skin disorders has been used for thousand year. Medicinal plants are cost effective Indian subcontinent, In last years the significance and worth of Herbal formulations for a wide range of disorders are being examined generally. Herbal plants have their source in the domestic of Indians. Persons are well conscious about the medicinal material goods of the ingredients of their day-to-day diet. Medicinal plants are naturally able with invaluable bio active compounds which form the back bone of Traditional medicines. Many infectious disorders have been known to be treated with herbal formulations through the history of mankind. This action is due to the presence of phyto-chemical components like glycosides, tannins, alcohols, aldehydes etc., those chemical components are not only for the discovery of therapeutic agents but are also an strength for the upcomingtypes. Due to the fast phased lifestyle and polluted atmosphere people are exposed to many lifestyle disorders especially skin diseases. This review paper deals with the single herbs and prepared medicines documented in Traditional Siddha Indian Medicine as potent remedies for Skin disorders





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### DESIGN AND CHARACTERIZATION OF POLYHERBAL HAIR FORMULATION

Himani Singh\*<sup>1</sup>, M. A Naidu<sup>2</sup>

- 1. Smriti College of Pharmaceutical Education, Indore
- 2. Mandsaur University, Mandsaur himani.singh@scopeindore.info

#### **ABSTRACT**

However hair does not assist any criticalphysiological condition in human beings but it plays significant role in our social and mental life. Androgenic baldness and circular/spot baldness these are the most conventional type of hair loss. In market most of the synthetic active ingredients are available for the treatment of hair loss still with some limitation. These synthetic compounds are effective but having some side effect. The present study was made use of different herbs and formulatespolyherbal hair serum for general purposes. Crude drugs obtained from nearby regions. Crude drugs used for the making of herbal hair serum such as, Hibiscus rosa-sinesis flower, Glycyrrhizzaglabra roots, Eclipta alba plant, Withaniasomnifera root and leaf of Bacopamonnieriawere specifically weighed and dispensed in water, boiled, allowed to cool, and then filtered. To the filtrate, castor oil and vitamin E were added with homogenization. The formulated herbal hair serum was tested, and different criteria were determined, such as physical appearance, viscosity, pH, homogeneity etc.

Keywords: Herbal, Hair serum, Crude drugs, Viscosity





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OCP/AICTE-GOC/P-022

### VIRTUAL SCREENING OF PHYTOCONSTITUENTS AS POTENTIAL ANTI SARS-COV2 AGENTS

Ms. Prachitee Ayare, Dr. Anand Chintakrindi, Dr. Rajashree Hirlekar

Department of Pharmaceutics, Vivekanand Education Society's College of Pharmacy, Mumbai,

### **ABSTRACT**

As the causative agent of diseases such as COVID-19, Coronaviruses pose a growing economic, social, and mortality burden The systematic scientific study of any drug (starting with in silico study) is now possible because the structural components (proteins) of COVID-19 have already been characterized. The main protease of COVID-19 virus is M<sup>pro</sup> or 3CL<sup>pro</sup> which is a key CoV enzyme and an attractive drug target as it plays a crucial role in mediating viral replication and transcription. In the present study, 3CL<sup>pro</sup> is used to study phytoconstituents and 3CL<sup>pro</sup> interactions and thus to investigate whether some phytoconstituents with antiviral potential can be used as an anti-viral drug against SARS-CoV-2.A wealth of naturally occurring compounds may be useful as therapeutic agents for Coronavirus infections because of their chemical diversity and antiviral activity. In this poster, an attempt was made to recognize natural phytochemicals from medicinal plants, in order to reutilize them against COVID-19 by the virtue of molecular docking. Molecular docking study showed fifteen probable inhibitors against SARS-CoV-2 Mpro. This study provides further support for the potential of phytoconstituents as a treatment for COVID-19. We are confident that this virtual screening study will lead to the development of a COVID-19 treatment.



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### FORMULATION AND EVALUATION OF NANO PARTICULATE SYSTEM AS A NEWER APPROACH FOR DELIVERY OF RUTIN

Vishakha Chauhan\*, NeeleshMalviya

Mandsaur University, Mandsaur (M.P.)

#### **ABSTRACT**

**INTRODUCTION:** The development of Nanoparticulate delivery system is to prolong the activity and sustain release of the actives. Development of Cosmeceutical using herbal ingredients for rejuvenation of skin by effective delivering an active ingredient by controlled time release utilizing a novel delivery vehicle. A porous structured, long term stable and suitable carrier formulation development for making the skin supple and attractive by reducing the fine lines, wrinkles and imparting the natural texture which the skin lost due to today's lifestyle and eating habits.

**MATERIALS AND METHOD:** Rutin, ethyl cellulose, dichloromethane and PVA used to prepare nanosponges by emulsion solvent diffusion method. The nanosponges formed were collected and dried in an oven at 40°C for 24 h and stored in dessicator to ensure the removal of residual solvent. Nanosponges were evaluated for various physicochemical parameters like FT-IR, particle size, polydispersity index and entrapment efficiency.

**RESULTS:** FT-IR study reveals that there was no physical and chemical interaction observed between the excipients and drug in combination. Formulation batches were optimized with the help of design expert software. All formulations produced sponges of size less than 650 nm and hence met the requirements to be characterized as nano carriers. The entrapment efficiency was found to be in the range of 69.5% to 87.5 % for all the nanosponges.

