



AJPTR

**1st International Conference on
Quality Assurance and Phytochemical Approaches in Traditional Medicine**

'ICTM 2020 SCIENTIFIC PROCEEDING'

January 10th & 11th-2020

**AMERICAN JOURNAL OF
PHARMTECH RESEARCH**

1st International Conference on

“Quality Assurance and Phytochemical Approaches
in Traditional Medicine”

January 10 -11, 2020



Organised by

SMBT College of Pharmacy

SMBT Institute of Diploma Pharmacy

Venue

SMBT Educational Campus, Nandihills,
Dhamangaon; Tal. Igatpuri, Dist. Nashik,
Maharashtra-422403; INDIA

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Welcome Message

Dear all Delegates and Participants

SMBT is pleased to welcome all the participants from different states and various countries to attend 1st international conference on 'Quality Assurance and Phytochemical Approaches in Traditional Medicine-2020' during January 10th and 11th, 2020 at Nashik, India. The theme of the conference is "Exploring quality assurance and phytochemical research in traditional medicine which practiced for treatment and healing" This ICTM 2020 deals with the current research developments in the field of Traditional Medicine and also about the new treatment methods which are devised by scientists to treat various diseases in an easier way. These formal get together acts as a best platform for participants to learn about the recent trends in quality assurance and phytochemical research and development in traditional medicines.

The ICTM 2020 is focuses on recent research an development on Traditional Medicine and clinical study of herbal medicines. The session are emphasized on

1. Traditional medicines- sources & clinical application
2. Quality assurance if Traditional Medicine
3. Phytochemistry – isolation and use of active principles.
4. Trade of natural products and Traditional Medicine
5. Biological screening of natural medicines.
6. Pharmaceutical Biotechnology

Eight lectures will be presented by distinguished scientists. The researchers will be able to report their research finding in 17 paper presentations and 67 poster presentations. 04 poster presentation awards and 04 paper presentation awards will be presented each to 02 academician/ research scholar and 02 students.

We would like to thank to the SMBT management for their help and encouragement during the preparatory stage of the conference. Our grateful thank for the scientific committee for processing abstracts and proceedings book in time. Our special thank for the organizing committee who have done their most to offer a successful and satisfying conference.

We wish you all a fruitful conference which strengthen friendship and traditional medicine. We hope everyone enjoy their stay in Nashik and take home new scientific knowledge and inspiration.

...SMBT Educational Trust

Organizing Committee



**Prof. Dr. Avinash S.
Dhake**
Principal, SMBT College
of Pharmacy



**Prof. Dr. Manoj R.
Kumbhare**
Coordinator, ICTM 2020



Dr. Yogesh V. Ushir
Programme chair,
Principal, SMBT Institute
of D. Pharmacy

Organizing Committee Members

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Dr. N.V. Shinde

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Ms. M.T. Ruparel

Dr. P.B. Ghogare

Mr. S.R. Kochar

Mr. P.R. Dighe

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Ms. B.D. Tambe

Ms. S.V. Lambe

Mr. K. J. Tiwari

Ms. S.T. Garud

Ms. K.M. Khedkar

Dr. P.G. Morankar

Mr. Vijay Mahajan

Ms. Prajakta Shinde

ICTM 2020 Pre-Conference

Scientific Program Schedule

09th January 2020

Venue- SMBT Diploma Pharmacy, Conference Hall

Sr.No.	Time	Activity	Topic
1	01.00pm to 01.20pm	Inaugural Function	-----
2	01.25pm to 02.25pm	Assist. Prof. Frances I. Ahunun Department of Pharmaceutical Chemistry, Igbinedion University Benin City, Nigeria	From Discovery to the Market (Including Animal Formulations)
3	02.30pm to 02.45pm	High Tea Break	-----
4	02.50pm to 03.50pm	Assist. Prof. Dwi Marlina Syukri Malahayati University, Lampung, Indonesia	Preliminary phytochemical, antioxidants, and antibacterial properties of Eucalyptus aqueous leaf extract against <i>Streptococcus</i> <i>pyogenes</i>
5	03.55pm to 04.10pm	Valedictory Function	-----

Scientific Program

ICTM 2020 Scientific Program Schedule

10th January, 2020

Venue: SMBT Dental College Conference Hall

Sr.No.	Time	Activity	Topic
1	09.00 am to 09.45am	Registration and Breakfast	----
2	09.45am to 10.15am	Opening and Welcome Ceremony	-----
3	10.15am to 11.30am	Key Note Speaker Assoc. Prof Dr Pharmkphoom Panichayupakaranant Director, Phytomedicines Pharmaceutical Biotechnology Excellence Center, Faculty of Pharmaceutical Sciences, PSU, Thailand	Green Extraction: A Practical method for Industrial Applications of Herbal Products
4	11.30am to 12.45pm	Invited Speaker Prof. Dr Mohamed Ali Seyed Department of Clinical Biochemistry, University of Tabuk, Saudi Arabia	Plant Derived Natural Products as Immune Modulators: A Special Focus on <i>Phyllanthus</i> <i>Amarus/Niruri</i> on Cancer and Autoimmune Diseases
5	12.45pm to 02.00pm	Lunch	----
6.	02.00pm to 03.15pm	Key Note Speaker Asst. Prof Dr Chatchai Wattanapiromsakul Associate Dean, Research and Graduate Studies, Faculty of Pharmaceutical Sciences, PSU, Thailand	Acetyl Cholinesterase Inhibitors from Natural Products
7.	03.15pm to 03.45pm	High tea	-----
8.	03.45pm to 05.00pm	Invited Speaker Asst. Prof. Dwi Marlina Syukri Malahayati University, Lampung, Indonesia	Antimicrobial Characteristic and Biocompatibility of Silver nano-particles (AgNPs) Synthesized using Aqueous Leaf extract of <i>Eucalyptus</i> Species

11th January, 2020

Venue: SMBT Dental College Conference Hall

Sr. No.	Time	Activity	Topic
1.	09.00 am to 09.30am	Breakfast and Tea	----
2.	9.30am to 10.45am	Key Note Speaker Asst. Prof Dr Panupong Puttarak Assistant President, Research and Innovation driven System, Faculty of Pharmaceutical Sciences, PSU, Thailand	Systematic review and Meta- analysis approach for Herbal Medicine
3.	10.45am to 12.00 noon	Invited Speaker Assoc. Prof. Dr. Uttam Budhathoki Department of Pharmacy, Kathmandu University, Dhulikhel, Nepal	Production, Optimization, purification and Scale up of Xylanase by <i>Brevibacillus</i> <i>borstelensis</i> – MTCC 9874 isolated from Soil sample of Eastern Nepal
4.	12.00pm to 1.00pm	Lunch	----
5.	01.00pm to 03.00pm	Paper and Poster Presentation	-----
6.	03.00pm to 03.15pm	High Tea	-----
7.	03.15pm to 04.00pm	Prizes Distribution and Valedictory	-----

Table of Paper Presentation

Saturday, January 11th 2020

Time: - 01.00pm noon to 03.00pm

Academician/ Research Scholars Category

Code ID	Title	Author
AP-01	Anti-Diabetic Potential of <i>Amaranthus spinosus</i> in Alloxan Induced Rats	Mr. Amol S. Dighe
AP-02	Endophytes of <i>Vitis vinefera</i> : The Treasure House of Antioxidant Rich Phytochemicals	Ms. Anita V. Handore
AP-03	Quality Control in the Pharmaceutical Industry	Ms. Frances Ahunun
AP-04	Searchlight on the Discovery and Development of Plant Derived Anti Snake Venom Principles.	Mrs. Rashmi H. Mishal
AP-05	Development and in-vitro and in-vivo Evaluation of Mucoadhesive Buccal Tablet of Nebivolol HCl for Unidirectional Release	Mr. Dattatraya M. Shinkar
AP-06	Polyherbal Combination as Energy Drink	Mrs. R. M. Sharma
AP-07	Antithrombotic Prescribing Patterns Among Patients Diagnosed with Atrial Fibrillation in Cardiac Super speciality Hospital of Kathmandu	Ms. Durga Bista
AP-08	Formulation and Evaluation of Herbal Shampoo	Ashwini S Pundkar
AP-09	Development And Validation of Rp-HPLC Method for Simultaneous Estimation of Acebrophylline and Doxophylline in Pharmaceutical Dosage Form	Mrs. Hemlata S. Bhawar
AP-10	Chyawanprash : A Herbal Nutraceutical	Mrs. Snehal D. Wani
AP-11	Protective Effect of Curcumin alone and in Combination with Isradipine against Chemicals Induced Seizures and Oxidative Stress in Mice	Ms. Prachi M. Murkute
AP-12	Formulation, Preparation and Evaluation of Ethosomal Gel for Transdermal Delivery of Anti- diabetic Drug	Mr. Ambekar Abdul Wahid
AP-13	Diversity of Medicinally Important Geophytes from Chandwad and Nandgaon Tehsils District Nashik, Maharashtra. (India)	Mr. Kokate Darshan M.

AP:- Academician/Research Scholar Paper

Students Category

Code ID	Title	Author
SP-01	Isolation and Characterization <i>B</i> -Phicoerythrin from the Microalgae <i>P. Cruentum</i>	Radho Alkausar
SP-02	Authentication of <i>Azadirachta indica</i> (Neem) Plant by Pharmacognostic and Phytochemical Evaluation	Ms. Mayuri S. Kale
SP-03	Pharmacognostical and Preliminary Phytochemical Studies of <i>Argyreia Speciosa</i> Leaves	Ms. Bhagyashri Nagare
SP-04	Evaluation of Herbal Toothpaste Pellets -A Randomized Controlled Trial.	Ms. Dhruvi Atul Shah

SP:- Students Paper

Table of Poster Presentation

Saturday, January 11th 2020

Time: - 01.00pm noon to 03.00pm

Academician/ Research Scholars Category

Code ID	Title of Poster	Author Name
APO-01	A Review on Pharmacognostic & Pharmacological Study of Anacyclus Pyrethrum	Ms. Kavita Dhamak
APO-02	Isolation And Identification of Bacteria Present Over the Mobile Phones Which Serve as a Vehicle to Transmit the Infection in Individual	Mr. Sagar Magar
APO-03	Does Mula Nakshatra Affect Phenol and Flavonoid Content and Antioxidant Activity of <i>Hardwickia binata</i> Roxb. Stem?	Ms. Jyoti Pande
APO-04	Antimicrobial Profile of Bacterial Isolates From Suspected Cases of Catheter Associated Urinary Tract Infection	Ms. Rajashree Ghogare
APO-05	In Vitro Antioxidant Activity of Kaempferol Microemulsion	Ms. Minal Patil
APO-06	Synthesis and Characterization of Co-Polymer Poly (Nipam)-Acrylamide Microgel	Ms. Sunita Gaikwad
APO-07	A Review on Microencapsulation	Ms. Suvarna Wagh
APO-08	Development of Quality Control Parameters for the Standardization of Some Medicinal Plant in Mimosaceae Family	Ms. Swapna Hire
APO-09	Amalaki (<i>Emblca officinalis</i>) A Traditional Ayurvedic Rasayan Drug	Ms. Varsharani Chaudhari
APO-10	A Review of Pharmacological Properties of The Three Commonly Used Indian Spices- <i>Zingiber officinale</i> (Adraka), <i>Allium sativum</i> (Rasona) and <i>Cuminum cyminum</i> (Jeeraka)	Dr. Pramod Kharkar
APO-11	Triphala Ghrita: A Part of Holistic Dietic Regimen in Ayurveda to Cure Ocular Disorders	Ms. Kranti Patil
APO-12	Antioxidant Activity of Extracts of <i>Lagenaria Siceraria</i>	Mr. Kailas Chittam
APO-13	Extensive Approach on Drug Discovery	Dr. Priyadharshani Kamble

APO-14	Characterization of Surfactant and Electrolyte on Silicon Colloid Emulsion	Ms. Smita Pandit Bedis
APO-15	Diversity of Ethno Medicinally Important Climbers in Kalwan Tehsil District Nashik (M.S)	Ms. Sonali Deore
APO-16	Pharmacognostical Standardization and Preliminary Phytochemical Analysis of <i>Glossocardia Bosvallia</i> (L.F.) DC	Mr. Bhagawan Supekar
APO-17	Proniosomes: A Future Promising Vesicular Drug Delivery System	Ms. Suranalata Mahajan
APO-18	Evaluation of Antineoplastic Activity of Ethanolic Leaves Extract of <i>Tylophora indica</i>	Ms. Aayesha Rabiya
APO-19	Phytochemical Screening of <i>Citrullus Colocynthus</i> Schrad	Mr. Mohammed Tarique
APO-20	Present Scenario of Traditional Medicine	Ms. Priyanka Patil
APO-21	Quality Control of <i>Churna</i> formulation: Focus on Ayurvedic and Modern Parameters	Mrs. Rohini Waghmare
APO-22	Pyrazole Derivatives as Selective Estrogen Receptor Modulators: Design, Synthesis, Biological Evaluation and Docking Analysis	Mr. Pritam N. Dube
APO-23	Novel Drug Delivery System for Herbal Formulation	Ms. Prerana N. Jadhav
APO-24	Evaluation of Memory Enhancing Potential of <i>Dendrocalamus Strictus</i> Leaf Extract on Suitable Animal Model	Mr. Akshay Daswad
APO-25	Microwave Assisted Synthesis and Molecular Modeling Studies of Some Novel Polo-Like Kinase 1 (PKL1) Inhibitors as Anticancer and Anti-Inflammatory Agents.	Mr. Ganesh K Dhikale
APO-26	Design Development and Evaluation of Memory Enhancing Potential of Poly-Herbal Formulation	Ms. Dipali P. Shelke
APO-27	In-Vitro Evaluation of Anti-Diabetic Polyherbal Formulation Containing <i>Salacia Prenoides</i> and <i>Coccinia Indica</i>	Prof. (Dr.) Kishorkumar
APO-28	The Insights of Nonalcoholic Steatohepatitis	Mr. Amol Bhalchandra Deore

APO: - Academician/Research Scholar Poster

Students Category

Code ID	Title of Poster	Author Name
SPO-01	Evaluation and Formulation of Herbal Cough Syrup	Mr. Abhishek Shinkar
SPO-02	The Effect of Herbal Medicine on Platelet Count	Ms. Pratiksha Pawar
SPO-03	Ayurvedic Approach to Treat Swine Flu	Ms. Shraddha Halkor
SPO-04	Herbal Extract for Malaria	Ms. Komal Jagdale
SPO-05	Bi-Layer Tablet : A Novel Approach	Mr. Sudarshan Kakad
SPO-06	Evaluation of the Curative Anthelmintic Effect of <i>Ficus racemosa</i> Leaf Pet Ether Extract	Ms. Sunayana Vikhe
SPO-07	Fabrication and Evaluation of Acetaminophen Tablets by Using Guava Powder (<i>Psidium guava</i>)	Mr. Akash Vishwakarma
SPO-08	Phytochemical Study of <i>Dendrophthoe falcata</i>	Ms. Akshada Kale
SPO-09	Formulation and Evaluation of Emulgel Containing Nirgudi Oil	Ms. Manasi Patole
SPO-10	GC-MS Determination of Caffeine in Tea and Coffee Using Homogeneous Liquid-Liquid Microextraction Based on Solvents Volume Ratio Alteration	Ms. Pranali Band
SPO-11	Formulation & Development of Nutraceutical Jelly for UTI Infection	Ms. Pranali Shimpi
SPO-12	Bio-autographic Antimicrobial Potential of <i>Blepharis Repens</i>	Ms. Sayali Jadhav
SPO-13	Formulation and Evaluation of Herbal Ointment of <i>Blumea lacera</i>	Ms. Siddhi Chandak
SPO-14	Enhancement of Binding Property of Acetaminophen Tablets by Using Okra Gum	Ms. Vishakha Shinde
SPO-15	Design and Synthesis of Some Novel Thiazolidinone Derivatives as Anticonvulsant Agents	Ms. Yogita Thombare
SPO-16	Stability Indicating UV Spectrophotometric Method for the Estimation of Azilsartan Medoxomil in Bulk and Pharmaceutical Formulations	Mr. Prasad Gosavi

