



6th International Conference on
Ancient Wisdom, Modern Solution, Harnessing TM's AI, Innovation and Entrepreneurship
January 10th & 11th, 2025

SMBT



6th International Conference on **Traditional Medicine**

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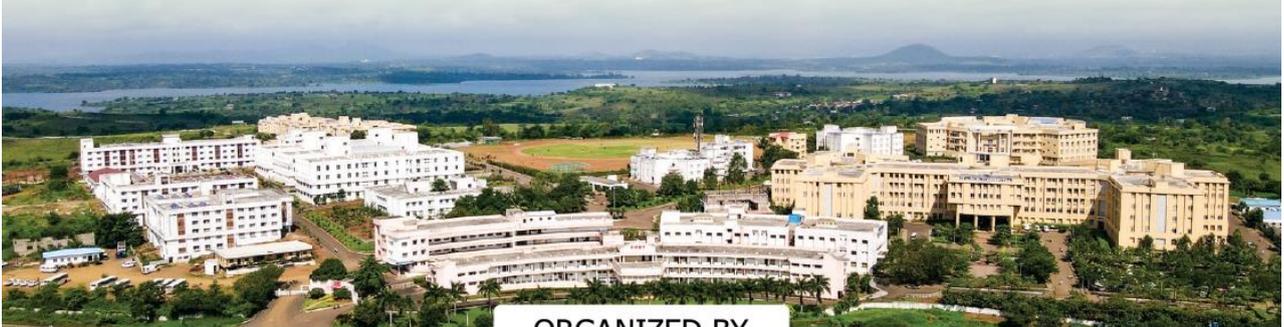
Ancient Wisdom, Modern Solutions: Harnessing TM's
Through AI, Innovation & Entrepreneurship

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Venue : SMBT Sevabhavi Trust's Educational Campus, Nashik, Maharashtra - 422403, India

More Details : www.ictm2025smbt.in



ORGANIZED BY

**SMBT Sevabhavi Trust's
SMBT COLLEGE OF PHARMACY | SMBT INSTITUTE OF D. PHARMACY**

SMBT Campus, Nandihills, Nashik, India.



6th International Conference on
Ancient Wisdom, Modern Solution, Harnessing TM's AI, Innovation and Entrepreneurship
January 10th & 11th, 2025

ICTM 2025 SCIENTIFIC PROCEEDING



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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 6th International conference on 'Ancient Wisdom, Modern Solution, Harnessing TM's, AI, Innovation and Entrepreneurship' during January 10th and 11th, 2025 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 2025 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 2025 is focuses on recent research and development on Traditional Medicine and clinical study of herbal medicines. The session are emphasized on

1. Traditional medicines- sources & clinical application
2. Quality assurance of 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. Herbal Formulations

Eight lectures will be presented by distinguished scientists. The researchers will be able to report their research finding in paper presentations, Mini Oral Presentation and poster presentations. Poster presentation awards, Mini Oral Presentation award and Paper presentation awards will be presented each to Academician/ Research scholar and 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



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January 10th & 11th, 2025



Dr. Yogesh V. Ushir
Programme Chair, 6th ICTM
Principal,
SMBT Institute & College of Pharmacy



Mr. K. J. Tiwari
Convener, 6th ICTM
HOD,
SMBT Institute of D. Pharmacy

Organizing Committee Members

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Ms.Bhavana Tambe
Ms Prajakta Patil
Ms.Maya Gaikwad
Mr.Khushal Chaudhari
Mr. Pravin Dighe
Dr.Nirmala Shinde
Dr.Harsha Narkhede
Ms.Suvrana Shelke
Ms.Sneha Sonawane



ICTM 2025 Pre-conference

Scientific Program Schedule

09th January 2025

Venue- SMBT IODP Seminar Hall

Sr.No.	Time (IST, Mumbai)	Activity	Topic
1	11.30am to 12.30pm	Registration of Pre-conference	-----
2	1.30pm to 2.30pm	Session I Syukri, Dwi Marlina Malahayati University, Lampung, Indonesia	Wound healing in ulcer diabeticum patient by silver nanoparticles
3	2.45 pm to 3.45 pm	Session II Dr. Minal Narkhede SMBT Institute & College of Pharmacy	Innovation through hypothesis



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ICTM 2025 Conference Scientific Program Schedule

10th January 2025

Venue- SMBT IMSRC Hall

Sr.No.	Time (IST, Mumbai)	Activity	Topic
1	10.00am To 10.30am	Inaugural Function	-----
2	10.30 to 11.30am	Session I Dr Thanaphum Osathanon Chulalongkorn University, Thailand	Cannabidiols in Dental Treatment: Cellular Mechanisms to Clinical Trials
3	11.45 am To 12.45 pm	Session II Dr Hazrina Hadi International Islamic University, Indonesia	Bridging Nature and Innovation: Harnessing Science and Technology to Bring Natural Products to Consumers
4	2.00pm to 3.00pm	Session III Dr Rabeendra Prasad Shreshtha ,Gandaki Medical College, Nepal	Advancement in the Traditional Medicine System in The Nepal Through the Phytochemical Research
5	3.25 pm To 5.00 pm	Poster/ Oral/ Mini Oral Presentations	-----