**CONCLUSION:** Rutin loaded nanosponges were prepared by emulsion solvent diffusion method and evaluated. The formulation NS-3 having less particle size and good entrapment efficiency when compared with the other formulations.

**Keywords:** Nanoparticulate delivery system, Nanosponges, Ethyl Cellulose, Dichloromethane



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#### POTENTIAL OF FLAXSEED GEL AS HAIR SUSTENANCE

Ritika Tyagi<sup>1\*</sup>, Riya Tyagi<sup>1</sup>, Kiran Sharma<sup>2</sup>

<sup>1</sup>Student at KIET School of Pharmacy, KIET Group of Institutions, Ghaziabad <sup>2</sup>Assistant Professor at KIET School of Pharmacy, KIET Group of Institutions, Ghaziabad

### **ABSTRACT**

Flaxseed comes from the flax plant also known as Linum usitatissimum which is being cultivated all around the world. Flaxseed contain 30-45% oil, which contain 9-10% of saturated fatty acids (palmitic and steric), about 2% monounsaturated fatty acid (mainly oleic acid) and more than 70% alpha-linolenic fatty acids. Flaxseeds contain omega-3 fatty acid, which give vital proteins and nutrients to hair follicles, boost circulation in the scalp and inhibit hair follicles inflammation that induces hair fall. Flaxseeds also contain vitamin B, E and are rich in biotin, riboflavin, niacin, pyridoxine, patothenic acid and folic acid which are responsible for increasing hair growth and making hair stronger. Vitamin E is the popular antioxidant and moisturizer that manage curls by combating free radicals harmful to hair. It is beneficial for naturally curls or wavy hairs, one can use flaxseed get to add definition to curls, making look healthy and vibrant. Flaxseed gel prevents premature greying of hair. The presence of nourishing nutrients like magnesium, manganese, vitamin E etc. Helps to reduce free radicals damage. This prevents aging and greying of hairs. The topical application of flaxseed gel for hair improves hair quality, which in turn boosts hair growth.

Keywords:-Flaxseed, Omega-3 Fatty acid, Vitamin E, Vitamin B, Hair growth.



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### ISOLATION, EVALUATION AND STANDARDIZATION OF MUCILAGE FROM SELECTED HERBS AS AN EXCIPIENT IN PHARMACEUTICAL FORMULATION

Ms Poonam P. Taru\*, Dr E. Bhavya

School of Pharmaceutical Sciences Vels University (VISTAS) Pallavaram. Chennai - 600117

### **ABSTRACT**

Today we have lot of pharmaceutical excipients and most of them are of plant origin. These natural excipients find application in pharmaceutical industry as binding agents, disintegrants, sustaining agents, protective, colloids, thickening agents, gelling agents, bases in suppositories, stabilizers and coating materials. Mucilage is a by-product obtained as a result of metabolic mechanisms of plants. Mucilage is a Hydrocolloid polymer that is used in Industry and Pharmaceutical Science. Mucilage is a long chain polysaccharide substance. On extraction of mucilage a thick, gluey substance is formed from almost all plants and some microorganisms. It has been reported that mucilage is used as an excipient and also it possess some biologically active principles. As mucilage Contains carbohydrates it gives positive result to Molisch tests and ruthenium red test. The main aim of this study is to isolate and characterize Mucilage from Herbs and used as pharmaceutical Excipient and also Standardization of Marketed and formulated dosage form by using natural Polymers. By detailed study of these plants containing mucilage we can conclude that there are similarities among them with regard to their mucilage and it can be used as an excipient like thickening, binding, disintegrating, suspending, emulsifying, stabilizing and gelling agent. Natural excipients are inert, safe, non-toxic, biocompatible, biodegradable, available at low cost, eco-friendly and abundantly available in nature so are preferred over the synthetic.

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**Keywords:** Mucilage, Isolation, Standardization, binder



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#### MALVA SYLVESTRIS-A COUGH THERAPY ON MANAGEMENT OF COVID19

Neeta Rai\*, Swati Mutha, PoonamKunalTaru

Department of Pharmaceutics, Viswakarma University, Pune, Maharastra, India

### **ABSTRACT**

The utility of different medicinal plants and their derivatives in treating illnesses is more appropriately recognized as herbal remedy than traditional medicine. In Many countries medicinal herbs is used for treatment of diseases. *Malvasylvestris* L. is a kind of mallow derived from Malvaceae family and it is also called as blue mallow. This amazing plant has antimicrobial, hepato-protective, anti-inflammatory, and antioxidant properties and is considered as one of the most promising herbal medicinal species. The main aim of present study is to highlights that the flowers and leaves containing high amount of mucilage that helps in dry cough as a soothing agent which is generally help to reduce or manage the cough which occurs in covid-19.