SPO-17	Synthesize MSX and AMSX to be Used as Carrier for Enhancing the Loading and Release Rate of NH and Compare it with Parteck Slc.	Ms. Poonam Bachhav
SPO-18	Neutraceutical : An Overview	Ms. Pratiksha Sahane
SPO-19	Formulation and Evaluation of Herbal Shampoo	Mr. Vinayak Chavan
SPO-20	Future of Natural Drugs Used to Treat Aids: An Overview	Ms. Akshada Shinde
SPO-21	Future Aspect of the Probiotic and Prebiotic : An Overview	Ms. Priyanka Sonawane
SPO-22	Current Aspects of Traditional Medicine :An Overview	Ms. Priyanka Gaikwad
SPO-23	Role of Nutraceuticals in Cholesterol Lowering	Ms. Sujata P. Igale
SPO-24	Estimation of Secondary Metabolites in Different Tea and Coffee Brands of Indian Market	Mr. Prasad Kharche
SPO-25	Preparation and Evaluation of Ayurvedic Dhoopbatti as Ayurvedic Supplementary for Ulcers	Mr. Guruvinder Gelangee
SPO-26	Synthesis and Characterization of Some Novel Carboxylic Acid-Amino Acid Ester Conjugates	Ms. Akansha Gaikwad
SPO-27	Synthesis and Characterization of Some Pyrazole Derivative	Mr. Pratik Ugale
SPO-28	Herbal Plants as Anti-HIV Activity	Ms. Pooja Samrut
SPO-29	Extraction of Mucilage and Comparative Evaluation as a Binder	Ms. Mrunmai Chaskar
SPO-30	Comparative study of different varieties of polished and unpolished rice of Ghoti regions	Ms. Darshana Varma
SPO-31	Formulation and Evaluation of piroxicam loaded PLGA Microspheres	Ms. Dipali M. Ghuge
SPO-32	Ethnobotanical studies of <i>Erythrina indica</i> Plants	Ms. Shraddha Avhad
SPO-33	Study of Pharmacological (Anxiolytic) Activity Using bark Extract of <i>Azadirachta indica</i>	Ms. Bhopi Sweety
SPO-34	Mapping of Ligand Binding Domain of Target Protein Paroxysome-Proliferator Activator Receptor Gamma and Molecular Docking of Thiazolidinediones for De-Novo Design of useful Antidiabetic Agents	Ms. Malvi Patel

SPO-35	An overview on Herbal-drug Interaction	Mr. Shivam P. Agrawal
SPO-36	The Phytochemical Study of Artemisinin	Mr. Yash Dakale
SPO-37	Traditional Medicines - Sources and Clinical Applications	Ms. Sneha Bansode
SPO-38	Trade of Natural Products and Traditional Medicines	Ms. Ashwini Dhakne
SPO-39	Quality Assurance of Traditional Medicine	Ms. Samiksha Sunil Donde

SPO:- Students Poster



ICTM 2020

Speakers Abstracts

Green Extraction: A Practical method for Industrial Applications of Herbal Products

Assoc. Prof. Dr. Pharmkphoom Panichayupakaranant



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Abstract

Industrial regulations require a diminished consumption of petrochemical and volatile organic solvents. The safety of the chemicals used and the absence of risk during extraction process are a major concern and have drawn attention towards the need to use green solvents¹. Nowadays, various alternative green solvents, with high extraction capacity, biodegradable, low toxicity and low flammability have been reported^{2,3}. In addition, microwave-assisted extraction (MAE) is an extraction method that combines microwave and solvent extraction. MAE is on the basis of application of microwaves for heating the solvents and plant tissues in an extraction process that increases the kinetic of extraction, and has a number of advantages, such as reduced extraction time, less solvent use, higher extraction rate, and reduced cost of extraction, over traditional methods of extraction of compounds from herbal materials⁴.

Mangosteen pericarps are a by-product of the mangosteen juice factory. The pericarp extracts are enriched in xanthenes, particularly α -mangostin, which has been used as a marker for their standardization⁵. Extracts from mangosteen pericarps have been reported to have various pharmacological activities, including antimicrobial, anti-inflammatory, antioxidant, and wound healing properties, and have therefore been used in several commercial pharmaceutical products and cosmetics. It has been reported that dichloromethane was the most suitable solvent for extraction of α -mangostin⁶. However, the use of dichloromethane as a solvent for extraction is restricted due to its toxicities. The absence of risk during extraction and the safety of the ingredients used are a major concern and have drawn attention towards the need to use a greener solvent. The present studies have focused on investigating the use of excipients for topical

formulation that has including isopropyl myristate and cetyl alcohol as alternative green solvents for extraction using a microwave assisted green extraction method⁷. These solvents have similar polarities to dichloromethane, but they are considered to be safer and cheaper. The obtained extracts contained α -mangostin of not less than 2.0% w/w and can be used directly for topical formulations without the step of solvent evaporation and have resulted in a reduced cost of production. The medicinal creams and gels containing of 0.1% w/w α -mangostin were then formulated using these extracts⁸.

Garcinia cowa is an edible plant commonly known in Thai as “Chamuang”. We have recently isolated a new polyprenylated benzophenone, namely “chamuangone” from *G. cowa* leaves. Chamuangone possessed a significant cytotoxic activity against lung adenocarcinoma (SBC3 and A549) and leukemia (K562, and K562/ADM) cells with IC₅₀ values of 6.5, 7.5, 3.8, and 2.2 μ M, respectively, as well as antibacterial activity against *Streptococcus pyogenes* (MIC 7.8 μ g/mL), *S. viridans* and *Helicobacter pylori* (MICs 15.6 μ g/mL), and *Staphylococcus aureus*, *Bacillus subtilis* and *Enterococcus* sp. (MICs 31.2 μ g/mL)⁹⁻¹⁰. Therefore, *G. cowa* leaf extracts containing chamuangone may be potentially used as a dietary supplement for prevention of cancer. Thus, a suitable extraction method as well as a standardization process for preparation of *G. cowa* leaf extracts containing chamuangone should be optimized in order to get a consistently high-quality extracts that can be effectively used in nutraceutical applications. A method for quantitative analysis of chamuangone in *G. cowa* leaf extracts has been established using a reversed-phase HPLC. In addition, hexane was a suitable solvent for extraction of chamuangone from *G. cowa* leaves using a microwave assisted extraction¹⁰. However, the use of hexane as a solvent for extraction is restricted due to its toxicities. Therefore, the present studies have focused on investigating the use of vegetable oils as the alternative green solvents for extraction of chamuangone from *G. cowa* leaves¹¹⁻¹². A nutraceutical, soft gelatin capsule containing *G. cowa* leaf extract (500-1000 mg) that extracted with rice bran oil has been prepared using a green extraction method. The extracts are standardized to contain chamuangone of 1.9 mg/mL. The rice bran oil extract of *G. cowa* leaves exhibited satisfactory anticancer activities against human colorectal adenocarcinoma (HT-29), breast adenocarcinoma (MCF-7) and lung adenocarcinoma (A549) cells with IC₅₀ values of 12 - 16 μ g/mL, and no toxicity to normal cells.

Reference:

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**Plant derived Natural Products as Immune Modulators:
A Special Focus on *Phyllanthus Amarus/Niruri* on Cancer
and Autoimmune Diseases**

Prof. Dr. Mohamed Ali Seyed

Dept. of Clinical Biochemistry, Faculty
of Medicine, University of Tabuk, Tabuk 41791, Saudi Arabia

Abstract

The treatment of most cancers is still incomplete, despite tremendous technological advancements. Similarly, autoimmune diseases (AD) including rheumatoid arthritis (RA) is one of the progressive condition arising from an abnormal immune response to a normal body part. Treatment options for most AD are still insufficient, despite developments and technology advancements. The mechanisms, which cause the deregulation of the immune response not entirely understood. However, studies have demonstrated that heavy metal toxicity, leaky gut syndrome, infectious bacteria and parasites, and nutritional imbalances can overburden the body's immune system, thus deregulating immune signals and responses. Ongoing research investigates the mechanism by which these factors cause the immune system to attack the body's own tissues. Therefore, any new effective and safe therapeutic agents will be highly demanded both for cancer and for AD. To circumvent many plant extracts have attributed for their chemo protective potentials and their influence on the human immune system. It is now well recognized that immunomodulation of immune response could provide an alternative or addition to conventional chemotherapy for a variety of disease conditions. However, many hurdles still exist. In recent years, there has been a tremendous interest either in harnessing the immune system or towards plant-derived compounds as immune modulators for their efficacy, safety and their targeted drug delivery and mechanism of action. This presentation discusses *Phyllanthus Linn.* derived compounds and their immunomodulatory properties. Although, as many as 500 important bioactive phytochemical compounds have been isolated from *Phyllanthus* their

chemotherapeutic, immunomodulatory properties, molecular targets and modes of action are yet to be enlightened in detail. Hence, our results are very useful for further research on *Phyllanthus* spp. because many phytochemicals from these plants have demonstrated preclinical therapeutic efficacy for cancer and AD, particularly RA.

Keywords: Cancer, *Phyllanthus amarus/niruri*, Phyllanthin, hypophyllanthin, rheumatoid, immunomodulation



Acetylcholinesterase Inhibitors from Natural Products

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Abstract

Alzheimer's disease (AD) is the most common neurodegenerative syndrome, recognized as the origin of dementia among elderly people in which cognitive characteristics such as intelligence, memory, language, and speech are overshadowed. In 2015, approximately 46.8 million people worldwide were believed to suffer from AD. The number of people affected by AD is estimated to triple by 2050 which will bring severe economic loss. The rapid growth of AD as well as medical and social issues in both developed and developing countries has attracted the attention of researchers to develop their drug searching in this area. Although the pathogenesis of AD is not fully understood, currently increasing cholinergic neurotransmission in the brain by lowering ACh hydrolysis is considered the most efficacious treatment approach for AD. ACh can be degraded by acetylcholinesterase (AChE) and butyrylcholinesterase (BuChE)¹. Amyloid- β -peptide (A β) deposits also play a significant role in the occurrence of AD². Investigation of natural origins from novel sources for novel bioactive compounds has been a prominent field of biomedical research over the last decades, providing drugs or lead compounds with considerable therapeutic potential.

H. antidysenterica (Roth) Wall. ex A. DC. belongs to the Apocynaceae family, commonly known in Thai as *Mokluang* and commonly known in commerce as *Kurchi* or *Conessi*. In the past, this plant has been used in folk medicine for various purposes. Also, it is a popular preparation used in the treatment of diarrhea, dysentery, asthma, bronchopneumonia and malaria³. The investigation of acetylcholinesterase inhibitory activity from *H. antidysenterica*, five compounds were isolated from the bark including four steroidal alkaloids, conessine (**1**), isoconessimine (**2**), conessimine (**3**), and *N*-3-methylholarrhimine (**4**) and one coumarin, scopoletin (**5**). *In vitro* study found that those compounds presented high activity, and compound **3** was considered as the

highest. The AChE inhibitions kinetic of steroidal alkaloids were found to be competitive. The molecular docking suggested that the major interaction of the enzyme-inhibitor complexes is due to hydrophobic interaction inside the aromatic gorge of this acetylcholinesterase. Concerning other interactions, H-bond was found as the response for the activity of **3**. In compound **5**, H-bond and π - π interaction were found as responses for AChE inhibitory effect.

References

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Antimicrobial Characteristic and Biocompatibility of Silver Nano-particles (AgNPs) Synthesized Using Aqueous Leaf Extract of *Eucalyptus* Species

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Abstract

Objective. Silver nanoparticles have recently known to have strong inhibitory and bactericidal effect as well as broad spectrum of antimicrobial activities against multi drug resistant microorganisms. The present study aims to analyze antibacterial activity and biocompatibility of silver nanoparticles (AgNPs) synthesized with leaf extract of *Eucalyptus* species.

Methodology. Green synthesized of AgNPs was characterized using UV-vis spectrophotometer to analyze the absorption peak of Ag, particle size and morphology were observed using transmission electron microscope (TEM). In addition, antibacterial activity was determined using broth microdilution assay against *Acinetobacter baumannii* as a multi drug resistant and cell viability was accessed using MTT assay on CaCO₂ colon cell.

Results. UV-vis spectra displayed a peak at 410 nm, represented the surface plasmon resonance band of Ag and TEM results showed that AgNPs has a spherical shape with particle size 4 to < 30 nm. Moreover, AgNPs at MIC demonstrated bacteriostatic on *Acinetobacter baumannii* with approximately 2 log reduction in bacterial growth and showed bactericidal effect at 2MIC, 4MIC respectively with ≥ 3 log reduction in bacterial growth. Moreover, *in vitro* cytotoxicity investigation of AgNP on metabolic CaCO₂ colon cell activities were not significantly different from negative control.

Conclusion. AgNPs green synthesized shown antimicrobial activity and do not affect the viability of cell.

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**Production, Optimization, Purification and Scale up of Xylanase
By *Brevibacillus Borstelensis* – MTCC 9874 Isolated from Soil
Sample Of Eastern Nepal**

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Abstract

Brevibacillus borstelensis-MTCC 9874, screened from 202 microorganisms, was isolated by primary and secondary screening methods for xylanolytic activity (XA) from seven different places of Kavre and Morang districts of Nepal. In submerged fermentation (SmF), the microorganism was grown for 48 hours in five different media and minimal salt-yeast extract nutrient medium with xylan (1% w/v) was selected as a medium for further study where as it was grown for 96 hours in five different mineral salt solutions (MMS) with rice husk and MSS-1 was selected as a medium for further study in solid state fermentation (SSF) based on XA measured using DNS method. Optimum temperature and pH on XA were 60°C (XA = 6.58±1.1 IU/ml) and 7.6 (XA = 6.81±2.32 IU/ml) respectively. Thermal stability study showed that the enzyme has a good stability at 40°C (91.12%). In SmF, Plackett Burman design (PBD) (Minitab 15.1) was used with seven variables viz. xylan, yeast extract (YE), (NH₄)₂SO₄, NaCl, MgSO₄, CaCO₃ and trace element solution (pH 8). The result showed that YE and xylan were significant factors for xylanase production (> 95% confidence levels) where as PBD with six variables viz. K₂HPO₄, rice husk, NaCl, MgSO₄, NaCO₃ and CaCl₂ was carried out in SSF and the result showed that K₂HPO₄ and rice husk were significant factors for xylanase production (> 95% confidence levels). Centre composite design was used to optimize the two significant factors and response surface and contour plot were used to locate the optimal value of the two factors in both fermentations. There was 797.54 times increase in xylanolytic activity after enzyme purification through Ammonium sulphate precipitation followed by Sephadex G-100 column (50×2.6 cm)

saturated with phosphate buffer pH 6.8. Lineweaver – Burk plot showed that the enzyme has V_{\max} and K_m values 0.1075 $\mu\text{g}/\text{mL}\cdot\text{min}$ and 1427.63 $\mu\text{g}/\text{mL}$ respectively.