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ICTM 2025 Conference Scientific Program Schedule

11th January 2025

Venue- SMBT IMSRC Hall

Sr.No.	Time (IST, Mumbai)	Activity	Topic
1	10.00 am to 11.00 am	Session IV Dr Thanrira Porntaveetus Chulalongkorn University, Thailand	Building a Digital Database for Precision Medicine: Unlocking Personalized Healthcare Insights
2	Session V 11.15am to 12.15 pm	Session V Dr Abhijit Tambe Co-ordinator, Central Research department, SMBT	CRD & Shrishti session
3	Session VI 1.30 pm To 2.30 pm	Session VI Dr Debi Arivo Malahayati University, Indonesia	Endophytic bacteria in medicinal plants: a new source of bioactive compounds
4	2.30pm to 3.30 pm	Poster/ Oral/ Mini Oral Presentations	-----
5	3.45 pm to 4.30 pm	Valedictory	



List of Paper Presentation

Academic / Research Scholar Category

Sr. No.	Code	Name of Delegate	Title of presentation
1	AP1	Amol Deore	Phytochemical Screening, HPLC and HPTLC Fingerprint analysis of Psidium guajava Leaf Extract
2	AP2	Patil Amol	Unveiling the Bioactive properties of Nigella Sativa Seed Extract Oil
3	AP3	Bhagyashri Jadhav	In-silico Pharmacokinetic, Molecular Docking of Substituted Benzimidazoles as Potential Pharmacological Agent
4	AP4	Manoj Jagtap	Pharmacognostic study, Phytochemical screening and anticancer activity of selected medicinal plants
5	AP5	Manoj Shinde	In Silico Computational Drug Design of 2-Phenyl Benzimidazole derivatives as Anti-Cancer Agents
6	AP6	Vaishali Rakibe	Literature Review Of Gliricidia Plant
7	AP7	Vrushali Jadhav.	A Review on Permeation Enhancers: A Major Breakthrough in Drug Delivery
8	AP8	Dr. Pradnya Deshmukh	Effect of decoction Hibiscus Rosasinesis in <i>Raktapradar</i> with special reference to Menorrhagia - A Case Study
9	AP9	Dr. Rajesh T. Wankhede	Physiochemical and Pharmacological Study of Padma Gudducci (<i>Tinospora malabarica</i>) with Special Reference to its Antimicrobial Activity
10	AP10	Dr. Vijay S. Suryavanshi	"A Randomized, Controlled, Clinical Study Of Poshanamruta In The Management Of Pem."



List of Paper Presentation

Diploma Student Category

Sr. No.	Code	Name of Delegate	Title of presentation
1	SP1	Prachi Rajguru	Characterization and development of herbal face mask
2	SP2	Prajakta Borhade	Herbal Remedies for Diabetes Management: A Traditional Approach with Modern Insights.
3	SP3	Pranjali Gadhave	Neutraceutical tablet from Carica papaya and Murrayakoenigii to prevent Thrombocytopenia
4	SP4	Subhash Sharma	Development and Evaluation of a Natural Turmeric Cream for Skin Care



List of Paper Presentation

UG/PG Student Category

Sr. No.	Code	Name of Delegate	Title of presentation
5	SP5	Anuradha Pandit	NeuroSage AI-Powered Alzheimer's Detection
6	SP6	Dipak. Thorat	Ai Based System For Early Detection Of Skin Cancer.
7	SP7	Sanskruiti Pawshe	A Chemical Modification Of Gum Acacia And Its Application As Pharmaceutical Excipient
8	SP8	Snehal Zankar	Formulation And Evaluation Of Biogenic Silver Nanopartical Loaded- Hydrogel For Topical Melanoma Treatment
9	SP9	Sonali Pawar	Biological Screening of <i>Mucuna pruriens</i> Seeds for Cardioprotective Effects Against Isoproterenol-Induced Myocardial Toxicity in Rats

List of Mini Oral Presentation

Academic / Research Scholar Category

Sr. No.	Code	Name of Delegate	Title of presentation
1	AMO1	Dr. Manisha Gavit	Formulation and evaluation of herbal dusting powder containing leaves extract of Lonika (Portulaca oleracea)
2	AMO2	Dr. Nitin Gaikwad	Prakriti and Its Associations with Metabolism
3	AMO3	Dr. Snehal Bombatkar	Formulation and evaluation of Analgesic syrup from Chaturbeeja churna with special reference to shoolhara property.
4	AMO4	Dr. Nivedita P. Tayde	Steroid Use In Dentistry: - A Boon Or Bane
5	AMO5	Dr. Shweta Dwivedy	Ayurvedic Dentistry: Mordern Problems, Ancient Solutions- A Review
6	AMO6	Vaishali Shellke	Formulation and evaluation of Herbal Paper Soap
7	AMO7	Dr. Rajesh Wankhade	Formulation and Evaluation of herbal Dispersible tablet from roots of spilanthus oleracea Linn For toothache