**Keywords:**-*Malvasylvestris* L, Cough, mucilage, soothing.





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#### "SYNTHESIS AND BIOLOGICAL EVALUATION OF SOME NOVEL MANNICH BASES OF SULPHONAMIDE"

Udit Narain Soni\*, Dr. Anoop Singh

\*Ph.D. Research Scholar, Faculty of Pharmacy, Bhagwant University Ajmer, Rajasthan Address for Correspondence: uditsoni05@gmail.com

#### **ABSTRACT**

Tuberculosis is a chronic bacterial infection spread through air and caused by a bacterium Mycobacterium tuberculosis (MTB), an aerobic bacillus belongs to class Mycobacteriaceae. Tuberculosis generally affects the lungs, but can also affect other parts of the body. Most infections do not have symptoms, in which case it is known as latent tuberculosis. About 10% of latent infections progress to active disease which, if left untreated, kills about half of those infected. At present, one-third of the world population is thought to be infected with TB. New infections occur in about 1% of the population each year. In 2016, there were more than 10 million cases of active TB which resulted in 1.3 million deaths. This makes it the number one cause of death from an infectious disease. More than 95% of deaths occurred in developing countries and more than 50% in India, China, Indonesia, Pakistan, and the Philippines. Currently TB is becoming again a worldwide problem and it was declared since 1993 by W.H.O. a global health emergency. The resurgence of TB becomes a serious problem worldwide particularly in people infected with Human immuno deficiency virus (HIV), however, there are also other problems that contribute to increasing incidences of TB as dense population, poor-nutrition, poor-sanitation, poor patient compliance & poor-sanitation, poor-patient compliance & poor-sanitation, poor-patient compliance & poor-sanitation & poor-sanitatio drug resistance tuberculosis(MDR-TB) and extensively drug resistant tuberculosis (XDR-TB). Most of the drugs in current tuberculosis regime results from over 50 years ago hence there is an urgent need to develop potent & fast acting anti-TB drugs, therefore new drugs that offer improvement over current therapies are needed. Recently the fluoroquinolones are used in the treatment of tuberculosis and the Schiff's & Mannich bases of theses fluoroguinolones have been found to have marked anti-tubercular activity. Inspired by these results, an appropriate synthetic scheme was designed and the Schiff's & Mannich bases of Dapsone with substituted Indoline-2,3-dione derivatives were successfully synthesized. The structures of the synthesized derivatives were characterized by appropriate spectral analysis (IR, NMR and Mass spectroscopy). Based on detailed literature study, it is expected that all of the novel mannich bases of sulphonamide will boost up the current anti-microbial discovery and lay down milestone in the treatment of tuberculosis & other bacterial infections.

**Keyword:** Schiff's base, Mannich base, bacterial infections, tuberculosis, Dapsone, Indoline-2.3-dione.



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# BIOCHEMICAL EVALUATION OF EXPERIMENTAL RATS TREATED WITH ORGANOPHOSPHATE PESTICIDES.

Bhadoriya Santosh Singh\*, Dr. Saravanan K.

\*Ph.D. Research Scholar, Faculty of Pharmacy, Bhagwant University, Sikar Road, Ajmer, Rajasthan (India)- 305004 Address for Correspondence: bhadoriya7@gmail.com

#### **ABSTRACT**

Background: Organophosphates are most commonly used synthetic pesticides. The diazinon pesticide is using now a days in agriculture field. The extensive use of diazinon has encouraged research into their possible existence of effects related with their reproductive toxic activity. Aim: The study was designed to assess the effects of diazinon on testes, the main organ of male reproduction.

Material Method: Diazinon at the dose levels of 6, 11 and 15 mg/kg b. wt./day was administered orally to male wistar rats for duration of 30 days to assess the toxic effect in reproductive organs through assessing testicular histology, biochemistry, hormonal, sperm dynamics.

Results: There were no changes observed in body weight of animals, however, a significant reduction was observed in testes. Diazinon also brought about marked reduction in epididymal and testicular sperm counts and also decreases in serum testosterone level. Histopathological assessment of testes showed severe degenerative changes in seminiferous tubules at moderate and high dose. The sialic acid content of testes and glycogen reduction was observed, whereas the significant reduction in protein and increased cholesterol content was noticed at moderate and high doses. All these toxic effects as per dose dependent manner found moderate at low doses and become severe at higher dose.

Conclusion: As per the current findings it is concluded that diazinon induces severe testicular damage and results in reduction in sperm count and thus affect fertility.

**Keywords:** Diazinon, testicular histology, biochemistry, hormonal, sperm dynamics



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# DESIGN, SYNTHESIS AND BIOLOGICAL EVALUATION OF NOVEL KINASE INHIBITORS IMPLICATED IN ALZHEIMER'S DISEASE BY HIGH THROUGHPUT VIRTUAL SCREENING

**Diwakar Sunil Kumar\* and Singh Anoop** 

\*Faculty of Pharmacy, Bhagwant University Ajmer Rajasthan

Address for Correspondence: sunildiwakar23@gmail.com

#### **ABSTRACT**

Cyclin dependent kinase-5 (CDK5) is an effective target for the treatment of various types of neurodegenerative diseases. Tremendous progress has been made in the development of potent and selective CDK-5 inhibitors that engage polar side chains of the ATP-binding pocket as well as forms the specific hydrogen bonds with the kinase. To identify new lead candidates as potential CDK5 inhibitors with better efficacy, ADME properties and wide margin of safety. 2,50,000 molecules from Specs database was screened against CDK5 crystal structure (PDB ID: 1UNL) by high throughput virtual screening using flexible docking. The docking simulation was done first HTVS followed by SP and then XP.

Based on GLIDE docking score, interaction pattern to the receptor with new lead candidates have been identified and selected for synthesis. The lead moiety in the co-crystalized roscovitine with CDK5 complex retained the key H-bonding patterns and also adds hydrophobic interaction with Ile10 and Leu133. Selected hits shows hydrophobic interactions within ATP cleft with Asn 144, Gly 13 and Ala143 in a similar manner as shown by reference molecules (Roscovitine). The binding pattern of the lead compound revealed by docking studies using GLIDE indicated that molecules bind into well-conserved catalytic pocket of the kinase. Appropriate synthetic scheme was designed and lead candidates were successfully synthesized. The structures of lead candidates were elucidated by appropriate spectral analysis (IR, NMR and Mass spectroscopy). Based on detailed *In-silico* docking study and literature study it is expected that all of the new lead candidates and their derivatives will boost up the current SBDD of CDK5 inhibitors discovery and lay down milestone in the treatment of neurodegenerative disease.