The another objective of this study was to scale up xylanase production from isolated soil microbe (*Brevibacillus borseleensis*; MTCC 9874) in a bioreactor and check digestibility of this crude enzyme in animal feed (wheat). Scale up was done from lab production Xylanolytic activity in bioreactor is greater than flask method due to more controlled condition in bioreactor which is not possible in flask method. Digestibility of crude enzyme was checked in wheat and was found that 16 (15.797) times digestion of wheat animal feed will be increased if it is supplemented with crude xylanase produced in bioreactor in the given condition. Although pure enzymes are very expensive which may not be affordable for farmers crude enzymes can be produced locally or it will be very cheap as it is in the crude form thus, it is a great gift to farmers to increase their productivity and change their socio-economic condition.

Keywords: Xylanase, Plackett-Burman design, Central composite design, DNS method, solid state and Submerged fermentation, Scale up

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Systematic review and Meta-analysis approach for Herbal medicine

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Abstract

A systematic review and meta-analysis are the top in the hierarchy of the clinical evidence which consist of two important steps for summarized the inconclusively evidences. Systematic review is a review which comprehensively identifies and appraises all relevant studies and synthesizes summary findings on a particular topic. Meta-analysis is a statistical technique to integrate the results of all relevant studies and summarize into a single quantitative estimate or summary effect size which increase the statistical power of the study. Recently, these types of research methodology are well known and wide acceptable in various research fields. For this reason, systematic reviews and meta-analyses on herbal medicines are increasingly published and more important as cumulative clinical evidence of herbal medicine. This presentation will summarize the principal and important steps to perform systematic review and meta-analysis of herbal medicine. Various systematic review and meta-analysis of Thai herbal medicines such as *Derris scandens* (Roxb.) Benth. for musculoskeletal pain treatment, *Vernonia cinerea* (L.) Less. for smoking cessation, *Cissusquadrangularis* L. for hemorrhoids treatment and others were presented described for more detail of this kind of clinical research. Moreover, clinical appraisal of systematic review and meta-analysis studies also demonstrate for the important of this type of clinical evidence in herbal medicine research and practice.

Keywords: systematic review and meta-analysis, herbal medicine, clinical practice, clinical evidence

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ICTM 2020

Abstract of Paper Presentation

Academician/Research Scholars Category

AP-01 to AP-13

Anti-Diabetic Potential of *Amaranthus spinosus* in Alloxan Induced Rats**Amol S. Dighe¹**

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Abstract

In almost all the traditional medicine, the medicinal plants are a major role and chief support of the traditional medicine. *Amaranthus spinosus* possesses wide and potent activity against treatment of an anti-diabetic, antioxidant properties, antimalarial, antitumor, analgesic, antimicrobial, anti-inflammatory, spermatogenic spasmolytic, bronchodilator, hepato-protective, anti-fertility etc. *Amaranthus spinosus* revealed that the interest on these compounds have led to development of newer/impressive/novel techniques of their Extraction and evaluation for different biological activities. Focused on use of *Amaranthus spinosus* formulation which can show better Anti-Diabetic Activity.

Keywords- Spiny amaranth, spiny pigweed, prickly amaranth or thorny amaranth.

Endophytes of *Vitis vinifera*: the Treasure House of Antioxidant Rich Phytochemicals

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Abstract

Since the ancient times medicinal plants have been used for therapeutic applications due to presence of bioactive phytochemicals exhibiting remarkable efficacy with no side effects. However, accesses to such bioactive compounds are challenged not only due to its low levels accumulation in the plants but also seasonal limitations. Endophytes resides the host plant and can mimic the properties of its host. To meet the market demands, endophytes isolated from phytochemical rich *V.vinifera* (grapevine) plant could be the potent source of different phytochemicals. In this context the present study has been focused on isolation and screening of endophytes of *Vitis vinifera* showing ability to biosynthesize antioxidant rich phytochemicals. Isolation of endophytes was carried out by using different parts of black cultivar of medicinally important *V.vinifera*. Crude extract was obtained from the endophytes by extraction with ethyl acetate (1:1).Phytochemical screening was performed using standard screening tests. Presence of phenol was detected by TLC with solvent system, Chloroform: Ethyl-acetate: Formic acid (5:4:1). The test samples were subjected to antioxidant activity by DPPH radical scavenging assay. In present study, four endophytic fungal isolates viz. *Aspergillus spp.*, *Fusarium spp.* and *Alternaria spp.*, *Penicillium spp.*, were successfully isolated from different parts of black cultivar of *V.vinifera*. During the phytochemical analysis, most of the endophytes under study exhibited positive test for the bioactive phytochemicals like Phenols, Coumarins, Alkaloids, Tannin and Flavonoid .However, negative test for Alkaloids and Coumarins was shown by *Aspergillus spp.* and *Fusarium spp.* respectively. Phenol was detected with Rf value 0.46 .It was revealed that almost all the endophytes exhibited remarkable antioxidant potential. Among the endophytes under study, *Alternaria spp.* not only exhibited significant results for all the phytochemicals but also showed highest antioxidant potential (79%). Thus based on the outcomes of this research, it can be concluded that the endophytic fungi isolated from medicinally important *V.vinifera* has noteworthy potential to biosynthesize various antioxidant rich phytochemicals. Therefore, their application in various fields may offer immense scope for empowerment of the society.

Quality Control in the Pharmaceutical Industry

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Abstract

In Africa, Nigeria Inclusive and many other parts of the world; India especially, there abound numerous herbs which are biologically active. They contain alkaloids, phytochemicals and possibly other biologically active agents. To tap into these rich sources which could have adverse effects when misappropriated, actions and processes utilizing these remedies should be controlled; as in the case of any other useful drug product.

Introduction

Over the years existing and emerging herbal remedies have met disapproval from the public because of a lack of clarity on the identity and characteristics of the remedy. With a sound foundation of Good Laboratory Practice, coupled with Good Management Practice, the safety, quality, efficacy and potency of these herbal remedies and their mechanism of action can be known and Market Authorization and Approval can be sought. Quality Assurance QA and Quality Control QC are processes and activities aimed at ensuring drug dosage forms are produced to a standard specification.

Manufacture of a medicinal product is the end of at least 12yrs of discovery, process research and development, technology transfer and many man years of documentation, Market Authorization Application and preparation for launch. The time, effort and money utilized could make the process look complicated and arduous. However if we focus, we can save time by looking at the big picture.

Consider the typical chain of events in moving from late discovery/early pharmaceutical development phase through clinical trials and to the market. Efficiency gains can be sought in the early part – route selection, route/process development, form assessment and control as well as moving into process optimization, If appropriate, scalable and acceptable reagents and solvents are used in the discovery activities ; the rate and ease of transfer into development and initial scale-up will be enhanced.[1]

Quality Assurance involves knowing who, why, where or when as regards change. I f a raw material is not released or of the wrong code stop! Some managers have continued testing a product until an in specification result is obtained. This is an invalid approach, out of specification is exactly what it is: unless a root cause for the result can be identified and the hypothesis proven satisfactorily. Change should be controlled and not ignored.

Reference John Knight, Efficiency by Design, Chemistry and Industry, 2009[1]

Searchlight on the Discovery and Development of Plant Derived Anti Snake Venom Principles.

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Abstract

Snake bite is an important and serious global health issue. Till date anti snake venom serum is the only therapeutic remedy available for treating the snake bite victims. Infusion of ASV may lead to adverse reactions ranging from pruritus, urticaria to potentially fatal anaphylaxis. The development of ASV is also a costly and time consuming process requiring ideal storage conditions. Though Anti Snake Venom Serum (ASV) is the only remedy available to treat snake bite victims successfully till date, considering all above difficulties research workers all over the world are constantly in search of a cheap and readily available easy formulate remedy for treating snake bite victims. A few chemical constituents of the plants have been so far identified for their anti snake venom effect. Traditional remedies from plants used in the treatment of snakebite victims have a number of potential advantages over the ASVs. Satpura range of forests of Maharashtra possess the richest source of thousands of species of medicinal plants, which are always exploited by the aboriginies of these jungles in the form of food supplements and also for the purpose of medication in treating snake bite victims. This paper is a humble attempt to enlist some of the commonly occurring medicinal plants, which are specifically used by the tribals for treating the snakebite victims along with the discovery and development of some plant derived principles as anti snake venom agents.

Development and in-vitro and in-vivo Evaluation of Mucoadhesive Buccal Tablet of Nebivolol HCl for Unidirectional Release

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Abstract

The purpose of this study was to design and optimize an oral controlled release nebivolol HCL mucoadhesive tablet, in term of its drug release and mucoadhesive strength. A 3² full factorial design was employed to study the effect of independent variables like xanthan gum and carbopol 940 which significantly influence characteristics like swelling index, ex-vivo mucoadhesive strength and in vitro drug release. Tablets were prepared by direct compression and evaluated for mucoadhesive strength and in-vitro dissolution parameters. In all the nine formulations studied, the exponent (n) varied between 0.5642 and 0.6214, showing non fickian release behavior corresponding to the coupled diffusion or erosion, resulting in a controlled and complete drug release up to 12 h. Both these polymers had a significant effect on mucoadhesive strength of prepared tablets, measured as the force of detachment against goat buccal mucosa. Besides unraveling the effect of the two factors on the various response variables, this study helped in selecting optimized formulation with excellent mucoadhesive strength and controlled drug release. It can be concluded that by formulating mucoadhesive tablets of Nebivolol HCL, its complete release can be ensured prior to absorption window and hence the problem of incomplete drug release and erratic absorption could be solved by increasing the retention of drug in GIT for a longer duration.

Keywords- Nebivolol HCl, Buccal Tablet, In vivo study, Controlled release.

Polyherbal Combination as Energy Drink

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Abstract

The objective of current research is to develop energy drink by using herbs to avoid the side effects of energy drinks available in market containing chemicals. Energy drinks are consumed on large scale to get instant energy and to overcome from fatigue. Herbs are potent antioxidant thus drink containing herbs act as potent energy drink formulation without side effects. Herbs use to prepare this formulation are *Mentha piperita* (Mint), *Solanumly copersicum* (Tomato), *Triticum aestivum* (Wheat grass), *Ocimum sanctum* (Tulsi) and *Embelica officinalis* (Amla). This herbs were collected and extract of this herbs was prepared, energy drink was prepared by combining extracts of this plants with simple syrup. After preparation physical, microbial, sensory analysis and stability evaluation of drink was performed. 20 candidates of the age ranging between 20-25 years were selected and the feedback for the questionnaires regarding the drink was recorded.

Antithrombotic Prescribing Patterns among Patients Diagnosed with Atrial Fibrillation in Cardiac Super speciality Hospital of Kathmandu

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Abstract

Atrial fibrillation (AF) is a supra ventricular tachyarrhythmia with uncoordinated atrial activation which might lead to serious consequences like stroke. In Nepal, researches regarding management of AF and antithrombotic therapy for stroke prophylaxis are lacking. This study was an attempt to evaluate the baseline characteristics prescription pattern of rate/rhythm and antithrombotic medications in AF cardiac specialty center of Nepal. This is observational retrospective hospital based study conducted in at Manmohan Cardio thoracic vascular and transplant center (MCVTC), Kathmandu Nepal. In this study, we retrospectively reviewed and followed the medical records of patient with AF admitted between 1stBaisakh 2072 to 32ndShrawan 2074. We have included all patient diagnosed with both valvular and non valvular AF. The patient diagnosed with atrial flutter was discarded. We reviewed medical record of total 362 patients with AF. The mean age (+SD) of the patient was 59.22 +18.22, with 40.3% male. Total 58% had non valvular AF and 42% had valvular AF. The mean (+ SD) CHADS2score during admission was found to be 1.23(+1.18) and 37.6% had CHADS2score >2. Similarly mean (+ S.D) CHA2DS2-VASc score was 2.32(+1.64). 56.2% of male patients had high CHA2DS2-VASc score (> 2) and in female 29.3% had high CHA2DS2-VASc score (> 3). The mean + (S.D) HAS-BLED value without labile INR during admission and at discharge was 1.12(+ .87) and 1.11(+ .89) respectively In management of AF rate control therapy was mostly preferred than rhythm control (48.1% vs 2.2%). In total lone anticoagulant was prescribed 142(40.9%) and patients lone antiplatelet148 (42.9%) in discharged. In non valvular AF (with CHA2DS2-VASc score> 2) anticoagulant was prescribe in 27.78% and 25.6% in male and female respectively. The suboptimal use of antithrombotic indicated need of local guidelines for treatment of AF or adherence to the international guidelines in practice.

Formulation and Evaluation of Herbal Shampoo

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Abstract

A liquid or cream preparation of soap or detergent to wash the hair is called as shampoo. Shampoos are the products which removes surface grease, dust from the hair shaft and scalp. Shampooing is the most common form of hair treatment. Shampoos are primarily being products aimed at cleansing the hair and scalp. In the present scenario, it seems improbable that herbal shampoo, although better in performance and safer than the synthetic ones, will be popular with the consumers. A more radical approach in popularizing herbal shampoo would be to change the consumer expectations from a shampoo, with emphasis on safety and efficacy. The main objective of this study was to eliminate harmful synthetic ingredient from herbal shampoo formulation and substitute them with a safe natural ingredient

Keywords: Herbal shampoo, evaluation, formulation, radical approach, physico-chemical approach.

Development and Validation of Rp-HPLC Method for Simultaneous Estimation of Acebrophylline and Doxophylline in Pharmaceutical Dosage Form

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Abstract

RP-HPLC is analytical methodology and versatile technique, which can separate a mixture into its individual components and simultaneously determine quantitatively the amount of each component present. ACEBROPHYLLINE acts as a bronchodilator through inhibition of the intracellular phosphodiesterases followed by an increase of adenosine monophosphate cyclic levels, which promote the relaxation of bronchial muscles. ACEBRO inhibit the synthesis and release of leukotriene and tumor necrosis factor and reduce inflammation. DOXOFYLLINE actionis thought to arise from the inhibition of phosphodiesterase activity thus increasing the levels of cAMP and promoting smooth muscle relaxation via mediating the actions of beta-2 adrenoceptors, DOXO induces blood vessel relaxation and airway smooth muscle relaxation. Present study deals with development and validation of RP-HPLC method for simultaneous estimation of Acebrophylline and Doxophylline in tablet dosage form. The developed method was an accurate, precise, specific, reproducible and economic for estimation of Acebrophylline and Doxophylline by RP-HPLC method from tablet dosage form.