List of Mini Oral Presentation

Diploma Category

Sr. No.	Code	Name of Delegate	Title of presentation
1	SMO1	Ashwini Rongate	Design &Development of Digestive Tablet from Celosia Argentea
2	SMO2	Musale Vishal	The Role of Antibiotics in Treating Bacterial Infections
3	SMO3	Tejal Sahane	Substantial Use of Bioengineering Pharmaceuticals



List of Mini Oral Presentation

UG/PG Category

Sr. No.	Code	Name of Delegate	Title of presentation
1	SMO4	Dr. Smita Kakad	Formulation and Evaluation of Herbal Nutraceutical chocolate for Primary Dysmenorrhea
2	SMO5	Mehvish .Shaikh	Formulation & Evaluation Of Activated Charcoal Effervescent Tablets In The Management Of Heavy Metal Poisoning
3	SMO6	Sakshi Pandharkar	Formulation and Evaluation of Oral Dry Reconstituted Suspension of <i>Pueraria tuberos</i>
4	SMO7	Samruddhi Chaudhari	Organs-on-a-Chip
5	SMO8	Sanskruti Shinde	Harnessing Nanopore Sequencing for the Development of Targeted Antibody-Drug Conjugates from <i>Adansonia digitata</i> Compounds: A Novel Approach to Skin Cancer Treatments.
6	SMO9	Sejal Ahire	Formulation and Evaluation of herbal ointment from the leaf extract of <i>Acalypha indica</i> Linn.
7	SMO10	Varun Bhoir	Formulation and Evaluation of herbal Dispersible tablet from roots of <i>spilanthus oleracea</i> Linn For toothache.



List of Poster Presentation

Academic / Research Scholar Category

Sr. No.	Code	Name of Delegate	Title of presentation
1	APO1	Amol Deore	Phytochemical Screening, HPLC, and HPTLC Fingerprint analysis of <i>Bauhinia variegata</i> Bark extract
2	APO2	Amol Deshmukh	Formulation & Evaluation Of Polyherbal Tablet
3	APO3	Bhagyashree Pawar	Herbal Wound Healing Dressing for Veterinary Use
4	APO4	Dr. Anuja P. Bhosale	Advancing Sustainable Trade of Natural Products through synthesis and Characterization of innovative Biodegradable Polymer from Banana Peel
5	APO5	Archana Bhamare	Co-processed excipients: new era for excipients with multifunctional activities
6	APO6	Bhagyashree Gaikwad	Quality by Design Approach on Analytical Method Development and Validation for the estimation of Cardiovascular drugs in their formulations by LC MS
7	APO7	Chaitali Diwane	Protective effect of <i>cynara scolymus</i> in vincristine induced neuropathic pain in experimental animal.



8	APO8	Dipali Shelke	Unveiling the Antithyroid Potential of Medicinal Plant Extracts
9	APO9	Madhuri Kale	Development and assessment of nanosponges loaded with antihypertensive drug for chronological disorders
10	APO10	Manisha Rokade	A Review On Transdermal Drug Delivery System
11	APO11	<u>Manoj Jagtap</u>	Pharmacognostic study, Phytochemical screening and anticancer activity of selected medicinal plants
12	APO12	.Pawar Chaitanya	Streamlined UPLC Method for Concurrent Analysis And Stability Evaluation of Samidorphan and Olanzapine.
13	APO13	Kokane Rutuja	Preparation and evaluation of silver nanoparticles of almond oil for assessment of antibacterial study

List of Poster Presentation

Diploma Category

Sr. No.	Code	Name of Delegate	Title of presentation
1	SPO1	Aadesh Gadhave	Body lotion by Hibiscus flower Extract
2	SPO2	Kalyani Binnor	Formulation and Evaluation of herbal body lotion by using Morus alba leaves
3	SPO3	Vrushali Dhurjad	Carbon Footprint Reduction In Pharma
4	SPO4	Nikam Saloni	Recycling of Pharmaceutical Waste
5	SPO5	Pournima Lavate	Ai And Machine Learning In Drug Discovery
6	SPO6	Shruti Aher	Wearable Technologies for Personalized Health Monitoring
7	SPO7	Sneha Gawali	Formulation & Evaluation of Herbal Powder Handwash



8	SPO8	Tejaswini Arote	Evaluation and Formulation of Anti-Acne Stick: A Comprehensive Study
9	SPO9	Vaishali Sonawane	Herbal plant medicine.
10	SPO10	Vidya Rupwate	Formulation and evaluation of "hair revitalizing gel" of Alopecia Areata