Key words: Kinase, CDK5 inhibitors, Roscovitine, Glide Docking, In-silico.



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OCP/AICTE-GOC/P-030

#### BREST CANCER TREATMENT WITH PIPERINE: OVERVIEW AND CHALLENGES

Dr Swati Mutha\*, Dr Neeta Rai

#### **ABSTRACT**

Most of the currently used chemotherapy drugs for breast cancers are known to develop resistance, exhibit non-selective toxicity against normal cells and restrict by dose-limiting side effects. Hence, cancer treatment and development of drugs for this disease remains a major clinical challenge. World Health Organization (WHO) supports the use of traditional medicines for cancer treatment which are efficacious and nontoxic. Piperine is is chemically known as 1piperoyl piperidine alkaloids found in Piper nigrum L and Piper longum. Clinical studies demonstrated remarkable antioxidant, antitumor, and drug availability-enhancing characteristics of this compound, together with immunomodulatory potential. Piperine was found to possess antimutagenic potential since the study on HER2 overexpressing breast cancer cells demonstrated inhibited proliferation and induced apoptosis by activating caspase-3 and cleavage of PARP. Moreover, it was determined that piperine inhibits HER2 gene expression at the transcriptional level and enhances sensitization of HER2 overexpressing cells to paclitaxel killing. The signal transducer and activator of transcription 3 (STAT-3) is an antiapoptotic protein playing an important role in cancer cell proliferation, invasion, and migration, piperine inhibited migration via STAT-3 downregulation, resulting in inhibition of metastasization. This study, indicates that Piperine possesses cytotoxic action (selectivetoward tumor cells) against several types of cancer, including breast, lung, prostate, cervical, andother cancers. In the era of personalised medicine healthcare model it will have high potential. Nanoparticle development, poor solubility and threat of drug-drug interaction with Complementary medicine are remains major challenges to be overcome. Recently supercritical fluid extraction found to be an energyefficient and environmentally friendly extraction technology that helps to overcome the limitation of the poor solubility of molecules such as piperine



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### OPPORTUNITIES AND CHALLENGES FOR NATURAL PRODUCTSAS NOVEL ANTITB AGENTS

Shweta Mishra\*

Assistant Professor, SGT University Gurugram Haryana 122505

### **ABSTRACT**

Current tuberculosis (TB) treatment suffers from complexity of the dosage regimens, length of treatment, and toxicity risks. Many natural products have shown activity against drugsusceptible, drug-resistant, and latent/dormant Mycobacterium tuberculosis, the pathogen responsible for TB infections. Natural sources, including plants, fungi, and bacteria, provide a rich source of chemically diverse compounds equipped with unique pharmacological, pharmacokinetic, and pharmacodynamic properties. This review study focuses on natural products as starting points for the discovery and development of novel anti-TB chemotherapy and classifies them based on their chemical nature. This review also highlights the importance of collaboration between phytochemistry and medicinal chemistry which is very important for the development of these natural compounds.





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# CYNODONDACTYLON A POTENTIAL HERB: PERSPECTIVE FOR WOUND HEALING

Ujjwal Dubey\*

Guru Ramdas Khalsa institue of science and technology

### **ABSTRACT**

Introduction:-Mother Earth has been always abundant enough for the survival of human kind from each and every perspective to human life. Its nature contains abundance of possibilities which still needs to be explored for the human survival. One of the major gifts that we got from the nature is herbs. Cynodondactylon herb is one of its kind which have potential to treat and cure wounds. This herb has the prestige to be included in Indian religious perspective as well as well as in Ayurvedic medication. Legends of Ayurveda like Charak and Shushruta have described the potential of this grass in their texts. Wound healing capacity of this herb could be get from very easy preparation of formulation that is trituration of the whole plant with distilled water to get semisolid form of medicament. Which can be applied to wound affected area and with certain time it gets healed with regular and proper care. Thus we have to value such gifts from mother Earth and use it in the well being. These herbs are present in enormous amount in each and every place depending on its geographical needs. Pharmaceutical science is good enough to have utilized these precious gifts. Herbal formulations have attracted medicinal industry from very beginning of its era. The constituents present in these herbs have allowed the researchers to explore the wide nature of medication formulations.





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### IN SILICO INVESTIGATIONS ON THE STRUCTURAL FEATURES OF TRIAZOLE DERIVATIVES AS HSP90 INHIBITORS FOR CANCER TREATMENT

Shubham Dhiman\*, Dr. Viviek Asati ISF College of Pharmacy Monga, Punjab

#### **ABSTRACT**

Cancer is becoming a major worry around the world as a result of its rising prevalence and limited preventative options. As a result, more research is being done on fresh technologies that could be beneficial in meeting the demand for unique and selective anticancer drugs. HSP90, one of the most important classes of chaperons, has been studied extensively as a prospective and innovative therapeutic target for cancer therapy over the last few decades. In this study, pharmacophore characteristics, 3D QSAR models, molecular docking, and virtual screening experiments against HSP90 were developed using a series of 2-((4-resorcinolyl)-5-aryl-1, 2, 3-triazol-1-yl) acetate derivatives. A model with significant Q2, R2, and R2 CV values of 0.62, 0.77, and 0.50 is included in the created third PLS factor. Interactions with key amino acids required for HSP90 inhibitory activity were discovered in molecular docking experiments against HSP90, including GLY-97, ASN-106, THR-184, ASN-51, PHE-138, and SER-52. DHRRR 1 pharmacophore properties were used in a virtual screening effort to find prospective ZINC compounds. These ZINC compounds could be used as HSP90 targets. The findings of the study could aid scientists in the discovery and design of possible HSP90 inhibitors.