Chyawanprash: A Herbal Nutraceutical

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Abstract

Chyawanprash nourishes the brain cells and promotes intelligence and memory, it also has a calming effect on the nervous system thereby aiding in stress relief Chyawanprash is an age old formulation described in classical Ayurvedic texts. Chyawanprash is Rejuvenates all tissue in the body and support overall strength and energy nutritional important , The primary action of Chyawanprash is to booster the immune system and to support the body's natural ability to produce hemoglobin and white blood cells Material and method: Chawanprash is prepared by incorporating around more than 50 herbs including Amla is richest source of vitamin C (amla fruit paste).herbs of formulation prepared are boiled in water then filter to dried extract in combine honey followed by addition of all herbs powder The beneficial effects of Chyawanprash are being mentioned in first schedule of Drug & Cosmetic Act, 1940 and ayurveda preparation.

Conclusion: Present need of our society due to lack of nutrition and unwanted free radical generates in the body we need strong immunomodulatory preparation. Our research to formulate a nutraceutical chawanprash it is safe health tonic that is beneficial for all age group

Keyword: Digestion, Immunity, Herbs, Amla, Antioxidant.

Protective Effect of Curcumin alone and in Combination with Isradipine against Chemicals Induced Seizures and Oxidative Stress in Mice

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Abstract

Isradipine and Curcumin have long been used to treat Epilepsy and oxidative stress. In this study we examined the Protective effects of Curcumin drugs and antiepileptic activity of Isradipine and in combination. We were used the extract of Turmeric to reduces the oxidative stress which increased during epileptic Seizures and in combination with Isradipine which is an calcium channel blocker to treat Seizures. In addition there effects on increased the time of clonus activity and reduces the oxidative stress were recorded.

Formulation, Preparation and Evaluation of Ethosomal Gel for Transdermal Delivery of Anti- diabetic Drug

Ambekar Abdul Wahid, Raut Puja, Jadhav Dnyandev and Zade Amol

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Abstract

The purpose of the present study was to develop and evaluate the ethosomal gel for transdermal delivery of sitagliptin (STG) an anti-diabetic drug. Ethosomes were prepared by varying the concentration of phospholipid, cholesterol and ethanol and characterized for vesicle size, zeta potential, polydispersity index, entrapment efficiency, vesicle surface morphology and *in-vitro* permeability studies. The prepared optimized ethosomal formulations were further converted into ethosomal gel formulations by loading it into 1% carbopol 934 gel base and evaluated for viscosity, spreadability and *in-vitro* permeability studies and compared with the conventional gel formulation of STG. From the results obtained it was observed that ethosomal formulations shows enhanced permeability as compared to conventional gel formulations, thus can be concluded that ethosomal gel formulations can be an effective tool for transdermal delivery of STG.

Diversity of Medicinally Important Geophytes from Chandwad and Nandgaon Tehsils District Nashik, Maharashtra. (India)

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Abstract

Geophytes comprise an important component of herbaceous flora in terms of diversity and abundance. Most of the geophytes show seasonal growth, they start growing with the beginning of monsoon and their life cycles completes approximately just before or after end of monsoon. A few grow and flower during the dry seasons often without leaves. Many a geophytes are ecologically and medicinally important. Field trips were carried out to different ecological locations in the study area, plants wealth was photographically recorded and herbariums were prepared by following methods of Jain and Rao(1976). Plants were identified by using Floras, websites and expert advice, their medicinal uses were studied by referring research papers. Ten medicinally important geophytes from as many a families were recorded from the present study. Some of these geophytes were not recorded from the study area during the earlier works.

Key words – Geophytes, Diversity, Medicinal plants

ICTM 2020

Abstract of Paper Presentation

Students Category

SP-01 to SP-04

Isolation and Characterization *B*-Phycocerythrin from the Microalgae *P.****Creuntum***

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Abstract

Microalgae of the genus *Porphyridium* show great potential for large-scale commercial cultivation due to they acumalte various secondary metabolites. The present study aimed to isolate *B-phycoerythrin* (B-PE) using ceramic hydroxyapetite. *P creuntum* was cultured in artificial sea water (ASW) culture which mixed with 20% effluent from the biogas process as a nutrient source during cultivation. Media cultivation was mantained at pH 7.8 with an added light intensity 2400 flux. After 12 days, biomass was harvested by centrifugation at 3500 rpm and extracted using buffer Na phosphate at pH 7.0. The crude extrct was purified using medium pressure liquid chromatography (MPLC) using ceramic hydroxyapetite as stationer phase. The result showed a major broad chromatogram at retention time (Rt) 3.5 minutes using mobile phase Na phosphate buffer 7.0. Analysis Fluorocence spectroscopy showed adsorbtion at λ_{max} 547 nm and shoulder at 541 nm indicated as B-phycoerythrin. Further analysis using UV-vis spectroscopy (A_{565}/A_{280}) informed the purified B-phycoerythrin showed a purity ratio 1,5 and 2,1 in media F2 and waste bioggas respectively. Based on these results, B-PE was found to be the predominant pigment in *P creuntum* and this red microalga could be a simple methods for the recovery of this chromoprotein. Moreover, ceramic hydryapetide can be used for single step purification B-phycoerythrin.

Authentication of *Azadirachta indica* (Neem) Plant by Pharmacognostic and Phytochemical Evaluation

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Abstract

Neem is a traditional herbal drug used for treatment of various diseases; neem plant is used widely in Indian folklore medicine. Aim of the study is authentication and identification of *Azadirachta indica* plant by using different pharmacognostic methods like microscopy, TLC and phytochemical screening.

Pharmacognostical and Preliminary Phytochemical Studies of *Argyreia*

Speciosa leaves

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Abstract

The present work on the leaves of *Argyreia speciosa* Sweet (Convolvulaceae) has led to the pharmacognostical and phytochemical parameters. Macroscopical and microscopical characters, micrometry, physio-chemical constants, quantitative microscopy parameters, extractive values, carried out. The study also deals with the phytochemical screening of with various extracts. The total phenolic (TPC) and Total flavonoids contents (TFC) in leaves of *Argyreia speciosa* were studied with the aim of drawing the standards. The leaf is heart shaped upto 12.0-17.1-20.3 X 11.9-15.45-23.7 cm across, back with white shiny hairs on the lower surface, glabrous above, tomentose beneath and long stalked. Microscopically the leaves show cuticle, lignified xylem (3.48-5.10-7.43 μ), phloem (1.45-2.85-4.25 μ), starch grains, upper and lower epidermal cells were identified. Unicellular pointed tip trichomes are numerous and present on dorsal side abundantly. The palisade cells are rectangular in nature up to 10.32-13.41-16.50X1.93-2.77-3.57 μ . The preliminary investigations showed that the moderate presence of terpenes, flavonoids, steroids, phenols and tannins. The TPC found to be, 173.55+0.017 mg (gallic acid equivalent/g) and TFC 134.07+0.123 mg (quercetin equivalent/g). In addition, total tannin content (TTC) determined by back titration with potassium permanganate and, was found as 087.00+0.17mg (tannin equivalent/g). In study TPC, TFC and TTC are significant and prove that, leaves are rich in estimated phytoconstituents and may have pharmacological importance.

Keywords: *Argyreia speciosa*, Macroscopy, Microscopy, Phenolic, Flavonoid, Tannin.

Pharmacognostical and Preliminary Phytochemical Studies of *Argyrea* *Speciosa* Leaves

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Abstract

The aim of this study is to evaluate the efficiency of Custard apple (*Anona reticulata*), Pomegranate (*Punica gratum*), Banana (*Musa acuminata*), Guava leaves (*Psidium guajava*) based herbal toothpaste pellets in generalised chronic periodontitis patients. Fruit peels are considered having properties that are beneficial not only for general health but also has proven itself effective for keeping the oral cavity healthy. There are many diseases of the oral cavity which are treated according to the type of dentition, condition of the mucosa, age factor, ongoing medications etc. So to treat a condition without harming the oral cavity with no side effects, cost effectively, keeping in mind its effect on environment, these herbal pellets are formulated using peels of above mentioned fruits, herbal spices, earth clays and natural foaming agents.

ICTM 2020

Abstract of Poster Presentation

Academician/Research Scholars Category

APO-01 to APO-28

A Review on Pharmacognostic and Phytopharmacology study of *Anacyclus pyrethrum*

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Abstract

In Ayurveda numerous plants are described for fulfilling its purpose. One of those plants is *Akarkara* (*Anacyclus pyrethrum* L.). Basically, *Akarkara* is described in Unani system of medicine as an amazing drug used in various ailments. *Anacyclus pyrethrum* an amazing medicinal plant is one of the most widely growing species of the family Asteraceae. The present review endow with significant information about its phytochemical investigations, pharmacological activities and medicinal properties as a folk medicine to treat several disease like anti-rheumatic, analgesic, antibacterial, antiviral, *carminative*, anti-catarrh, improve digestion, febrifuge, nervine, vermifuge, and sialagogue. The plant has been reported several pharmacological actions such as antidiabetic, immunostimulating effect, inhibitory effects, antidepressant activity, anticonvulsant activity, memory-enhancing activity, aphrodisiacs, antimicrobial activity, antioxidant, local anesthetic effect, insecticidal effect, action on COX and LOX, interactions with testosterone, interaction with libido, and its interaction with testicles. Mainly the root portion has beneficial properties that can serve the mankind. The entire plant can be extensively studied for further future prospective.

Keywords: Akarkara, antidiabetic, aphrodisiac, immunostimulating property

Isolation and Identification of Bacteria Present Over the Mobile Phones Which Serve as a Vehicle to Transmit the Infection in Individual

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Abstract

In this study a total of 50 mobile samples from students and employees were included in this study. Out of 50 samples collected from mobile phones 24, 14, 9 and 3 samples belong to students, staff members, cleaners and health professionals respectively. Mobile phones of students and employees were randomly sampled by taking written and oral consents from all the participants included in this study. Sampled mobile phone swab was streaked onto nutrient agar. The inoculated plates were incubated aerobically in an inverted position at 37 °C for 48 hours. 14 colonies selected and sub-cultured to isolate pure culture, After isolating pure cultures, bacterial isolates were further identified by Gram staining, Mac-Conkey agar and Biochemical tests were performed on pure culture for final identification of the isolates on the basis of their biochemical reaction calculating the total percentage of each isolate, we found *E. coli*, *E. aerogenes*, *Streptococci* and *Staphylococcus aureus* in the percentage of 25.16%, 21.26%, 16.17% and 37.28% respectively, The percentage of bacteria identified in our study was found higher than other study, this study showed that mobile phones would serve as a vehicle to transmit these bacteria from one individual to another.

Keywords: Mobile phones, nutrient agar, Mac-Conkey agar, Bacteria, *E. coli*, *E.aerogenes*.

Does Mula Nakshatra Affect Phenol and Flavonoid Content and Antioxidant Activity of *Hardwickia binata* Roxb. Stem?

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Abstract

The vast diversity present in the plant kingdom makes them all the more attractive as natural medicine to cure an array of diseases. According to Indian Astrology, Nakshatras or Constellations are a group of specific stars in the sky, which are 27 in number. There is a popular belief that medicinal plants collected at a particular Nakshatra have more therapeutic efficacy than those collected during normal days. The aim of the present work was to evaluate the effect of Mula Nakshatra on phenol and flavonoid content and antioxidant activity of *Hardwickia binata* Roxb. stem collected during Increasing (Inc) phase, Decreasing (Dec) phase, Mula Nakshatra (Nak) days and normal (Nor) days.

Keywords- *Hardwickia binata*, Mula Nakshatra, extraction techniques, total phenol content, total flavonoid content, antioxidant activity

Antimicrobial Profile of Bacterial Isolates from Suspected Cases of Catheter Associated Urinary Tract Infection

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Abstract

This study was done at Pravara Rural Trust Hospital, Loni during period of 24th June to 1st March 2018. The present study has been conducted on 114 catheterized patients. It has been concluded that Occurrence of CAUTI was more in male patients than that of female patients and male predominance i.e 54% compared to females 46%. E.coli was the commonest isolate (29.52%) followed by Klebsiella species amounting to 17.14%, Candida 14.29%, Pseudomonas aeruginosa and acinobacter (11.43%), Staphylococci and Enterococci (5.71%) and Proteus (4.76%). E.coli is highly sensitive to Amikacin and highly resistive to cefotaxime and Ciprofloxacin. Klebsiella associated CAUTI was as the second most commonly isolate. It is highly sensitive to Amikacin and tetracycline with same percentage and resistive to cefuroxime. Candida species is highly sensitive to Levofloxacin and highly resistive to Cefotaxime. CAUTI cases were most susceptible to the antibiotic Amikacin (72% cases), Ciprofloxacin showed 71% sensitivity, Tetracycline sensitivity was 58%, Doripenem and Levofloxacin sensitivity in 57%, Co-trimazole (54%), Cefotaxime (46%), Piperacillin/tazobactam (46%), Gentamicin (43%), Cefuroxime (41%), Ampicillin (37%), Norfloxacin (37%), Amoxicillin/clavulanic acid (31%), Penicillin (25%), Cefepime (23%), Ceftazidime (21%), Polymyxin B (21%), Imipenem (10%), Sparfloxacin (9%), Vancomycin (9%), Doxycycline Hcl (8%), Linezolid (8%), Clindamycin (7%), Teicoplanin (6%), Chloramphenicol (5%), Erythromycin (5%), Meropenem (0%), Nitrofurantoin (0%).

In Vitro Antioxidant Activity of Kaempferol Microemulsion

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Abstract

Flavonoids are promising antioxidants. Kaempferol is a natural flavonoid with potent antioxidant activity, but its use is limited because of its low aqueous solubility. The present study sought to investigate the capacity of single herbal formulations of Kaempferol to act as nitric oxide radical (NO), 1, 1-diphenyl-2-picrylhydrazyl (DPPH) radical antagonists using in vitro models. Observed Results indicates that optimised batch of micro emulsion exhibited potent antioxidant activity.

Synthesis and Characterization of Co-Polymer Poly (Nipam)- Acrylamide Microgel

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Abstract

To synthesize and characterize Co-polymer poly (NIPAM) – Acrylamide Microgel. The monodispersed poly(NIPAM) microgel was prepared by SFEP. A co-polymer microgel of poly(N-isopropylacrylamide/acrylamide) was also prepared in different ratios and at different injection time by the same method. The characterization of microgel was done by DLS and TEM. In DLS it was observed that the particle size range from 240nm to 911nm. To study the stability and flocculation properties of microgel electrolyte (0.3M NaCl) was added into the microgel and it was analysed by DLS. The CFT was observed around 45OC. It was seen that when acrylamide was injected after 10 minute addition of NIPAM and BA in reaction vessel, the particle hydrodynamic diameter was similar to that of poly(NIPAM). But when the acrylamide addition time was changed the hydrodynamic diameter was significantly increased in a range of 1000nm to 1500nm. In TEM, the particles were observed spherical in shape. The hydrodynamic diameter obtained from TEM was correlated with results of DLS. The polydispersity index was > 0.1, which indicated that synthesized microgel was monodispersed in nature.

A Review on Microencapsulation

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Abstract

Microencapsulation is a process in which tiny particles or droplets are surrounded by a coating to give small capsules, of many useful properties. It consists of two components, namely core material and coat or shell material. Core material contains an active ingredient while coat or shell material covers or protects the core material. Microcapsules contain an active agent and surrounded polymeric shell or dispersed in polymeric matrix. Microcapsule size: 1 to 1000 micron and microcapsules can be of different structures. Microencapsulation techniques are Air suspension techniques (Wurster), Coacervation process, Spray drying & congealing, Pan coating, Solvent evaporation etc. are used to aid in the addition of oily medicines to tableted dosage forms. To overcome problems inherent in producing tablets from otherwise tacky granulations. This was accomplished through improved flow properties. eg. The non-flowable multicomponent solid mixture of niacin, riboflavin, and thiamine hydrochloride and iron phosphate may be encapsulated and made directly into tablets. Microencapsulation has also been used to decrease potential danger of handling of toxic or noxious substances. Such as fumigants, herbicides, insecticides and pesticides.