List of Poster Presentation

UG/PG Category

Sr. No.	Code	Name of Delegate	Title of presentation
1	SPO11	Akash Warungase	Formulation And Evaluation Of Dry Powder Suspension Of Cissus Vitiginea Root For Treatment Of Osteoporosis
2	SPO12	Anuraag Vyas	Formulation, development and characterization of anti-wrinkle cream enriched with silver nanoparticles synthesized from flowers of <i>cosmos sulphureus</i> and leaves of <i>Azadirachta indica</i> , <i>Ocimum sanctum</i> , <i>Aloe vera</i> , and <i>Thuja orientalis</i> .
3	SPO13	Archana Tupe	Bioanalytical Method Development And Validation Of Trimetazidine Hydrochloride In Human Plasma By Using Rp-Hplc Method And Its Application In Bioequivalence Study
4	SPO14	Bharti Dange	Novel Assisted Treatment Method For Arthritis: Agricultural By Product Miracle
5	SPO15	Bhavesh Satbhai	PhytoDock: A Computational Framework for Target-Based Screening of Medicinal Plant Phytochemicals against Monkey pox Virus
6	SPO16	Chetana Belkare	Differential spectrophotometric method for estimation and validation of atenolol in tablet dosage form
7	SPO17	Dipak Aher	Utilization of Banana Peel Starch in the Production of Biodegradable Films for Sustainable Packaging Solutions

8	SPO18	Gaurav Bhagure	To develop anti-cancer drug-doped carbon quantum dots: A novel strategy for targeted delivery and bioimaging
9	SPO19	Kamble Akanksha	Development and Evaluation of Botanical-Loaded Electrospun Chitinate Composite Micro-Bandages for Enhanced Pain Management and Infection Control in Wound Care
10	SPO20	Mehvish Shaikh	Formulation & Evaluation Of Activated Charcoal Effervescent Tablets In The Management Of Heavy Metal Poisoning
11	SPO21	Mudassar Shah	Formulation and Evaluation of Gel Based Herbal Handwash
12	SPO22	Nikita Naikwadi	Evaluation of <i>Withania somnifera</i> in Paclitaxel Induced Neuropathy in Wistar Rats.
13	SPO23	Nupoor Bhatlondhe	To Synthesize And Characterize Thiophene Analogues As An Anticancer Agent
14	SPO24	Om Bodake	Digital Databases in Pharmacy: Driving Innovation and Practice
15	SPO25	Omkar Daware	Evaluation of <i>Asclepias curassavica L.</i> For Anti-Asthmatic Screening
16	SPO26	Piyush Shewale	Nootropic Potential of Ayurvedic Plants in Alzheimer's Disease: A Review of Mechanisms and Therapeutic Benefits
17	SPO27	Pranjal Binnar	A Review on Formulation and Evaluation of Herbal Tablet for Arthritis

18	SPO28	Tathe Prerna	Formulation And Evaluation Of Herbal Wound Healing Transdermal Patches Of Piper Betle Leaves
19	SPO29	Rajeshree Waghchaure	Recent Advancements in an emerging Blockchain technology in Pharmaceutical Sector and it's Future Trends
20	SPO30	Roshan Goikane	Formulation And Evaluation Of Herbal Mosquito Repellant Gel
21	SPO31	Sakshi Jadhav	Tridax procumbens Linn.: A Comprehensive Review of Its Pharmacology, Phytochemistry, and Therapeutic Significance"
22	SPO32	Samruddhi Chaudhari	Evaluation of Anxiolytic Effect of <i>Macrosolen parasiticus</i> in Zebrafish Model
23	SPO33	Ashwini Satakar	Synthesis, Spectral Analysis and Molecular Docking of Some Thiazole Derivatives.
24	SPO34	Sejal Dhobale	Novel Experimental Cancer Treatments: Examining Herbal Plants on Various Cell Lines
25	SPO35	Shinde Vrushali	Formulation and Evaluation of Herbal Ointment: Bridging Traditional Medicine with AI.
26	SPO36	Shivani Jadhav	Synthesis, Characterization, and Biological Evaluation of Pyrazoline Derivatives
27	SPO37	Siddhi Chandak	Design, Synthesis and Computational Studies of Benzothiazol-2-ylmethyl-(x-halide-phenyl)-amine derivatives as Antialzheimer's



28	SPO38	Sneha Chatur	RP-HPLC Method for the Simultaneous Determination of Ciclesonide, Tiotropium Bromide and Formoterol fumarate: Method Development and Validation.
29	SPO39	Sujit Gavale	Drug Discovery Inspired By Nature
30	SPO40	Vaibhavi Bochare	In-silico study of Phytophenol-NSAIDs Prodrugs: Synergizing Nature and Pharmaceuticals
31	SPO41	Vrushali Patole	In Silico Analysis of Thiazolidine-2,4-dione Conjugates: Toward Novel Therapeutic.
32	SPO42	Zarmeen Kazi	Extraction, formulation and evaluation of lignin transdermal patches from black liquor.



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ICTM 2025

SPEAKERS ABSTRACT



Cannabidiols in Dental Treatment: Cellular Mechanisms to Clinical Trials

Thanaphum Osathanon, DDS, PhD

Professor, Center of Excellence for Dental Stem Cell Biology, Faculty of Dentistry,
Chulalongkorn University, Bangkok, Thailand

Abstract

Cannabidiol (CBD) holds substantial promise in medical and dental applications. The current status of CBD in dentistry, through a systematic analysis, highlights CBD's anti-inflammatory properties, its ability to modulate cellular responses, and its impact on osteogenic differentiation in oral-origin cells. Clinical studies reveal CBD's efficacy in alleviating dental pain and inflammation, particularly in oral ulcers and radiation-induced mucositis. An optimal concentration of CBD significantly mitigated LPS-induced inflammation, promoting cell proliferation and restoring odonto/osteogenic differentiation. Proteomic and RNA sequencing analyses revealed that CBD activated the Notch signalling pathway. The role of Notch in odonto/osteogenic differentiation was confirmed through inhibition experiments using DAPT. Applying orabase CBD-containing gel enhances oral ulcer healing without signs of immunological reaction in clinical trials. In conclusion, CBD effectively enhances hDPSC proliferation and odonto/osteogenic differentiation under inflamed conditions, suggesting its potential as a therapeutic agent in regenerative dentistry, particularly for oral wound healing and dentin regeneration. These findings underscore the need for further research to fully explore CBD's applications in dental regeneration and tissue repair.