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### NOVEL CURCUMIN CONJUGATES FOR ENHANCEMENT OF ITS BIOAVAILABILITY

Nidhi Agrawal\*, Mrs Meenakshi Jaiswal,

Department of Pharmacy, Guru Ghasidas Vishwavidyalaya, Bilaspur, Chhattisgarh, India.

Email id: 123nidhiagrawal@gmail.com

### **ABSTRACT**

Curcumin has many pharmacological activities and act as an anti-inflammatory, antidiabetic, anticancer, antioxidant etc activities. It has been used in ayurvedic medicines to treat diseases. Apart from its beneficiary effect it has some limitations like poor bioavailability, low water solubility and less stability which makes it difficult to administered in the form of an active therapeutic agent. Many researchers have investigated that by protecting the phenyl hydroxy group of curcumin may lead to overcome the limitations associated with curcumin. Protection of this group can be done in various ways including prodrug and conjugation approaches.





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#### RECENT ADVANCES AND EFFECTS OF AJWAIN EXTRACT ON PLANT DISEASE

Miss. Snehal Pravin Pawar

Smt.Sharad<mark>c</mark>handri<mark>ka Suresh Patil College</mark> of Pharmacy,Chopda. Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon.

### **ABSTRACT**

India is one of the pioneers of studies of plants as medicine, i.e. Ayurveda. In our social and economic life we hardly take care of our food we are taking. One such unique herb is Ajwain which has often been regarded as a brain booster. The whole plant can be used for medicinal purposes. It has a bitter and sweet taste and is known to impart a cooling energy. Ajwain is full of antioxidants that are essential for living a healthy life. We are using this property of Ajwain to get some new drugs for Aster Yellow. The uses of various pesticides, preservatives, etc. turn the foods into poison. Moreover, the side effects of these pesticides and preservatives, etc. are dangerous as because it leads to initiation of different cancer. In this whole world, the number of patients dying from cancer is increasing in a very threatening way. In-silico analysis has done using software and we further targeted some of the genes responsible for Aster Yellow and pharmacophores from Ajwain and did some in silico analysis. In this we have found that these two pharmacophores are having better Mol Doc score from any others.

**Key words:** Ajwain, Docking, In silico Analysis, Aster Yellow, Pharmacophore





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#### CURRENT USE OF HERBAL DRUGS IN INDIAN MEDICINAL PLANT

Maroti M Jeurkar\*, Umesh B Telrandhe, Satish B Kosalge

Hi-tech College of Pharmacy, Chandrapur

### **ABSTRACT**

Herbal immunomodulator is a substance which stimulates or suppresses the immune system including both innate and adaptive immune responses. The modulation of immune system by various medicinal plant products has become subject for scientific investigations currently worldwide. A number of Indian medicinal plants and various Rasayanas has been possessing immunomodulatory activity. Some of these natural immunomodulators from various plant sources such as Tinosporacordifolia, *Asparagus racemosus*, *Withaniasomnifera,Azadirachtaindica* and *Emblicaofficinalis* can be used to influence the immune system.

**Keywords:** immunomodulator, Indian medicinal plants, herbal medicinal plant





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# DEVELOPMENT OF NOVEL QUINOLINE DERIVATIVES AS CKIT KINASE INHIBITORS: IN SILICO STUDIES

Moumita Saha, Vivek Asati

ISF College of Pharmacy, Moga, Punjab

### **ABSTRACT**

Gastrointestinal stromal tumors (GISTs) are soft tissue sarcomas, which is cancer that starts in the gastrointestinal tract (GIT) wall. The stomach and small intestine are the most common sites for GISTs. cKIT belongs to the protein (serine-threonine) kinase family, which is involved in the cell cycle and neoplastic transformation. c-KIT signaling network has been the subject of intense research and pharmaceutical strategies to identify novel target-based approaches for cancer treatment. Quinoline derivatives have shown to an important role in the development of potential compounds against cKIT kinase. The current study involves the creation of pharmacophore models, 3-D QSAR, virtual screening, and docking investigations. The investigation included 29 ligands which emerge dADRRR 1, as the best pharmacophore model with a survival score of 5.6812. The 3D QSAR investigation revealed a significant model with the values of  $R^2 = 0.9947$ and  $Q^2 = 0.6547$ . Docking study revealed that compound 30 had the highest docking (-12.28) score in the series, showed interactions with the essential amino acids ILE789, CYS673, ASP677, and LYS623 required for cKIT kinase inhibitory activity. ZINC compounds were screened using the created pharmacophore model, which was followed up with a virtual screening study. The ZINC compounds with the best XP docking scores are ZINC65798256, ZINC09317958, ZINC73187176, and ZINC76176670 (with docking scores -11.258, -9.59, -9.351 and -8.846, consecutively). ZINC65798256, showed the best score, has binding interactions with amino acid residues, ASP810, LYS623, CYS673, and THR670 (PDB ID: 1T46). The ADME analysis demonstrated the compounds' drug-like characteristics. The findings of this study may be used in the development of quinoline compounds that target the cKIT kinase.