Key words: Microencapsulation, multicomponent, microcapsules.

Development of Quality Control Parameters for the Standardization of Some Medicinal Plant in Mimosaceae Family

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Abstract

The present investigation was undertaken to determine the requisite physicochemical and phytochemical standards for evaluating the plant material. The physicochemical, qualitative phytochemical and florescence analysis of the plant were carried out. The physicochemical properties such as total ash, water soluble ash, acid insoluble ash and sulphated ash were 5.75%, 5.16%, 0.16% and 6.66% respectively. The aqueous soluble and ethyl acetate soluble extractive values were 34.07% and 16.66% respectively. The qualitative phytochemical analysis showed the presence of maximum amount of flavonoids followed by triterpenes, steroids and alkaloids respectively. The plant powder showed characteristic fluorescence with various chemical reagents. The data generated in the present work could be used as reference for the standardization and quality control of Mimosaceae family. It will help in identifying and preventing intentional or unintentional adulteration of this plant material.

Keywords: phytochemical analysis; physicochemical analysis; adulteration; macroscopic; microscopic; flavonoids

APO-09

Amalaki (*Emblica officinalis*) A Traditional Ayurvedic Rasayan DrugDr. Chaudhari Varsharani Arjun

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Abstract

Ayurveda is a science which deals with every aspect of life. Ayurveda has philosophy to establish good health rather than just curing diseases. This golden concept of prevention of disease i.e immunomodulation and maintenance of healthy body state i.e 'cytoprotection' is called as Rasayan. Amalaki is one of the best rasayan long stated in Ayurved Samhitas.

Amalaki fruit is rich source of 'vit C' i.e ascorbic acid 600mg/100gm. It also contains two new hydroxylatable tannins called emblicannin A 37% and emblicannin B 33%. Both vit C and these tannins have significant immunomodulatory and moderate cytoprotective activity. Along with this tannin and ascorbic acid also helps in reducing free radicals and have anti oxidant and anti aging activity. So, we can say that Amalaki has good rasayan properties which helps to increase the immunomodulatory, antioxidant, anti inflammatory, anti aging and cytoprotective actions in our body.

**A Review of Pharmacological Properties of the Three Commonly Used
Indian Spices-*Zingiber officinale* (Adraka), *Allium sativum* (Rasona) and
Cuminum cyminum (Jeeraka)**

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Abstract

Introduction: Indian diet and recopies are designed very scientifically keeping health at centre along with taste. Daily Indian recopies don't complete without adding these spices. In this paper a review has been done of three commonly used Indian spices *Zingiber officinale* (adraka), *Allium sativum* (rasona) and *Cuminum cyminum* (jeeraka). **Materials and Method:** For this review all three major treatises of Ayurved (*Charakasamhita*, *Sushrutasamhita* and *Ashtangahridaya*), *nighantu* texts (ayurvedic pharmacological texts) along with published research papers have been studied. **Conclusion:** From review it has been concluded that *Zingiber officinale* (adraka), *Allium sativum* (rasona) and *Cuminum cyminum* (jeeraka) are beneficial in prevention as well as cure of many diseases including lifestyle diseases because of their antibacterial, antifungal, anti-inflammatory, anticancer, antioxidant and other medicinal properties if used regularly in dietary articles.

Keywords: *shunthi*, preventive, curative, lifestyle diseases

Triphala Ghrita: A Part of Holistic Dietic Regimen in Ayurveda to Cure Ocular Disorders

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Abstract

Triphala ghrita contains Triphala (which consist of *Emblica officinalis*, *Terminalia chebula* and *Terminalia bellerica*) and ghrita (cow ghee) having the various classical usefulness that includes Timira (cataract), Netra ruja (pain in eyes), Netra srava (lacrimation), Sukla netra roga (eye disorders related to sclera), Vartma roga (disorders of eyelids). Oxidative damage to the eyes lens is the main reason for the ocular disorders and triphala along with ghrita is an antioxidant which can prevent the damage. As a need of the hour, the increased prevalence of ocular disorders posing challenges to the medical science motivated me to highlight and critically discuss the role of *Triphala ghrita* in ocular health. By adopting *Triphala ghrita* as a part of dietic regimen, one can be free from ocular disorders and live a disease free life.

APO-12**Antioxidant Activity of Extracts of *Lagenaria siceraria***Dr. Kailaspati P. Chittam¹, and Dr. T.A. Deshmukhi²¹DCS's A. R. A College of Pharmacy, Nagaon, Dhule, M.S.-424005²SET's Arunamai College of Pharmacy, Mampurabad Jalgaon, M.S.

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Abstract

Fruits of *Lagenaria siceraria* are very popular and well known for its Hepato protective, Immunomodulatory, Antihyperglycemic, Antihyperlipidemic, Analgesic and Anti-Inflammatory, Antibacterial and Diuretic properties. In this study the antioxidant effect of chloroform, ethanolic and aqueous extract of fruits of *Lagenaria siceraria* was evaluated by 2, 2-diphenyl-1,1-picrylhydrazyl (DPPH) radical scavenging, Nitric oxide radical scavenging assay and reducing assay methods and compared. All extracts of fruit of *Lagenaria siceraria* showed good antioxidant activity. But ethanolic extract showed more antioxidant activity as compared to chloroform extract and aqueous extract.

Extensive Approach on Drug discovery

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Abstract

Drug discovery is a highly multidisciplinary field and it encompasses an array of computational and experimental technologies belonging to diverse discipline. Discovery of a safer and efficacious drug to the life-threatening diseases and development of novel drug discovery technologies. The computational methods and technologies help in exploring the huge chemical libraries to find the potential lead molecules and assist in the early prediction of drug-like properties, toxicity etc. Starting with the 3D structural model of target protein as a lock, the TBVS approach aims to find potential keys (ligands) that can bind and interact with the protein, through an in-silico method known as Molecular Docking. Structure-based drug design has been considered to be a viable benchmark drug discovery approach and is enormously supported by high-throughput computational technologies. Cheminformatics and bioinformatics disciplines have been enormously contributing to the drug discovery. The Cheminformatics deals with mixing of information resources to transform chemical data into information, and information into knowledge, for the intended purpose of making better decisions faster in the arena of drug lead identification and optimization and Bioinformatics, deals with research, development, & application of computational tools and approaches for expanding the use of biological, medical, behavioral or health data, including those to acquire, store, organize, archive, analyze such data. Drug discovery of small molecule therapeutics and biotherapeutics, particularly in the area of drug target discovery, lead compound identification and lead compound evaluation are the necessity of nowadays.

Key Words: Molecular Docking, Cheminformatics, bioinformatics, lead.

Characterization of Surfactant and Electrolyte on Silicon Colloid Emulsion

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Abstract

The aim of the project was to investigate the stability of oil in water emulsions, prepared using nano-particulate silica, a pluronic polymeric surfactant and sodium chloride. The key ingredients in these formulations were Pluronic 17R4 an ethylene oxide-propylene oxide block copolymeric surfactant which is a difunctional block copolymer with terminal hydroxyl groups. This polymer is non-ionic and relatively nontoxic. The silica particles used were a commercial product Ludox (50% w/w). The pluronic surfactant was used to control the wetting properties of the silica particles. The effects in changing the proportions of these components upon emulsion stability were evaluated. Emulsion stability was investigated visually, rheologically and through the use of light microscopy. In this work, further attempts towards achieving optimum stability in O/W were made emulsions by incorporating NaCl into the formulation and resultant effects were observed and noted. Although there was not much difference in the nature of the emulsions formed due to the variations in the proportion of some of the key active ingredients i.e. surfactant, ludox and NaCl but it had a very conspicuous influence in the emulsion Stability.

It was shown that short term stability was achieved using pluronic 17R4 and Ludox only but these emulsions broke back after several hours due to flocculation and coalescence factors while long term stability was achieved by addition of NaCl visually.

APO-15**Diversity of Ethno Medicinally Important Climbers in Kalwan Tehsil District
Nashik (M.S)**Dr. Mangala Dala Sonawane¹, Sonali Vishnu Deore²¹Associate Professor Department of Botany K.T.H.M.College Nashik²Assistant Professor Department of Botany K.S.K.W.College Cidco, Nashik

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Abstract

Climbers, creepers and Lianas play an important role in the ecological dynamics of forest as well as socio-cultural and ethno medicinal utilization by various ethnic communities .The Kokana community comprises a substantial amount of population of Kalwan tehsil, which is fairly rich in biodiversity .The present paper deals with Diversity and ethno medicinal utilization of climbers, creepers and lianas from Kalwan tehsil. Excursions were carried out for assessment of plant wealth in different seasons to different places in the study area ,plants were photographed, collected and herbariums were prepared by following Jain and Rao (1976).Vaidis and common people were interviewed to know the medicinal utilization of the plants . During the study 40 genera from 15 families were found to be used for various ailments and diseases. The study area is fairly rich in diversity medicinally important Climbers, Creepers and Lianas, many of them not recorded earlier from this area.

Keywords: Climbers, Ethno- medicine. Kokana community, Diversity

Pharmacognostical Standardization and Preliminary Phytochemical Analysis of *Glossocardia Bosvallia* (L.F.) DC

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Abstract

Glossocardia bosvallia (L.f.) DC belongs to family Asteraceae is small annual herb. It is well known medicinal plant in ayurvedic system of medicine. It is also used by many local tribe peoples to cure various disease ailments like fever, whooping cough, bacillary dysentery etc. Present work deals with the study of pharmacognostical characteristics of *Glossocardia bosvallia* (L.f.) DC to establish quality control attributes for its standardization and for avoid its adulteration as per WHO guidelines on quality control of herbal materials.

Furthermore, it extends its scope to test different extracts of *Glossocardia bosvallia* (L.f.) DC qualitatively for preliminary phytochemical analysis. This study can help in developing the strategies for isolation of particular type of bioactive compounds from it who plays important role in showing its relevant pharmacological activity.

Key words: Standardization, quality control, preliminary phytochemical analysis

Proniosomes: A Future Promising Vesicular Drug Delivery System

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Abstract

Several approaches are increasing to enhance the penetration of drug through skin for transdermal drug delivery and one of them are provesicular niosomes (Proniosomes), which ideally consist the sole property of reversibly reducing the barrier resistance of the horny layer, allowing the drug to reach the living tissues at a greater rate. Proniosomes are dry formulations of surfactant-coated carrier, which can be measured out as needed and rehydrated by brief agitation in hot water. Proniosomes are product of nonionic surfactants easily prepared by dissolving the surfactant in a minimal amount of an acceptable solvent and least amount of water. Typically, proniosomes may contain various nonionic surfactants like span 20, 40, 60, 80 and 85, tween 20, 40, 80; lecithin, alcohol (ethanol, methanol, isopropyl alcohol) and chloroform. Chemical structure of surfactants influences drug entrapment efficiency. Proniosomes are promising drug carriers for the future with greater physical, chemical stability and potentially scalable for commercial viability. This compact liquid crystalline gel can be readily converted into niosomes on hydration. This review provides an important overview of preparation, formulation, evaluation and application of proniosome gel as a drug carrier.

Keywords: Proniosomes, Nonionic surfactant, Hydration.

Evaluation of Antineoplastic Activity of Ethanolic Leaves Extract of *Tylophora indica*

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Abstract

Aim and objective: Main objective of present study to evaluate antineoplastic activity of ethanolic leave extract of *Tylophora indica* with 7, 12 dimethylbenza [a]anthracene (DMBA) as a inducer for skin tumor in mice. Material and Methods: Skin tumors were induced in Swiss albino mice by a single topical application of 7,12- dimethylbenz(a)anthracene (100 mg/100 mL acetone) and, 2week later, promoted by repeated applications of croton oil (thrice in a week in 1% acetone) till the end of the experiment (i.e., 16 week). Five groups of six Swiss albino mice in each group were used. First group treated with the carcinogen alone second group treated with the carcinogen with standard drug CP (50mg/kg) and Mice of third, fourth,and fifth group were treated with carcinogen along with the ethanolic extract of *Tylophora indica*. at 100 mg/kg ,200mg/kg and 400mg/kg was orally administered. Result: *Tylophora indica* extract treatment caused a significant reduction in tumor incidence, tumor yield, and tumor burden, as compared to the 7, 12-dimethylbenz(a)anthracene croton oil-treated control group. Conclusion: These results suggest that *Tylophora indica* extract has the potential to become antineoplastic agent that can reduce skin cancer in mammals.

Key word: skin carcinogenesis, DMBA , Croton oil, *Tylophora indica*

Phytochemical Screening of *Citrullus Colocynthus* Schrad

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Abstract

Citrulluscolocynthis (Linn.)Schrad (CCT) is an important medicinal plant belonging to the family ofCucurbitaceae. It is a well recognized plant in the traditional medicine and was used by people in rural areas as a purgative, antidiabetic and insecticide. In the present investigation, phytochemicalscreening of CCT plant was studied. Phytochemical screening of CCT revealed the presence of tannins, saponins, alkaloids, flavonoides and glycosides.

Present Scenario of Traditional Medicine

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Abstract

This Advantages and risks of traditional medicines have been argued worldwide. Despite of this argument traditional medicine is getting used widely because it is often seen as more accessible, more affordable and more acceptable to local populations and also consider to be a safe and relevant source of high cost health care systems by local public. In some developing countries, native healers remain the sole or main health providers for millions of people living in rural areas. Many governments, International organizations and researchers are working on potential challenges related to Traditional medicines.Challenges, strategy and recent approaches to practice Traditional Medicine with mainstream modern health care system are discussed.

Key words: Traditional Medicine, challenges, strategy, approaches

Quality Control of *Churna* formulation: Focus on Ayurvedic and Modern Parameters

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Abstract

Ayurveda, traditional Indian system of medicine is one of the oldest system of medicine accepted in South Asia especially in India.¹ Mostly traditional drugs are effective but due to adulteration and lack of standardization, the effectiveness of the formulation is decreased. So there is need of development of standardization parameters.² Hence Quality control and purity of raw materials as well as finished Ayurvedic preparation is very important aspect for worldwide acceptance of therapy. Ayurvedic herbal powders *i.e. Churna* are well known Ayurvedic preparation. The *Churnas* are prescribed on different diseases as alone or in combination with other Ayurvedia drugs. Different *Churnas* are sold as over the counter medicine e.g. *Rasayan Churna*, *Triphala Churna*. *Churnas* are prepared usually by mixing the dried powdered crude drugs. Sometimes *bhasma* or minerals powders are also mixed as per formula. Adulteration of powdered crude herbal drugs is very much common. Hence quality control of *Churna* is very much essential. Ayurvedic texts as well as reference books have their own methods of standardization for the drugs. To avoid adulteration of powered crude drugs it is mandatory to apply modern methods of analysis to ensure quality of formulation. In the current article Ayurvedic parameters as well as modern parameters for quality control of *Churna* are reviewed and summarized.