ADVANCEMENT IN THE TRADITIONAL MEDICINE SYSTEM IN NEPAL THROUGH THE PHYTOCHEMICAL RESEARCH

¹ Rabeendra Prasad Shreshta

¹ Principal/Chief Executive Office, Gandaki Medical College Teaching Hospital
and Research Centre, Pokhara-27, Kaski, Nepal;

ABSTRACT

Introduction: Nepal, rich in biodiversity and cultural diversity, possesses different traditional and folk medicinal practices for thousands of years. These systems have been using many locally available medicinal plants.

Objective: The study aimed to explore existing situation and advancement in the Traditional Medicine System in Nepal through the Phytochemical Research.

Methods: Available literatures related to Traditional Medicine System were searched, reviewed and summarized.

Results: Among different traditional medicinal practices, Ayurveda, an ancient medical system in Nepal, is associated with Athurvaved, believed to be 5000 years old. Establishment of Vaidyakhana in 1889 marked the upliftment of Ayurveda. Ayurveda hospitals, training schools, health centers, clinics, and Department of Ayurveda and Alternative Medicine are currently under Ministry of Health and Population. Nepal provides Ayurvedic healthcare through central, provincial, and local hospitals and clinics. Similarly, Pashupati Homeopathic Hospital, established in 1953 is only hospital which runs out-patient services in Kathmandu. A few clinics of Unani Medicine are being run which uses herbal remedies, dietary practices for disease treatment. Naturopathy is also an alternative medicine that includes homeopathy, herbalism, acupuncture, diet, and lifestyle modification practices. A modern community hospital in Rajahar, Nawalparasi district, with a capacity of 150 patients is very popular for treating several lifestyle-related diseases. Acupuncture, a traditional Chinese medicine therapeutic method, was introduced to Nepal over five decades ago, despite not being indigenous to the country. Amchi is a spiritual practice in Tibetan culture is also being practiced in Himalayan region. Medicinal plants are the basis of traditional medicine system as well as of modern medicine. **Conclusion:** Several traditional medicine systems are in practice; they have not been well developed like allopathic system in Nepal. Nepal's traditional medicine system, based on herbs, medicinal plants, and lifestyle modifications needs multidisciplinary research and collaboration to strengthen

Keywords: Ayurveda, Traditional Medicine System, medicinal plants, Nepal



Building a Digital Database for Precision Medicine: Unlocking Personalized Healthcare Insight

Prof. Dr. Thantrira Porntaveetus, DDS, Grad Dip, MSc, PhD

Center of Excellence in Genomics and Precision Dentistry,

Faculty of Dentistry, Chulalongkorn University, Bangkok, Thailand

ABSTRACT:

In the era of precision medicine, the integration of digital databases has revolutionized healthcare by enabling personalized treatment strategies. This talk explores the development of a comprehensive digital database tailored to precision medicine in dentistry and pharmacogenomics. By leveraging genomic, phenotypic, and clinical data, the database offers transformative insights into individualized patient care, particularly in oral health management and drug response prediction.

Key highlights include methodologies for curating multi-dimensional data, addressing challenges in data standardization and interoperability, and employing advanced analytics to extract meaningful patterns. Case studies will illustrate the practical applications of pharmacogenomics in dentistry, from optimizing analgesic efficacy to mitigating adverse drug reactions.

The talk underscores the critical role of collaborative frameworks between clinicians, researchers, and bioinformatics experts in advancing personalized healthcare. It will also provide insights into how digital tools empower clinicians to deliver more effective, patient-centered care and drive innovation in healthcare.



Endophytic Bacteria in Medicinal Plants: A New Source of Bioactive Compounds

Debi Arivo

Medical Education Study Program, Faculty of General Medicine, Malahayati University. Jl. Pramuka no. 27, Kemiling, Bandar Lampung 35153, Indonesia. debi@malahayati.ac.id