#### **Keywords**

cKIT kinase inhibitors, Pharmacophore model, ZINC compounds, Quinoline derivatives,



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OCP/AICTE-GOC/P-038

## IMMUNOMODULATORY EFFECTS OF PHYTOCHEMICALS FROM HONEY AGAINST COVID-19

Ayan Azam\*, Atishay Jain

Oriental College of Pharmacy, Raopp. Patel Nagar, isen Road Bhopal-462021 (M.P.)

Email-: mirzaayan068@gmail.com

#### **ABSTRACT**

The new coronavirus disease (COVID-19), caused by severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2), has recently put the world under stress, resulting in a global pandemic. Currently, there are no approved treatments or vaccines, and this severe respiratory illness has cost many lives. Despite the established antimicrobial and immune-boosting potency described for honey, to date there is still a lack of evidence about its potential role amid COVID-19 outbreak. Based on the previously explored antiviral effects and phytochemical components of honey, we review here evidence for its role as a potentially effective natural product against COVID-19. To the best of our knowledge, this is the first work exclusively summarizing all these bioactive compounds with their probable mechanisms of action as a Immunomodulatory, specifically against SARS-CoV-2.

**Keywords:** coronavirus disease, SARS-CoV-2, phytochemical, Immunomodulatory





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# IMMUNITY BUSTER HERBAL PLANT: DURING COVID-19 PANDEMIC Satyam Mishra

Raghukul College of Pharmacy Bhopal M.P. Email: satyammishra8055@gmail.com

### **ABSTRACT**

Novel corona virus created very harmful and hazardous health problems worldwide. Medical research network around the world is trying to find out treatment against the novel corona virus infection. In this situation, there is a need for herbal remedies to boost the immunity to fight against the corona virus. Herbal drug system have described several herbal drugs which are used as different home remedies and are assumed to be effective against corona and effective in boosting health immunity. Home remedies can be played a vital role as immunity modulator. That's way in this present study, an challenge is made to review such herbal remedies and identify its immunomodulator effect against corona virus in a pandemic situation. The subject to references were searched on the internet to find out the scientific data available on home remedies

Keywords: corona virus, immunity, modulator,





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#### MEDICINAL PLANT AND HEALTH

Ayush kumar, Nisha Thakre, Dr.Parul Mehta

Lakshmi Narain College Of Pharmacy Bhopal (M.P) India

Email: ayushkr12527@gmail.com

### **ABSTRACT**

Medicinal plants have been used in healthcare since time immemorial. Studies have been carried out globally to verify their efficacy and some of the findings have led to the production of plant-based medicines. The global market value of medicinal plant products exceeds \$100 billion per annum. This paper discusses the role, contributions and usefulness of medicinal plants in tackling the diseases of public health importance, with particular emphasis on the current strategic approaches to disease prevention. A comparison is drawn between the 'whole population' and 'high-risk' strategies. The usefulness of the common-factor approach as a method of engaging other health promoters in propagating the ideals of medicinal plants is highlighted. The place of medicinal plants in preventing common diseases is further examined under the five core principles of the Primary Health Care (PHC) approach. Medicinal plants play vital roles in disease prevention and their promotion and use fit into all existing prevention strategies. However, conscious efforts need to be made to properly identify, recognise and position medicinal plants in the design and implementation of these strategies

**Keywords:** medicinal plants, herbal drug, health





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### A REVIEW ON EXTENT OF EXPLORED POTENTIAL ABOUT PHYTOCHEMICAL AND PHARMACOLOGICAL ACTIVITY OF DURANTA ERECTA

Sahu Amit\*, Dr. Deepak Jain

Ph.D. Research Scholar Mandsaur University, Mandsaur E-mail: -- sahu.amit9074@gmail.com

### **ABSTRACT**

Duranta erecta itself has antioxidant and antimicrobial activities has been used in Africa and Asia to treat a wide range of diseases. Evaluation of study is based on phytochemical profile, antimicrobial and antioxidant activities of *D. erecta* to ascertain its health benefits in traditional medicine. Silver Nano Particles (AgNPs) were green synthesised using Duranta erecta Leaves, which shows very promising results as anti-acne agents. Green nanoparticle synthesis is gaining popularity and popularity because of its non-toxic effect on human cells, AgNPs is an excellent antibacterial agent among the various metal nanoparticles. Plant parts with antimalarial, antibacterial, antioxidant, and cytotoxic activity have been reported to include leaves, fruit, stems, and flowers. Fruit, flowers, leaves, and stems were screened for the presence of phytochemicals such as iridoid glycoside, alkaloids, flavonoids, saponins, terpenes, tannins, and sterols. This study also talks about safety of hydroethanolic leaves extract of d. Erecta in experimental rats. The current study reveals a simple, quick, and cost-effective method for synthesizing AgNP silver nanoparticles from Duranta erecta.