Pyrazole Derivatives as Selective Estrogen Receptor Modulators: Design, Synthesis, Biological Evaluation and Docking Analysis

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Abstract

Selective Estrogen Receptor Modulators (SERM) is a class of drugs that act on the estrogen receptor (ER) in the breast tissue. That can block estrogen mediated breast cancer growth and development. Phytoestrogens are plant derived substances that are similar to estrogens which act on the ER in a selective manner, either as agonists, or as antagonists, or in other words may fulfill the criteria of the so-called phyto-SERM. *Nostocine A*, a pigment synthesized by a fresh-water cyanobacterium has recently attracted much attention of the scientific fraternity to be a promising cytotoxic moiety; an inherent ability exhibited through generation of reactive oxygen species. Structural elucidation is reported to have revealed a triazolopyrazol-3-one feature in its structure. The reports mentioned above prompted us to design few novel derivatives of pyrazole, with benzylidene and phenyl substitutions, with ethylamine side-chain substituting on ring. Novel Pyrazol-3-one and 3, 5-diphenyl pyrazole derivatives were synthesized and evaluated for their cytotoxic activity against estrogen receptor-positive MCF-7 and ZR-75-1 human breast cancer cell lines. Derivatives **4c**, **5c**, **5f**, **A2**, **B2** and **B3** were evaluated for *in vivo* anti-cancer activity by NMU induced mammary carcinoma in female Sprague-Dawley rats. The various orientations taken by ligands while binding the estrogen receptor- α were studied by docking studies over 1ERR (PDB) using Schrodinger *Maestro* environments.

Novel Drug Delivery System for Herbal Formulation

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Abstract

Herbal drug sector is growing fast for their better therapeutic value as they have fewer adverse effects as compared with modern medicines but somewhere due to its unconventional drug dosage it's not widely used by people. However, phytopharmaceutics needs a scientific approach to deliver the components in a sustained manner to increase patient compliance and avoid repeated administration. This can be achieved by designing novel drug delivery systems for herbal constituents which not only reduce the repeated administration to overcome non-compliance, but also help to increase the therapeutic value by reducing toxicity and increasing the bioavailability, and so on. For a long time herbal medicines were not considered for development as novel formulations owing to lack of scientific justification and processing difficulties, such as standardization, extraction and identification of individual drug components in complex polyherbal systems. However, modern phytopharmaceutical research can solve the scientific needs (such as determination of pharmacokinetics, mechanism of action, site of action, accurate dose required etc.) of herbal medicines to be incorporated in novel drug delivery system. The use of liposome, ethosome, phytosomes, emulsion, microsphere, solid lipid nanoparticles of herbal formulation has enhanced the therapeutic effects of plant extracts. With the use of all these, targeted delivery of the formulation is achieved, due to which the formulation demonstrates effect on the site, and the bioavailability of the formulation is also increased.

Key words: Emulsion, Ethosome, Herbal drugs, Liposome, Microsphere, Nanoparticles, Solid Lipid Nanoparticle.

APO-24

Evaluation of Memory Enhancing Potential of *Dendrocalamus Strictus* Leaf**Extract on Suitable Animal Model**Akshay K. Daswad, Shelke D. P.

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Abstract

Medicinal plants have always been the principle sources of medicine worldwide. India sustains a very rich traditional medicinal plant wealth and inherits unique plant and animal communities. Present study enumerates the phytochemical screening followed by antioxidant and memory enhancing evaluation of aqueous and methanolic extract of *Dendrocalamus strictus* (DS) leaves. Freshly collected and authenticated leaves were studied for its morphological and pharmacognostic character followed by physical and phytochemical evaluation. Phytochemical screening showed the presence of alkaloids, glycosides, carbohydrates, steroids and flavonoids in both the extracts. Physical parameters like solubility, ash values, LOD, extractive value etc. has been studied. The antioxidant activity of the extracts was done by using DPPH method. The results showed that aqueous extract at 100µg/ml concentration and methanolic extract at 150µg/ml concentration showed the significant antioxidant effect as compared with ascorbic acid as standard. The *In-Vivo* memory enhancing activity of *Dendrocalamus strictus* leaf extracts was evaluated by Radial arm maze model in rats using Piracetam as a standard. Both the extracts at 200mg/kg concⁿ showed significant to highly significant increase in number of entries & time spent in P zone (from P < 0.05 to P < 0.001). The result suggested that *Dendrocalamus strictus* leaf extracts possess memory enhancing activity and this might be due to Flavonoids, Phenolic compounds, Steroids present in extracts.

Keywords: *Dendrocalamus strictus* (DS), Aqueous and Methanolic extract, phytochemical screening, Antioxidant activity, Memory enhancing activity.

Microwave Assisted Synthesis and Molecular Modeling Studies of some Novel Polo-like Kinase 1 (PLK1) Inhibitors as Anticancer and Anti-inflammatory Agents

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Abstract

A series of 1, 3-thiazolidin-4-one analogues were synthesized using microwave and structurally characterized by various spectroscopic techniques and elemental analysis. The anticancer activity was performed by sulforhodamine B (SRB) assay while *in vitro* anti-inflammatory activity was performed by inhibition of albumin denaturation technique. Some of the compounds show good anticancer and *in vitro* anti-inflammatory activities. Molecular modelling studies of all molecules were performed using VLife MDS 3.5 and 4.3 softwares. Based on this it is observed that, some of the compounds shows more stable complex with polo like kinase1 by forming hydrogen bond and hydrophobic interactions. This research suggests that 1, 3-thiazolidin-4-ones shows anticancer and anti-inflammatory activity possibly because of inhibition of PLK1

Design Development and Evaluation of Memory Enhancing Potential of Poly- Herbal Formulation

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Abstract

Herbal medicine has become an item of global importance both medicinal and economical. Although usage of these herbal medicines has increased their quality, safety and efficiency are serious concerns in industrialized and developing countries. Present study involves the development of a Polyherbal formulation (PHF) by using Pumpkin seed (*Cucurbita maxima*), Sunflower seed (*Helianthus annuus*), Spinach leaves (*Spinach oleracea*), and Beet root (*Beta vulgaris*). Ethanol was used for preparation of polyherbal tincture. Further the powdered drugs and its tincture was subjected to its physicochemical evaluation. The antioxidant activity of the tincture was determined by using DPPH method. The *In-Vivo* memory enhancing activity of PHF was evaluated by Radial Arm Maze model in rats using Piracetam as a standard. PHF at the dose of 300mg/kg concⁿ showed significant to highly significant memory enhancing potential. The result suggested that PHF possess *in vivo* memory enhancing activity and this was due to Flavonoids, Phenolic compounds and other constituents present in formulation.

Keywords: Polyherbal formulation, physicochemical parameter, Antioxidant effect, Memory enhancing activity.

In-Vitro Evaluation of Anti-Diabetic Polyherbal Formulation Containing *Salacia Prenoides* and *Coccinia Indica*

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Abstract

Various bioactive components like total phenolic contents (TPC), total flavonoids content (TFC), antioxidant activity (i.e. DPPH and ABTS⁺ [2,2'-azino-bis (3-ethylbenzothiazoline-6-sulphonic acid) assays), moisture contents, water activity (a_w), solubility, hygroscopicity, glass transition temperature (T_g), *in vitro* α -amylase and α -glucosidase inhibition and bioavailability ratios of the polyherbal anti-diabetic formulation containing *Salacia prenoides* and *Coccinia indica* were investigated. The said formulation has proven to be the best treatments with respect to the highest preservation of antioxidant components. These treatments also exhibited higher antioxidant potential by DPPH and an ABTS⁺ assays. Moreover, the aforesaid treatments also demonstrated lower moisture content, water activity (a_w), hygroscopicity and glass transition temperature (T_g). Anti-diabetic polyherbal formulation containing *Salacia prenoides* and *Coccinia indica* illustrated the highest *in vitro* anti-diabetic potential due to great potency for inhibiting α -amylase and α -glucosidase activities.

The Insights of Nonalcoholic Steatohepatitis

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Abstract

Nonalcoholic steatohepatitis (NASH) is a form of fatty liver disease where benign hepatic steatosis leads to chronic inflammation in the steatotic liver of a patient without any history of alcohol abuse. NASH is a necro-inflammatory response that ensues when hepatocytes are injured by lipids (lipotoxicity). NASH is strongly associated with obesity and the metabolic syndrome, conditions that cause lipid accumulation in hepatocytes (hepatic steatosis). NASH is characterized by the presence of steatosis (the accumulation of fat in 5% or more of hepatocytes), hepatocellular ballooning, and inflammation. In NASH, lipotoxic hepatocytes result in the production of factors that promote wound healing as an attempt to replace dying hepatocytes. The presence of chronic and/or aberrant inflammation can lead to scar tissue deposition and the development of fibrosis and hepatocellular carcinoma. Although clinical trials show promising results, there is actually no pharmacological agent approved to treat NASH. The rapidly increasing prevalence of this disease and of its aggressive form NASH will require novel therapeutic approaches based on a profound understanding of its pathogenesis to halt disease progression to advanced fibrosis or cirrhosis and cancer. This review emphasizes on our understanding of the epidemiology and pathogenesis of nonalcoholic steatohepatitis, which reinforces practice guidelines and drug development for this life-threatening liver disease.

Keywords: steatosis, lipotoxicity, fatty liver, hepatocytes

ICTM 2020

Abstract of Poster Presentation

Students Category

SPO-01 to SPO-39

Evaluation and Formulation of Herbal Cough Syrup

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Abstract

Cymbopogon citrus (Lemon grass) of family Grasses and Adhatoda vasaka of family Acanthaceae is most commonly used for the treatment of cough in India. It is used in the treatment of cough, fever, reduce digestive issue it has the ability for busting circulation of immunity. The present research has been undertaken with the aim to formulate and evaluate herbal cough syrup because synthetic may cause the adverse effect to human body. The herbal cough syrup was formulated by extracting Cymbopogon citrus (Lemon grass).The formulation at laboratory scale was done and evaluated for number of parameters such as pH, Viscosity, Density, Stability Testing.

Keywords: Density, pH, stability testing, viscosity.

The Effect of Herbal Medicines on Platelet Count

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Abstract

Herbal medicines are used by a considerable number of surgical patients. An increased risk of bleeding, substantiated by anecdotal reports, has been attributed to the use of certain herbs, some herbal extracts as platelet inhibitors such as Ginko bioloba, Ginger, papaya, Garlic, and Genseng. The purpose of this investigation was to determine to provide a herbal medicine as natural origin to the society for the benefits of several diseases like aplastic anemia, chickenpox Cirrhosis, exposure to chemotherapy radiation and dengue.

Keywords: Platelet inhibitors, Herbal medicine, Chickenpox, Cirrhosis, Dengue.

Ayurvedic Approach to Treat Swine Flu

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Abstract

Ayurvedic medicine is one of the world's oldest holistic ("whole-body") healing systems. It was developed more than 5,000 years ago in India. Now, at a time when swine flu is spreading like wildfire across the world, India has the remedy in the form of the miraculous herbs, like Tulsi, Aloe Vera, Giloy, Liquorice, Ashwagandha and Ginger. In this review we are going to discuss the various benefits of these ayurvedic herbs. These herbs are helpful to prevent swine flu. It has no side effects and safe for human beings.

Keywords: Holistic, Herbs, Liquorice, Ginger, Giloy.

Herbal Extract for Malaria

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Abstract

Malaria is a dangerous and life-threatening disease caused by plasmodium parasites spread to humans through bites of infected female Anopheles mosquito. Hence carefully monitoring of malaria is required as disease can be severe and can cause many deaths. Among the 4 parasites species that cause malaria to humans Plasmodium falciparum, P.vivax, P.malariae, P.ovale. Traditional medicines have been used to treat malaria for 1000 of years and are the source of two main group's artemisinin and quinine derivatives of modern anti-malarial drugs. Cinchona species are well known for their anti-malarial properties and constituent alkaloid quinine is still acknowledged as an effective drug. The Chinese traditional treatment of malaria is use of Artemisia annua and its active compound artemisinin. Over 1200 plant species from 160 families are used to treat malaria and fever. The common used drug used in treatment is *Vernoria amygdalina*, *Momordica foetida*, *Zanthoxylum chalybeum*, *Lantana camara* and *Magnifera indica*, *Allium seppa*.

Keywords: Malaria, Antimalarial Drugs, Plasmodium falciparum, Artemisinin, Quinine.

Bi-Layer Tablet: A Novel Approach

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Abstract

Bilayer tablet is the novel technology for the development of immediate release and controlled release formulation. Developing a combination of two or more active pharmaceutical ingredients in a single dosage form is known as a bilayer tablet. It is more suitable for gradual release of two active ingredients in combination. This technology is an excellent improved technique for providing combine release pattern of drug i.e. immediate release and sustained release or two different categories. Controlled release dosage form is a term used to describe the dosage forms having drug release features based on the time, course and/or location and which are designed to accomplish therapeutic or convenience objectives which are not offered by conventional release dosage forms. Whereas immediate release drug delivery system is intended to disintegrate rapidly and exhibits instant drug release. However, it is also associated with fluctuations in drug plasma levels, which leads to reduction or loss in drug effectiveness or increased incidence of side-effects. Therefore, to compensate the dip in drug plasma concentration due to metabolism and excretion, it is necessary to administrate the dosage form several times per day.

Keywords: Bilayer tablet, controlled release, immediate release etc.

SPO-06

Evaluation of the Curative Anthelmintic Effect of *Ficus racemosa* Leaf Pet Ether Extract

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Abstract

Ficus racemosa (Moraceae) crude extracts using adult earthworms were evaluated for anthelmintic activity; the leaf extracts of *Ficus racemosa* showed a dose-dependent inhibition of spontaneous paralysis and showed responses to pin-prick. However, there was no final recovery in the case of worms treated with petroleum ether extract in contrast to Albendazole with which the paralysis was reversible and the worms recovered completely within 5 h. The result shows that among the various extracts, the petroleum ether extract of leaf possess significant anthelmintic activity and can be used as wormicidal.

Fabrication and Evaluation of Acetaminophen Tablets by Using Guava Powder (*Psidium guava*)

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Abstract

Currently researchers are trying to investigate the new excipients which can be used as a binding agent in tablet formulations. A binding agent (or binder) is a substance that holds or draws other ingredients together mechanically, chemically or as an adhesive. The different binding agents can be used to give strength to the tablets & drug release properties for different pharmaceutical purposes. Natural binders are used in the pharmaceutical field as excipients and additives due to their low toxic effect, biodegradable, abundant availability and that be at low cost. In this article, granules of different concentrations of guava powder were prepared and tablets were prepared by dry granulation method and compressed by using Karnavati single punch press.

Tablets containing guava powder showed sufficient hardness, desirable disintegration time and low friability.

Keywords: Binding agents, dry granulation, drug release, Excipients, low cost.

Phytochemical Study of *Dendrophthoe falcata*

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Abstract

Dendrophthoe Falcata is a hemiparasitic plant that has been used in traditional medicine. The study was conducted to identify the total phenolic and flavonoid compound; To test Antioxidant and Antimicrobial activity of ethanolic extract of steam of *Dendrophthoe Falcata* parasite on melia Azadarach host tree. The dry steam powder of *Dendrophthoe Falcata* extracted with ethanol. The ethanol extract was subsequently partitioned successively using n-hexane, chloroform and ethyl acetate. Each fraction was analyzed by quantitative phenolic and flavonide content with spectrophotometry. Antioxidant activity was performed by 2,2-diphenyl-1-picrylhydrazil (DPPH) method, while for Antimicrobial assay use pathogenic bacteria by Disk diffusion method. The result conclude that given plant showed a high phenolic content, very high Antioxidant activity and moderate Antimicrobial activity. The stem of *Dendrophthoe Falcata* contain potential phenolic compound that can be used as natural Antioxidant and the treatment of various infection caused by microbes.