ABSTRACT

Leea indica (Burm. F) Merr is a type of medicinal plant in Indonesia. Its medicinal properties are due to the presence of various bioactive compounds which have the potential to act as antioxidants. Medicinal plants are a potential source of endophytic microbes that produce the same bioactive compounds as their hosts. This innovation can be an alternative as a source of producing new antioxidants. The diversity of bioactive compounds produced by bacteria is more varied and unique than plants. The ability of bacteria to develop quickly compared to plants is an added value for bacteria to be developed as a source of new bioactive compounds that produce antioxidants. In addition, the use of endophytic bacteria can avoid over-exploitation of plants, which can damage and reduce biodiversity. This research aimed to obtain the diversity of *L. indica* leaves endophytic bacteria, determine antioxidant activity based on the IC50 value of the potential extract that has the strongest antioxidant activity, identify bioactive compounds that act as the strongest antioxidants from selected bacterial extracts of *L. indica* leaves. Identification of endophytic bacterial isolates that have the strongest antioxidant activity and their abundance confirmed using metagenome analysis based on next-generation sequencing (NGS). Three bacterial isolates with the strongest antioxidant activity were successfully obtained in ethyl acetate and n-butanol extracts (isolates DT12, DT23, and BT4). These three isolates produce flavonoid, saponin, tannin, and steroid compounds, which are also found in *L. indica* leaves. This could be a novel element that adds to the body of knowledge regarding the diversity of endophytic bacteria in *L. indica* leaves with strong antioxidant activity and its opportunities as a new source of antioxidants in the fields of healths, beauties, and foods.

Keywords: medicinal plants, endophytic bacteria, antioxidant activity, IC50



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Academic Paper Presentation

ICTM2025

AP-01 To AP-09



**Phytochemical Screening, HPLC and HPTLC Fingerprint analysis of Psidium guajava
Leaf Extract**

Amol Bhalchandra Deore¹, Dr. Mohammed Rageeb Mohammed Usman²

¹Smt. Sharadchandrika Suresh Patil College of Pharmacy, Chopda Dist. Jalgaon, India

²Smt. Sharadchandrika Suresh Patil College of Pharmacy, Chopda Dist. Jalgaon, India

ABSTRACT:

The guava plant or *Psidium guajava* is one of the tropical fruit-bearing plants which has been used in traditional medicine for a long time because of its antibacterial, antioxidant, anti-inflammatory and antidiabetic properties. The bioactive compounds present within the leaves of *P. guajava* are quite famous and have been associated with various medicinal activities. Although this plant is gaining popularity, there is still a dearth of detailed chemical profiling using modern techniques such as HPTLC and HPLC. These techniques are important for the identification and quantification of bioactive compounds which give it the therapeutic activity.

KEYWORDS: *Psidium guajava*, Quercetin, Catechin, Gallic acid, Secondary metabolites.



Unveiling the Bioactive properties of Nigella Sativa Seed Extract Oil

Patil AR.¹, Maru AD.²

1-Department of Pharmaceutics, S.N.J.B's S.S.D.J.College of Pharmacy, Chandwad, Nashik, India..

2- Department of Pharmaceutics, L.J.D.P Pharmacy College, Manur, Tal. Kalwan, Dis. Nashik, India.

Email Id: meamolpatil37@gmail.com

ABSTRACT:

Nigella sativa is one of the medicinal plant species having wide range of medicinal applications due to its seeds which are rich in phytoconstituents. It contains Thymoquinone as an active ingredient which is responsible for pharmacological and therapeutical activities. In this study, Phytochemical and various pharmaceutical actions like anti-inflammatory activity, antioxidant activity, antibacterial activity etc. are studied.

KEYWORDS: *Nigella Sativa*, Seeds, Black seeds, Extraction, NSEO.



***In-silico* Pharmacokinetic, Molecular Docking of Substituted Benzimidazoles as Potential Pharmacological Agent**

Bhagyashri D. Jadhav¹, Sushil P. Narkhede²

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²Sandip University, School of Pharmaceutical Sciences, Nashik, Maharashtra, India.

Email address: jadhavbhagyashree51@gmail.com

ABSTRACT:

In addition to their pharmacological effects, substituted benzimidazoles have demonstrated a wide range of biological activities, including the ability to treat physiological disorders, hypertension, cancer, viruses, bacteria, and fungi. A variety of structural modifications are being made to the benzimidazole nucleus in order to prepare for increased biological activity. This study presents research on the synthesis of a novel series of substituted benzimidazole derivatives were analyzed using FT-IR and mass spectrometry to validate their structures. *In silico* simulation against the 1C14 as analgesic, 5fsa as antifungal and 600k as breast cancer protein database indicated that synthesized compounds have moderate to good binding energy. The *in silico* ADME properties estimated for the synthesized compounds indicated them as moderate to good oral bioavailability drugs along with potential of being absorbed by the gastrointestinal tract.

KEYWORDS: Substituted Benzimidazoles, Analgesic, Antifungal, Breast cancer, Pharmacokinetic



Pharmacognostic study, Phytochemical screening and anticancer activity of selected medicinal plants

Manoj Jagannath Jagtap

Department of Pharmaceutical Sciences , Sandip University Nashik, India.