**Keywords:** Duranta Erecta, Phytochemical Screening, Pharmacological Properties, Silver Nanoparticles, Acne



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#### PHARMACOGNOSTICAL REVIEW OF AERVA LANATA (A MEDICINAL PLANT)

Ritesh Agrawal\*, Dr. M A Naidu

Department of Pharmacy, Mandsaur University, Mandsaur (MP)

Correspondence Email Id: ragrawal20@gmail.com

### **ABSTRACT**

Recently medicinal plants are used to prepare many medicines. *Aerva lanata* is a medicinal plant used for many purposes. *Aerva lanata* is also known as *knot grass* is a prostate herb in family Amaranthaceae. It is branched and found wildly in India. It is a traditional plant in India used for many diseases like anti diuretic, infections, cough, antidote, emollient, skin infections etc and it has many pharmacological properties like antidiabetic, antibacterial, antioxidant, antidiuretic, urolithiasis etc. This review is about the Pharmacognostic study include morphology, microscopy, chemical constituents, pharmacological activity of Aerva lanata.

Key words: Aerva lanata, Amaranthaceae, Antidiabetic, Diuretic, Urolithiasis.





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#### RECENT ADVANCEMENTS IN INDIAN HERBAL MEDICINE

Amisha Sharma, Nisha Thakre, Dr. Parul Mehta

Lakshmi Narain College of Pharmacy, Bhopal, (M.P) India.

E-Mail: - amishasharma0710@gmail.com

### **ABSTRACT**

In last few decades, the popularity of herbal medicine/products has increased worldwide not only as part of conventional treatment strategies but also for health care managementand thus the opportunity to promote Indian traditional medicine is increasing globally. Recently people from several developed and developing countries have been attracted towards traditional Indian herbal medicines. Ayurveda and other traditional herbal medicines are capable of addressing some modern unmet medical needs, and can provide the basis for developing potential medicines.

**Keywords:** Corona virus disease 2019, Traditional medicine, herbal medicine





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# CHALLENGES AND OPPORTUNITIES IN DRUG DISCOVERY FROM MEDICINAL PLANTS

Md Mahtab Alam, Prof. Kajal Sharma, Dr. Parul Mehta Lakshmi Narain College of Pahamacy Bhopal (MP) India

### **ABSTRACT**

Drug Discovery From Medicinal Plants Involves A Multidisciplinary Approach Combining Botanical, Ethnobotanical, phytochemical, and phytochemical And Biological Techniques. Thus, It Contains Many Challenges As Well As Opportunities And Involves Long Duration Of Reasearch. Several natural-product drugs of plant origin are in clinical use, including paclitaxel, camptothecin-derived analogues, arteether, galanthamine, tiotropium to name a few, and some are undergoing Pha [Grab your reader's attention with a great quote from the document or use this space to emphasize a key point. To place this text box anywhere on the page, just drag it.]se II and Phase III clinical trials. Although plant-based drug discovery programmes continue to provide an important source of new drug leads, numerous challenges are encountered, including procurement and authentication of plant materials, implementation of high-throughput screening bioassays and scale-up of bioactive lead compounds.





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### NATURAL PRODUCTS IN DRUG DEVELOPMENT AND FOR TREATMENT OF COVID-19

Rishab Rajput, Saksham Sahu, Nisha Thakre, Dr. Parul Mehta

Lakshmi Narain College of Pharmacy, Bhopal (M.P.)

Email-:- rajputrishabh616@gmail.com

### **ABSTRACT**

COVID-19 is a viral disease caused by a new severe acute respiratory syndrome (SARS-COV-2), which has quickly resulted in a pandemic. As a great threat to global public health, the development of a treatment has become vital, and a rush to find a cure has mobilized researchers from all areas across the world. Synthetic drugs, such as hydroxychloroquine, have gained attention. However, the efficacy of repositioned drugs is still under evaluation, and besides, some severe side effects are a cause for concern. This emphasizes the urgency for treatment options, which can be both safe and effective. With this in mind, natural products could be an important resource in the development of COVID-19 treatment. Natural products are described long term as bioactive substances and some phytochemical classes such as flavonoids, alkaloids, and peptides are known antiviral bioproducts.

**Keywords**: COVD-19, Coronavirus, SARS-COV-2, Natural products, Phytochemicals, traditional medicine





### "Herbal Era- Role of Indian Herbal Medicine for Combating COVID 19: Scientific and Medical Aspects"





OCP/AICTE-GOC/P-046

#### **ROLE OF HERBAL MEDICINE IN COVID-19**

Himani Bhatia\*, Nisha Thakre, Dr. Parul Mehta

Lakshmi Narain College of Pharmacy, Bhopal (M.P.) India

E-Mail:- himani.bhatia1204@gmail.com

#### **ABSTRACT**

This study provide role of herbal medicine in disease prevention. Herbal medicine could be applied as diet or supplement to prevent infection and strengthen the immunity or as supportive therapy in combination with validated anti-COVID drugs to modulate the cellular and humoral immune responses, to limit co-infections or even to reduce virus titers. Since some natural products below 10  $\mu$ M could be also considered as promising anti-SARS-CoV-2 agents, but this effect must be evaluated through prospective and interventional studies paying attention to the specificity of the action exerted by such products, sustainable sourcing of the species, doses range used, or the use of appropriate controls.

**Keywords:** Coronavirus disease 2019, Medical observation, Herbal medicine, Network analysis.





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#### IMMUNOMODULATORS FROM NATURAL RESOURCES

Ritik Raj , Nisha Thakre , Dr. Parul Mehta Lakshmi Narain College of Pharmacy , Bhopal (M.P.)