Formulation and Evaluation of Emulgel Containing Nirgudi Oil

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Abstract

When gels and emulsions are used in combined form the dosage form are referred as emulgel. The emulgel formulation containing Nirgudi oil was successfully prepared with carbopol 940 as a gelling agent to impart viscosity to the preparation as well as to sustain the action of the drug by increasing residence time. The contents of developed emulgel formulation were Nirgudi oil as oil phase, Tween 80 and PEG 400 as surfactant and cosurfactant, double distilled water and carbopol 940 as gelling agent. The study revolved around the formulation of Emulgel containing nirgudi oil for topical delivery of the drug. Emulgel is formulated with an aim to enhance the permeation of poorly water soluble drugs within the body. A set of 9 different Emulgel formulation batches were devised. These Emulgel formulations were then evaluated for their appearance, pH, Viscosity, Spreadability, Extrudability, Drug Content, Swelling Index and antifungal and antibacterial activity. The resulted data revealed that formulation F4 was the optimum formulation which gives the optimum results of the formulation. So, it can be concluded that topical emulgel of nirgudi oil possess an effective antifungal activity.

GC-MS Determination of Caffeine in Tea and Coffee Using Homogeneous Liquid-Liquid Microextraction Based on Solvents Volume Ratio Alteration

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Abstract

A simple and fast homogeneous liquid-liquid micro-extraction (HLLME) method based on solvents volume ratio alteration (SVRA) combined with gas chromatography-mass spectroscopy (GC-MS) is briefly described for determination of caffeine in tea and coffee samples. In this method, the primary extraction from solid samples was done using 2:1 ethanol-water mixture. A micro-volume of dichloromethane (DCM) formed a homogeneous solvent with this mixture. After vigorous shaking, an extra volume of water was added that resulted in phase separation due to solvents volume ratio alteration. A complete extraction of caffeine was achieved after centrifugation. After centrifugation, the sediment of dichloromethane phase was then injected into GC-MS for the analysis. The parameters influencing efficiency of extraction such as type and volume of organic solvent, pH, centrifugation time and vortex time were investigated and optimized. Under the optimal conditions, limit of detection and limit of quantification were found to be $0.05\mu\text{g MI}^{-1}$ and $0.16\mu\text{g mL}^{-1}$ respectively. The precision of the method, expressed as relative standard deviation was 4.8% for six replicated measurements. The method was successfully applied for the determination of caffeine in tea and coffee samples.

Keywords: Homogeneous liquid-liquid micro-extraction, Gas chromatography-Mass spectroscopy, Caffeine, Tea, Solvent volume ratio alteration

Formulation & Development of Nutraceutical Jelly for UTI Infection

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Abstract

The present nutraceutical work describe an innovation that *zeya mays* product containing jelly based formulation have not yet design as urinary tract infection for OTC prospective. Introduction and objective-Corn silk contains more amount of active constituents which are responsible for pharmacological activities like diuretic, Anti-inflammatory, Antiseptic. The main objective of this study involves the development of jelly formulation containing corn silk which will help in the reducing infection of UTI. Material used –Corn silk extract, gelatin, propylene glycol, Stevia, Methyl paraben, Propyl paraben, color and essence Method used-The formulation was prepared by heating and congealing technique.

Keywords- corn silk nutraceutical Jelly

Bio-autographic Antimicrobial Potential of *Blepharis Repens*

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Abstract

Blepharisrepens (Valh) Roth is a seasonal herb and a threaten species due to their exploitation from natural habitat. As per ethnomedicinal survey it is found that the plant is used for bone healing, wound healing, aphrodisiac, anti-asthmatic, febrifuge, urinary discharge, skin disorder, to relieve from headache, fever. The objective of present study is to evaluate preliminary phytochemistry and anti-microbial potential. Phytochemical screening shows presence of carbohydrate, alkaloid, tannin, flavonoid and saponin. Quantification of phytochemical revealed total carbohydrate 5.78%, total alkaloid 1.43%, total tannin 1.03% and total flavonoid 1.48%. Agar well plate method and Bioautography proved that plant extracts have potent antimicrobial activity against *Escherichia coli*, *Aspergillus niger*, *Staphylococcus aureus*.

Keywords: *Blepharisrepens*, Bioautography, Alkaloids

Formulation and Evaluation of herbal ointment of Blumealacera

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Abstract

Blumealacera of family Asteraceae is a common road side weed all over India. Occasional on waste land. This plant is commonly known as Buradi in India. Blumea As it is Aromatic, astringent, Stomachic, Anti-Spasmodic and Diuretic. It is useful in treatment of Fever, Burning, Wound Healing, Abdominal disorder, inflammation. It also advised in dysentery and in vaginal bleeding. The present research has been undertaken with the aim to formulate and evaluate herbal ointment because synthetic may cause the adverse effect on skin. The herbal ointment was formulated by extracting Blumealacera (brum.f.)DC.

Keywords: pH, spread ability, stability testing, viscosity.

Enhancement of Binding Property of Acetaminophen Tablets by Using Okra Gum

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Abstract

The amount and type of binder has a great influence on different properties of tablet. Binders which are generally use acacia, gelatin, starch are of natural origin. The aim of study was to evaluate the effectiveness of new binder extracted from *Hibiscus esculentus* (Okra gum) in tableting using Acetaminophen as a drug. Okra gum was extracted from pods of okra fruit by maceration in distilled water followed by filtration of viscous solution as well as precipitation of gum extract by using alcohol. Granules were prepared by different concentration (2-5%) of okra gum and tableted using Karnavati mini rotary press. Starch (5%), Ethyl cellulose (5%) and Chitosan (5%) were used as standard binders for comparison. Physical properties of granulates and those of tablets including disintegration time and dissolution rate were studied. Other properties such as bulk density, tapped density, flowability as well as hardness, friability tests were performed. Drug release after 1 hr was found as 96%, 60 % and 30 % for the concentration of 2%, 4% and 5% respectively. Tablets which were punched using okra as a binder shown good hardness and friability. However this binder prolongs the dissolution rate and disintegration time. Hence this gum may be good candidate for sustained release formulations.

Keywords: Binder, *Hibiscus esculentus*, Okra gum, Tablet, Sustained release.

Design and Synthesis of Some Novel Thiazolidinone Derivatives as Anticonvulsant Agents

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Abstract

In the present investigation, 4-Thiazolidinone derivatives coupled with Hydantoin ring were studied. The docking studies were performed by using Molecular Design Suite (*V Life MDS v4.3*). The compounds evaluated using the X-ray crystal structure of Ca^{2+} /CAM-CaV2.2 IQ domain complex [PDB ID: 2PR9]. The minimum dock score of Thiazolidinone derivatives *i.e.* -53.75 (PT 3), -48.84 (PT 4), -46.48 (CPT 5) is comparable with as that of standard molecule *i.e.* 35.28 for Zonisamide & -40.21 for Diazepam. Few 4-Thiazolidinones were synthesized by microwave technique. The synthesized compounds were confirmed on the basis of IR, H^1 -NMR & Mass analyses. Acute toxicity study was done to determine the LD_{50} of the compounds. Some of the synthesized compounds were evaluated for their anticonvulsant effect by Maximal Electroshock Seizures (MES) method. Statistical testing was done by one way ANOVA. The pharmacological evaluation of the compounds showed decrease in duration of both tonic phase & stupor phase. Compounds PT 6 & DMPT 2 showed extremely significant activity at the dose of 40 mg/kg *i.e.* 40 sec & 44 sec respectively & compound CPT 4 & CPT 5 showed very significant activity at the dose of 20 mg/kg 125.8 sec & 149.8 sec respectively among the evaluated compounds compared to control *i.e.* 193 sec. The analysis of structural features revealed that substitution of chloro group, hydroxy group & methoxy group enhanced the anticonvulsant potential of the synthesized compounds.

Stability Indicating UV Spectrophotometric Method for the Estimation of Azilsartan Medoxomil in Bulk and Pharmaceutical Formulations

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Abstract

A simple, accurate, precise and economical spectrophotometric method was developed for the estimation of Azilsartan medoxomil in bulk and pharmaceutical dosage form. An absorption maximum was found to be 249 nm in methanol. The azilsartan medoxomil obeys Beer's law in the range of 5- 25 µg/ml with R^2 0.999. The recovery and assay were performed in generic as well as branded tablets. The forced degradation parameters were studied. The method can be used for routine analysis and to study stability of Azilsartan medoxomil in bulk and in formulation.

SPO-17

Synthesize MSX and AMSX to be Used as Carrier for Enhancing the Loading and Release Rate of NH and Compare it with Parteck SLC

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Abstract

Nicardipine hydrochloride is an antihypertensive drug which blocks the calcium channel. It belongs to the BCS class II having high lipophilicity, poor water solubility and hence low bioavailability. The main aim of this study is to synthesized MSX, AMSX by using biomimetic method and also marketed parteck SLC carrier is used to check its ability to be a good drug carrier for loading and release rate of poorly water-soluble drug NH. This drug loaded xerogel is compared with drug loaded parteck SLC. The dissolution media was developed for performing the in vitro dissolution of nicardipine hydrochloride. The porous silica was synthesized by using sol - gel method. These silica carriers then loaded with drug by using in - situ inclusion method and evaluated by performing in vitro dissolution study in developed dissolution media. Also, the drug is loaded in marketed parteck SLC by using solvent evaporation method (1:1, 1:2, 1:3) and evaluated by performing in vitro dissolution study. The synthesized MSX, AMSX, NH - MSX, NH - AMSX and NH - PS (1:1,1:2,1:3) characterized by XRD, DSC, SEM and FTIR. The in vitro drug release study revealed that the amino functionalized mesoporous silica xerogel show highest drug release (97.08%) followed by mesoporous silica xerogel and Parteck SLC (1:2) (68.33%). (79.95%) Hence, AMSX is shows the higher loading capacity and enhanced dissolution release can be considered to be a good candidate as drug carrier for NH. Keywords: Mesoporous silica xerogel, Parteck SLC, NH - MSX, NH - AMSX.

Neutraceutical: An Overview

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Abstract

The term “Neutraceutical” has enormous chances for growth and expansion in terms of health benefits. Neutraceuticals can be explained as the food items as a whole or a part which possesses some nutritional value along with the medicinal properties. This special feature, besides providing good health, leads to treatment and prevention of certain diseases. The era of emergence of nutrients as medicines in the pharmaceutical world is of great importance and draws attention of scientists and researchers toward the appreciable benefits. The history and discovery has explored many facts about the remarkably profound therapeutic activities of such agents. As a result, interdisciplinary approaches are now been applied to design and develop various dosage forms to deliver these herbal products relative to their applications. Furthermore, the implementation of the designing and development of dosage forms for offering better delivery carrier of the Neutraceutical, the importance and challenges have also been Studied.

Keywords: Applications, challenges, delivery carrier, nutraceuticals, treatment

Formulation and Evaluation of Herbal Shampoo

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Abstract

The aimed to formulate and evaluate herbal shampoo because synthetic may causes the adverse effect on hair and scalp. The herbal shampoo was formulated by extracting *murraya konigi*, *sapindus mukorossi* as foaming agent, also addition of preservative agent. Citric acid used as viscosity modifier and pH adjusting agent and glycerin used as conditioning agent. HPMC (hydroxypropyl methyl cellulose) used as thickning agent. The formulation at laboratory scale was done and evaluated for number of parameters such as pH, foam formation, viscosity, conditioning and wettability were evaluated, and also to ensure its safety and efficacy

Keywords: Beta –carotene, preservatives, surfactants, viscosity

Future of Natural Drugs Used to Treat AIDS: An Overview

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Abstract

To study of natural products in biomedical research is not a modern concept. Many of the most successful medical therapeutics are derived from natural product, including those studies in the field of HIV/AIDS. Biomedical research has a rich history of discovery based on screens of medicinal herbs and traditional medicine practices. Compounds derived from natural products, repress HIV and those that activate latent HIV, have been reported. The present therapy finds its limitations in the emergence of multi drug resistance and accordingly finding new drugs and novel targets is the need of the hour to treat the infected person and further to attack HIV reservoirs in the body like brain, lymph nodes to achieve the ultimate goal of complete eradication of HIV and AIDS. The plants and natural products may hold the key to end the AIDS epidemic that has killed millions. The focus should shift from so called western medicine, mainly based on powerful chemicals, to plant and herbal products. Can stop destroys the HIV virus present in the body, resulting destroy of virus.HIV and AIDS can cause various symptoms, and some alternative treatments could provide relief.

Keywords: HIV, Natural products, Herbs, Virus, Treatment.

Future Aspect of the Probiotic and Prebiotic: An Overview

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Abstract

Probiotics are live bacteria found in certain foods or supplements. They can provide numerous health benefits .Prebiotics are the substances come from types of carbs (mostly fiber) that humans can't digest. The beneficial bacteria in your gut eat these fiber. The gut bacteria collectively referred to as the gut flora or gut microbiota, perform many important functions in the body. Eating balanced amounts of both pro-and prebiotics can help ensure that you have the right balance of these bacteria, which should improve health .The Prebiotics consist of dietary fibers and oligosaccharide. Prebiotics are being implicated in starter culture formulation, gut health maintenance, colitis prevention, cancer inhibition, rrduction of cardiovascular disease, Prevention of Obesity & constipation, cholesterol removal, use in fishery, poultry, pig, cattle feed and pet food. Future technological prospects exist in innovations finding solutions for the stability and viability problems of probiotics in new food environments .Current research on novel probiotic formulation and microencapsulation technologies exploiting biological carrier and barrier materials and systems for enteric release provides promising results.

Key words: Probiotic, Prebiotics, Fibers, Colitis prevention.

Current Aspects of Traditional Medicine: An Overview

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Abstract

“Current Traditional Medicine” covers all the aspects of the modernization and standardization research on traditional medicine of the world, e.g. chemistry, pharmacology, molecular mechanism, systems biology, proteomics, genomics, metabolomics, safety, quality control, clinical studies of traditional Chinese, Ayurvedic, Unani, Arabic and other ethnomedicine. In future the journal plans to include other traditional systems of medicine. Traditional medicine refers to health practices, approaches, knowledge and beliefs incorporating plant, animal and mineral based medicines, spiritual therapies, manual techniques and exercises, applied singularly or in combination to treat, diagnose and prevent illnesses or maintain well-being. Increased side effects, lack of curative treatment for several chronic diseases, high cost of new drugs, microbial resistance and emerging diseases are some reasons for renewed public interest in complementary and alternative medicines. Numerous nutraceutical combinations have entered the international market through exploration of ethnopharmacological claims made by different traditional practices. This review gives an overview of Ayurvedic system of medicine and its role in transnational medicine in order to overcome malnutrition and related disorders.

Keywords: Traditional medicine, Ayurvedic, Unani, Ethnomedicine.