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ABSTRACT:

Plectranthus is a large and widespread genus with a diversity of ethnobotanical uses. In traditional Molis has been used to treat snakebites, as a pulmonary stimulant and vasoconstrictor, as a cardiovascular depressant, as a haemorrhage remedy, and to cure mental disorders and rheumatism. *P. mollis* is reported to exhibit relaxant activity on smooth and skeletal muscles, and has cytotoxic and anti-tumour promoting activity, and can be used in the treatment of cancer. The current study sought to determine the chemical makeup of *P. mollis* essential oil as well as its antibacterial activity. The essential oil of *P. mollis* blooming aerial parts was recovered by hydro-distillation and analysed using gas chromatography with a flame ionisation detector (GC-FID) and gas chromatography combined with mass spectrometry (GC/MS). Twenty-seven compounds were identified, which comprised 98.6% of the total constituents. The main compound was identified as fenchone (32.3%), followed by α -humulene (17.3%), piperitenone oxide (8.5%), cis-piperitone oxide (6.0%) and E- β -farnesene (5.9%). The oil was found rich in oxygenated monoterpenes type constituents (52.0%), followed by sesquiterpene hydrocarbons (40.2%), oxygenated sesquiterpenes (4.9%), and monoterpene hydrocarbons (1.5%). Antimicrobial activity of the essential oil of *P. mollis* was tested against six Gram-positive and eight Gram negative bacteria, and three fungi, by using the tube dilution method. The oil was active against the tested Gram-positive and Gram-negative bacteria, and fungi at a concentration range of 0.065 ± 0.008 - 0.937 ± 0.139 mg/mL, 0.468 ± 0.069 - 3.333 ± 0.527 mg/mL and 0.117 ± 0.0170 - 3.338 ± 0.062 mg/mL respectively. The current investigation found that the oil contents were qualitatively comparable but quantitatively different from previous studies from various places of the world. *P. mollis* essential oil contains antibacterial action, which may be effective in the treatment of different infectious disorders caused by bacteria and fungus.

KEYWORDS: *Plectranthus mollis*, Lamiaceae, Essential oil composition, Fenchone, Antimicrobial activity.



**IN SILICO COMPUTATIONAL DRUG DESIGN OF 2-PHENYL BENZIMIDAZOLE
DERIVATIVES AS ANTI-CANCER AGENTS
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ABSTRACT:

This study explores the synthesis, evaluation, as potential application in treatment of novel 2-phenyl benzimidazole derivatives as sirtuin enzyme (SIRT1, SIRT2, and SIRT3) inhibitors. Key cellular processes such as cancer, aging, inflammation, and DNA repair are all regulated by sirtuins. The focus of the study was to develop several 1,2-disubstituted benzimidazole derivatives under the green conditions.

Through interaction with hydrogen and π - π stacking interactions, 1,2-disubstituted benzimidazole binds efficiently in the SIRT2 active site, in accordance with molecular docking studies. The deacetylase activity of the enzyme lowers by this interaction that blocks its active site. 1,2-disubstituted benzimidazole maintained significant popularity in anti-cancer studies against a range of cancer cell lines, including CCRF-CEM (leukemia), MDA-MB-468 (breast cancer), and HCT-116 (colon cancer), a significant decrease cell viability. The significance of electron-donating groups, such as dimethylamino, in augmenting sirtuin inhibition was brought to light by the structure-activity relationship (SAR). Furthermore, the substance demonstrated minimal harm to healthy human fibroblast cells, suggesting that it targets cancer cells specifically.

Swiss ADME was used to determine the smiles for the molecules. It also gives molecular formula, molecular weight, TPSA of the molecules. According to Swiss ADME, all the molecules inhibit CYP enzyme. According to the predictions by these free wares all the molecules show high GI absorption and can cross BBB. All the molecule shows highest GI absorption. According to Protox, molecules show mild or no immunotoxicity, cytotoxicity or hepatotoxicity. Along with that shows high binding affinity and more LD50 value.

The ProTox 3.0 Computational tool revealed that all investigated molecules of 2-Phenyl benzimidazole derivatives Produces Toxicity Such as hepatotoxicity, carcinogenicity, immunotoxicity and mutagenicity partially.

Keywords: Benzoimidazole, Anticancer, Tumour Inhibition, Docking



LITERATURE REVIEW OF GLIRICIDIA PLANT

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ABSTRACT:

Gliricidia sepium, a medium-sized tree from the *Leguminosae* family, is native to the American continent and has been introduced to India. Known as "*Madrecacao*" (cocoa mother) in Mexico due to its use as a shade tree for cocoa and coffee plantations, this species is notable for its diverse phytochemical composition. Key constituents include saponins, fatty acids, flavonoids, volatile oils, alkaloids, steroids, triterpenoids, and other compounds. *Gliricidia sepium* is recognized for its extensive range of folkloric applications and has demonstrated various biological activities in scientific studies. These include cytotoxic effects, antimicrobial properties, anti-inflammatory responses, anthelmintic activity, larvicidal effects, wound healing capabilities, and antioxidant potential. This review aims to explore the *Gliricidia sepium* plant, detailing its critical phytochemical components and the broad spectrum of its pharmacological properties.