#### **ABSTRACT**

Novel corona virus created very harmful and hazardous health problems worldwide in this situation there is a need for herbal remedies to boost the immunity to fight against **COVID 19**. Home remedies can be played a vital role as immunity modulator. Herbal medicine could be applied as diet or supplement to prevent infection and strengthen the immunity or as supportive therapy in combination with validated anti-covid drugs to modulate the cellular and humoral immune responses, to limit co-infections or even to reduce virus titers.





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#### MEDICIAL PLANT AND HEALTH

Avinash kumar\*, Nisha Thakre, Dr. Parul Mehta

Lakshmi Narain College of Pharmacy, Bhopal, (M.P) India.

kumaravinash30187@gmail.com

#### **ABSTRACT**

Herbal drugs constitute a major share of all the officially recognised systems of health in India viz. Ayurveda, Yoga, Unani, Siddha, Homeopathy and Naturopathy, except Allopathy. More than 70% of India's 1.1 billion population still use these nonallopathic systems of medicine. Currently, there is no separate category of herbal drugs or dietary supplements, as per the Indian Drugs Act. However, there is a vast experiential-evidence base for many of the natural drugs. This offers immense opportunities for Observational Therapeuticsand Reverse Pharmacology. **Keywords** -HearbalMedicine, Herbal drugs





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### ROLE OF NYCTANTHES ARBOR-TRISTIS IN THE MANAGEMENT OF POST COVID-19 DEPRESSION

Monika Kaushik\*, Ankit Kumar Yaday, Neetesh Kumar Jain
Department of Pharmacology, Faculty of Pharmacy, Oriental University, Indore, Madhya
Pradesh, India. Email id.: monikakaushik28@gmail.com

#### ABSTRACT

The outbreak of Corona Virus Disease (COVID-19) in 2019 was the deadliest respiratory disease causing the loss of humans, daily lifestyle, and the commerce around the globe and turned into a pandemic. The infection of COVID-19 had not only affected the day to day to the life of the patients but also left them with the post COVID complications. One of the most challenging to deal with is depression, which had affected most of the population according to the reports. For the management of the same, there are treatments available but majority of them suffers with the limitation of the severe adverse drug reactions. The major organ of the body also gets weaken during the infection of COVID and might not be able to tolerate the ADRs associated with the synthetic treatment. A ray of hope has arisen for the patient suffering from the depression in the form of herbal and polyherbal medications. As the herbal medication coming from the plants from the nature, they tend to show lesser ADRs in comparison to the medicines of synthetic origin. Nyctanthes arbor-tristis is the source of many chemical constituents effective against a variety of medical conditions including depression. The aqueous and non-aqueous extracts from the leaves and the flowers of the Nyctanthes arbor-tristis have shown positive response in the laboratory animals induced with the depression using various pharmacological tools. The animals administered with the extract of *Nyctanthes arbor-tristis* were observed to show improved behavioral changes with the ones abstained from. In the present work a systematic review of the medical potential of the extract of leaves and flowers of Nyctanthes arbor-tristis, available chemical constituents in the leaves and flowers, method of extraction of chemical constituents, available synthetic treatment for depression and the ADRs associated with the same and research work carried out for the evaluation of the effect of the antidepressant activity of Nyctanthes arbor-tristis in the animals' models has been summarised and reported.



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OCP/AICTE-GOC/P-050

# BOERHAAVIA *DIFFUSA*: TREATMENT FOR KIDNEY AILMENT NISHA G. BHAT

Department of Pharmacognosy
Smt. S. S. Patil College of Pharmacy, Chopda.
KBC North Maharashtra University, Jalgaon.

#### **ABSTRACT**

Herbal medicines have been used in traditional medical practices for centuries. Two recent scientific studies have claimed that traditional medicinal plants like punarnava, could be effective in preventing and managing ailments related to the kidney. Boerhaavia *diffusa* is a species of flowering plant in the four o'clock (Nyctaginaceae) family which is commonly known as punarnava (which rejuvenates or renews the body in Ayurveda). The punarnava roots containing syrup (Neeri KFT) is a potent nephro-protective formulation, protecting kidneys from nephrotoxins, including oxidative damage induced by lead acetate." Punarnava (Hogweed) literally means 'bring back to life' or 'renewer'.

**Keywords**: Traditional herbs, Boerhaavia diffusa (punarnava), kidney ailment, nephroprotective





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#### IMMUNE BOOSTERS: DURING PANDEMIC (COVID-19)

Amrita Viswas\*, Mr. Akash Chandak , Dr. Ankit Chandak , Mr. Mayank Patel
Shikhar Institute of Pharmacy, Budaun U.P.(India)

Email id- amritaviswas22@gmail.com

#### **ABSTRACT**

In the last two years the pandemic has knocked and pushed millions of people out of their healthy lives into poverty and insalubrious. Today everyone is fighting with this crucial pandemic. Prophylactic measures are taken by us such as hand washing, avoiding contact with fake individuals, making distance from the peoples, sanitization is necessary for us. A good immune system is required for our healthy body, for which our life style plays a major role for building our proper immune and today the main reason for the corona virus is the weak immune system. The immune responses is how your body recognizes and defense itself against harmful microorganisms and substances that appear foreign elements. People with the weak immune system have a higher risk of experiencing frequent infections and sever symptoms they may be more prone to pneumonia, asthma, viruses that causes the infection COVID 19 can have a devastating effect on a person. In order to fight diseases and boost the immune system certain types of herbal nutriments is the solution. immune system is not properly taken care of it can be result in disease.

**Key words-** Covid- 19, immune boosters, pandemic