Role of Nutraceuticals in Cholesterol Lowering

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Abstract

Nutraceuticals means: nutritive + pharmaceuticals; A food stuff. Nutraceuticals are food or part of food that provide medical health benefits including the prevention or treatment of disease. Nutraceuticals on the basis of their natural source are categorised into three types of nutrients. 1) Herbal 2) dietary supplements 3) dietary fibers. The most rapidly used segments of the industry were dietary supplements (19.5%) per year and natural/ herbal products (11.6%) per year. cholesterol is an organic molecule it is sterol, a type of lipid molecule and is biosynthesis by all animal cell because it is an essential structural component of all animal cell membrane the most common cause of cholesterol 1) unhealthy eating habits such as eating lots of bad fats is found in dairy products , chocolate, baked goods and deep fried and processed foods. 2) Lack of physical activity: with lots of sitting and little exercise. 3) Smoking: which lowers the HDL cholesterol special in women's. The cholesterol can damage your arteries and increase the risk of heart disease. The high level of certain types of cholesterol increases the risk of cardio vascular disease such as heart disease and stroke. This can cause fatty deposits (known as plaques) build inside your arteries. To prevent this and maintain the normal level of cholesterol, flaxseed, almond, walnut, garlic, turmeric, soybean and kidney beans are useful. The present article gives information about these herbs.

Keywords: Nutraceuticals, turmeric, walnut, almond, flaxseed,

SPO-24**Estimation of Secondary Metabolites in Different Tea and Coffee Brands of
Indian Market**

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Abstract

In present study, different tea and coffee brands were analyzed and compared for their phenol, tannin and caffeine content. The product having highest phenol contents was Red label (21.8%). The products having least tannin contents were; Red label (2.6%), Parivar (1.08%). Remaining product as: Tata agni, bru and Nescafe showed almost same percentage of tannins in range 2.8%-.3.0%. Among various tea and coffee brands, Nescafe had maximum quantity (3.0%) of tannin. Parivar was containing highest quantity (4.2%) of caffeine among all the studied products

Preparation and Evaluation of Ayurvedic Dhoopbatti as Ayurvedic Supplementary for Ulcers.

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Abstract

With an aim to minimize the usage of chemicals and allopathic medicine for ulcers, efforts were made to devise an Ayurvedic Dhoopbatti using Mimosa pudica cow dung, camphor and other various therapeutic minerals giving appreciable fragrance and therapeutic use. The current work focuses on preparation and evaluation of Ayurvedic Dhoopbatti as an ayurvedic supplementary for ulcers. The activity of prepared Dhoopbatti was checked on ulcer causing microbes Entamoeba Histolytica and it was found that it can act as ayurvedic supplementary to heal ulcers. The prepared Dhoopbatti has a dual use as Ayurvedic Supplementary and traditional Puja Samagri as well. The prepared Dhoopbatti were evaluated by organoleptic test, Physical test and Microbial test.

Key words: Mimosa Pudica, Ayurvedic Dhoopbatti, Ayurvedic Supplementary, Entamoeba Histolytica, Therapeutic.

Synthesis and Characterization of Some Novel Carboxylic Acid-Amino Acid Ester Conjugates

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Abstract

The present work describes synthesis of some novel isonicotinic acid – amino acid ester conjugates (3a-3g). The synthesized compounds were confirmed by physical constant and TLC. The functional group analysis in the synthesized compound was done by IR spectral study.

Synthesis and Characterization of Some Pyrazole Derivative

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Abstract

Now currently investigation, the chalcone are synthesized by Claisen-Schmidt condensation reaction between Acetophenone and aromatic aldehydes. Then synthesized chalcone (3a-j) cyclized with hydrazine hydrate (4a-j) or phenylhydrazine (5a-j) or hydroxylamine hydrochloride (6a-j) in glacial acetic acid to give new pyrazolines derivatives using ultrasonic irradiation with higher yields in minimum time. All the synthesized compound are characterized by their TLC, NMR & IR. .

Herbal Plants as Anti-HIV Activity

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Abstract

HIV, the virus that causes AIDS, is one of the world's most serious public health challenges. There were approximately 37.9 million people across the globe with HIV/AIDS in 2018. Of these, 36.2 million were adults and 1.7 million were children (<15 years old). In 2018, 23.3 million people with HIV (62%) were accessing antiretroviral therapy (ART) globally, an increase of 1.6 million since 2017 and up from 8 million in 2010. Current therapies available for symptomatic treatment of AIDS are quite expensive. Herbal medicines can be developed as a safe effective and economical alternate. Many compound of plant origin that inhibits HIV during various stage of cycle, these include several alkaloids, coumarins, Quinone's, saponins, terpenes. Herbal that show anti-HIV activity are curcuma long, S.indical Linn, Terminalia Arjuna, Rouwolfia serpentina, liquroce. Herbal medicine to be beneficial for immune support, anti -oxidant action and anti-retroviral activity. There need to discover new anti-HIV agents to supplement our current arsenal of anti-HIV drugs and to provide therapeutic options for people with limited resources to currently efficacious chemotherapies. Plant derived natural products continue to serve as reservoir for discovery of new medicines, including anti-HIV agent. This review presents a survey of plant that shown anti-HIV activity along with target they interact including the specific objectives for the pursuit of plants and other natural products with identified active substances and mechanisms as well.

Extraction of Mucilage and its Comparative Evaluation as a Binder

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Abstract

A binder holds powders together to form granules and also provides the cohesiveness required for binding of the granules under compression to form a tablet. Some natural excipients are currently available for pharmaceutical formulation. Aim of this study was to isolate the mucilage from different plants and to evaluate them as a binder. Here an effort was made to investigate the efficacy of mucilage obtained from fruits of *Sterculia lychnophora* s tablet excipient. A preparation technique was developed to optimize the extraction of mucilage from the fruits of *Sterculia lychnophora* plants. The extracted mucilage has been evaluated for various physicochemical properties. Tablets were manufactured using extracted mucilage as a binding agent and comparison was made against the tablets prepared with starch paste as standard binder on studying standard parameters like diameter, thickness, weight variation, hardness, friability, disintegration and *In vitro* dissolution study. Mucilage could be used as a binding agent for at low concentrations. This can be used for sustaining drug release from tablets since prepared tablets produced a sticky film of hydration on surface which ultimately reduces drug release rate and hence can be evaluated for its efficacy to sustain the drug release.

Keywords: Mucilage, Pharmaceutical excipients, Tablets, Physicochemical characterization.

Comparative Study of Different Varieties of Polished and Unpolished Rice of Ghoti Regions

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Abstract

Rice (*Oryza sativa* L) is one of the most widely consumer food for large part of human population. In India agricultural commodity with 3rd highest worldwide population. The present work is to comparative between polished and unpolished rice of different varieties of rice of Ghoti region and varieties of rice in Ghoti region for cultivation are Kolpi, Indrayani, and 1008. Among these Three Varieties I had selected kolpi and indrayani rice for comparative study. Comparative study are done of varieties of rice but also with their two type i.e polished and unpolished rice. With the main object is to know phytochemical between varieties of polished and unpolished rice, To identify nutritious in varieties of rice, To spread scientific awareness of polished and unpolished rice and To identify adulterant. The comparative between the rice can identify by Estimation of Total carbohydrate, Estimation of Total protein and Estimation of Total starch. As per above result unpolished kolpi (0.9225) rice consist of large amount of protein as compare unpolished Indrayani rice (0.32125). Polished Kolpi rice consists of large amount of starch as (32) compare to polished Indrayani rice (28). Unpolished Indrayani rice consists of large amount of carbohydrate as (29.56) compare to unpolished Kolpi rice (19.25). Unpolished rice consists of large amount of carbohydrate as compare to polished rice. Polished rice consists of large amount of starch as compare to unpolished rice.

Formulation and Evaluation of Piroxicam Loaded PLGA Microspheres

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Abstract

The aim of present study is to formulate long acting depot microspheres using emulsion-solvent evaporation method and optimization of formulation by using designof Experiment. The main purpose of this study is to evaluate the effect of process variables (stirring speed) and formulation variables (surfactant concentration, polymer type and concentration) on the preparation of drug loaded PLGA depot microspheres. Optimized batch were evaluated for various parameters like Particle size and Morphology, Drug content, % Encapsulation efficiency, Residual solvent, differential scanning calorimetry, In-vitro release study, and Stability study.

Ethnobotanical Studies of *Erythrina Indica* Plants

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Abstract

Medicinal plants are nature's gift to human society to make disease free healthy life. More than thousand medicinal plants are recognized in our country. The present review is therefore an effort to give a detail survey of the literature on its phytopharmacological properties of *Erythrina indica* belonging to the family Fabaceae, which is a shrub with prickly stems; it is a wild growing forest plant in India. Majorly popular system of medicine like Ayurveda, Siddha, Unani and homeopathy. Various plant parts such as bark, root, fruits and leaves are used in treatment of fever, astringent, febrifuge, skin diseases etc.

Key Words: Ayurveda, Homeopathy, Siddha, Unani.

**Study of Pharmacological (Anxiolytic) Activity using bark Extract of
*Azadirachta indica***

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Abstract

The aim of present study was to assess the anxiolytic activity of leaves of *Azadirachta indica*. The mature green leaves of *Azadirachta indica* were collected and authenticated. Extractions of dried leaves were carried out with ethanol in Soxhlet apparatus. The activity was carried out using elevated plus maze method. The bark extract showed the significant anxiolytic activity comparable to the standard drug diazepam using elevated plus maze method. The neem bark extract 100 mg/kg and 200 mg/kg gave good effect as compared to the control treated group an anxiolytic activity comparable to the standard drug diazepam.

**Mapping of Ligand Binding Domain of Target Protein Peroxisome-
Proliferator Activator Receptor Gamma and Molecular Docking of
Thiazolidinediones for De-Novo Design of Useful Antidiabetic Agents**

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Abstract

Thiazolidine-2,4-dione acting as an agonist to this receptor PPAR gamma, decrease insulin resistance in the adipose tissue, skeletal muscles and liver. In order to design useful agent it is quite necessary to understand molecular dynamics of the ligands with their targets. An important aspect of glitazones is acidic head group connected to lipophilic tail by a phenoxyalkyl linker. For rational design of newer ligands, in the present work mapping of target PPAR γ is reported, such that interactions of pharmacophore present on the structure and further exploration of the molecules is possible and helpful for the followers.

An Overview on Herbal-Drug Interaction

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Abstract

Plants are an important source of pharmaceuticals. Any pharmacological activity modification of drug caused by herbal in or on the body is known as herbal-drug interaction. Interactions may occur between prescription drugs, OTC products, herbals and food supplements. The drug interactions and toxicities with active pharmacological agents are important for safety of dietary and herbals. Even though there is a common public observation that herbs and plant products are safe but researchers had demonstrated that herbals shows the toxicities and drug interactions like other pharmacologically active compounds. The use of drug along with herbs may shows similar, synergistic or antagonist effect on the drugs or vice versa. In probable cases of herb-drug interactions includes: bleeding when warfarin is combined with ginkgo, garlic, liquorice. Valproate with ginkgo causes seizures. Tetracycline increase plasma digoxin concentrations causes digoxin toxicity. Decreases the effect of contraceptives when taking alongwith garlic. Health care practitioners like physicians, pharmacist should aware patients about mixing herbs and drugs. This review will be helpful to aware about herbal drug interaction.

The Phytochemical Study of Artemisinin

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Abstract

To understand the phytochemical effects of artemisinin. Artemisinin and its semisynthetic derivatives are a group of drugs used against malaria due to *Plasmodium falciparum*. It was discovered by Tu Youyou in 1972. Artemisinin is isolated from the plant *Artemisia annua*, sweet wormwood, a herb employed in chinese traditional medicine. Treatments containing an artemisinin derivative (artemisinin-combination therapies, ACTs) are now standard treatment worldwide for P. falciparum malaria. Chemically, artemisinin is a sesquiterpene lactone containing an unusual peroxide bridge. This endoperoxide 1, 2, 4-trioxane ring is responsible for the drug's mechanism of action. Few other natural compounds with such a peroxide bridge are known. The WHO has recommended artemisinin combination therapies (ACT) be the first-line therapy for P. falciparum malaria worldwide.

Traditional Medicines - Sources and Clinical Applications

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Abstract

Natural products and traditional medicines are of great importance. Such forms of medicine as traditional medicine, Ayurveda and Unani have been practiced in some areas of the world and have blossomed into orderly-regulated systems of medicine. As per WHO Traditional medicine is the sum total of the knowledge, skill, and practices based on the theories, beliefs, and experiences indigenous to different cultures, whether explicable or not, used in the maintenance of health as well as in the prevention, diagnosis, improvement or treatment of physical and mental illness. Traditional herbal medicines as naturally occurring, plant-derived substances with minimal or no industrial processing that have been used to treat illness within local or regional healing practices. Traditional use of herbal medicines implies substantial historical use, and this is certainly true for many products that are available as 'traditional herbal medicines'. In many developing countries, a large proportion of the population relies on traditional practitioners and their armamentarium of medicinal plants in order to meet health care needs.

The World Health Organization (WHO) defines traditional medicine as "the sum total of the knowledge, skills, and practices based on the theories, beliefs, and experiences indigenous to different cultures, whether explicable or not, used in the maintenance of health as well as in the prevention, diagnosis, improvement or treatment of physical and mental illness" Traditional medicine is contrasted with medicine. Traditional medicine refers to health practices, approaches, knowledge and beliefs incorporating plant, animal and mineral based medicines, spiritual therapies, manual techniques and exercises, applied singularly or in combination to treat, diagnose and prevent illnesses or maintain well-being.

Keyword: Natural Products, Traditional medicines, Traditional uses, Spiritual therapies.

Trade of Natural Products and Traditional Medicines

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Abstract

Herbal medicinal products have become a subject of increasing global importance, for their health benefits and economic considerations. Some major categories of plant-derived products include phytopharmaceuticals, herbal medicines, natural health products, phyto-cosmetics and personal care products. Most of the medicinal plant material in the world market originates from developing countries, although the export volume from most of these countries is small. Medicinal plants are major component of all indigenous or alternative systems of medicine. They are common element in Ayurvedic, Homeopathic, Naturopathic, Oriental and Native American Indian medicine. The plant material is collected in developing countries in an unregulated manner, resulting in indiscriminate harvesting of wild varieties and serious damage to biodiversity. There is an urgent need to regulate export and allow only sustainable harvest of medicinal plants in these countries.

Keywords: Natural products, herbal plant, herbal uses.

Quality Assurance of Traditional Medicine

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Abstract

This highlights the current advances in knowledge about the safety, efficacy, quality control, marketing and regulatory aspects of botanical medicines. A marked growth in the worldwide phytotherapeutic market has occurred over the last 15 years. Phytotherapeutic agents are standardized herbal preparations consisting of complex mixtures of one or more plants which contain as active ingredients plant parts or plant material in the crude or processed state. Herbal drugs have been used since ancient times as medicines for the treatment of a range of diseases. Medicinal plants have played a key role in world health. In spite of the great advances observed in modern medicine in recent decades, plants still make an important contribution to health care. Phytotherapeutic agents or phytomedicines are standardized herbal preparations consisting of complex mixtures of one or more plants which are used in most countries for the management of various diseases. One basic characteristic of phytotherapeutic agents is the fact that they normally do not possess an immediate or strong pharmacological action.

Keywords: Safety efficacy quality control marketed preparation

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