KEYWORDS: *Gliricidia sepium*, Chemical constituents, Pharmacological activities



AP-07

A Review on Permeation Enhancers: A Major Breakthrough in Drug Delivery

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ABSTRACT:

Techniques to increase skin penetration have been developed to boost bioavailability and broaden the range of medications for which topical and transdermal distribution is an effective alternative. Both chemical and physical methods can be used to increase a drug's ability to penetrate the skin. A brand-new, developing technique called penetration augmentation has the ability to boost the quantity of medications applied topically. The human skin functions as an obstruction, a thermoregulator, and a barrier against excessive water loss from the interior organs. The barrier qualities of the skin have been altered in order to produce various drug delivery methods. A promising method for possible therapeutic applications is the improvement of skin penetration through hydration of the stratum corneum or chemical enhancers acting on the lipids and keratinized structures in the stratum corneum, partitioning, and solubility effects. Additionally, medications having a brief biological half-life could be delivered with ease. The three most important benefits of choosing this route over others include avoiding first-pass hepatic metabolism, having reduced risk of side effects, and enhanced bioavailability. Additionally, the stratum corneum serves as a protective barrier to stop the loss of substances that are vital to human health, which results in penetration resistance. The techniques used to increase drug permeability by improved absorption, are summarized and compared in this study.

KEYWORDS: Bioavailability, Stratum corneum, Chemical enhancers, Drug permeability



AP-09

**Physiochemical and Pharmacological Study of Padma Gudducci (*Tinospora malabarica*)
with Special Reference to its Antimicrobial Activity**

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ABSTRACT:

Objective: To evaluate the physiochemical properties and antimicrobial activity of Padma Gudducci (*Tinospora malabarica*), a traditionally used Ayurvedic herb.

Methods: Physiochemical analysis included ash value, extractive value, and moisture content. Pharmacological studies involved antimicrobial activity against *Staphylococcus aureus*, *Escherichia coli*, *Pseudomonas aeruginosa*, and *Candida albicans* using agar well diffusion method.

Results: Physiochemical analysis revealed ash value (8.5%), extractive value (22.5%), and moisture content (7.2%). Antimicrobial activity demonstrated significant inhibition zones against *S. aureus* (22mm), *E. coli* (20mm), *P. aeruginosa* (18mm), and *C. albicans* (25mm).

Conclusion: Padma Gudducci exhibits promising antimicrobial activity, supporting its traditional use in treating infections. Further studies are warranted to isolate bioactive compounds responsible for its antimicrobial properties.

Keywords: *Tinospora malabarica*, Padma Gudducci, Physiochemical analysis, Antimicrobial activity, Ayurvedic herb, Pharmacological studies.



**“A RANDOMIZED, CONTROLLED, CLINICAL STUDY OF POSHANAMRUTA IN THE
MANAGEMENT OF PEM.”**

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ABSTRACT:

PEM (protein energy malnutrition) is one of the diseases related to annavahasrotas. It is a form of malnutrition brought on by a prolonged lack of calories and proteins in diet. It is extremely prevalent in young children (often under five years old). In terms of child malnutrition worldwide, India came in second place, behind Bangladesh. Since this is a developing nation, various infections are more common, which raises the need for protein and other nutrients while lowering absorption and usage. It is a never-ending loop. Malnutrition causes recurring infections, whereas infections cause malnutrition. In addition to being a significant contributor to childhood illness and death, PEM permanently impairs the physical and possibly even the brain development of those who survive. PEM has been recognized as a significant issue for Indian health and nutrition. Owing to its comprehensive methodology, Ayurveda has great potential in this Field. The aim of treatment is to provide an adequate calories for dual purpose, build up nutrition and to promote growth for replace the losses, According to ayurveda Poshanamruta had those properties for facilitating the disintegration of Karshya. Hence study highlights need for early intervention in children with proper growth of every child. Chronic malnutrition hampers immunity and makes the child vulnerable to various infections adding to absence in schools and poor academic performance. Recent Research suggests that several major disorders of the later life including an Heart disease, DM & Hypertension originate from impaired developments. Even after different national programmes like Balwadi nutrition programme, mid- day meal scheme, special nutrition programme the condition is still prevalent. So, this condition needs special medical attention. Many drugs are described in ayurveda of bruhan karma. Bala, ashwagandha, shatavari, sariva, shunthi, sita are one of best bruhan drug which is described in bruhniya gana so those ingredients added in poshanamruta.

Keywords-Ayurveda, Poshanamruta, Karshya, Bruhan, Karma, Annavahasrotas, PEM, Malnutrition.



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Diploma Students
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SP-01 To SP-04



Development of herbal face mask

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ABSTRACT:

Natural remedies are gaining attention as effective treatments for skin problems, offering a safe and eco- friendly alternative to synthetic products. Curd, packed with probiotics and lactic acid, combined with jaggery, a natural sweetener rich in antioxidants, has been traditionally used for its healing effects in skincare. Similarly, olive oil can assist with hyperpigmentation, potato juice helps prevent darkening, and Vitamin E capsules support skin cell health.

This study emphasizes the potential advantages of using curd and jaggery as natural treatments for common skin problems like pigmentation and dryness, while also exploring their biochemical properties and mechanisms of action. Olive oil provides a range of benefits through multiple pathways, including anti-inflammatory effects, antioxidant capabilities, improvement of lipid profiles, enhancement of endothelial function, nitric oxide production, insulin regulation, and increased plasma

A literature review and analysis of traditional practices were conducted to evaluate the skin healing benefits of curd, jaggery, olive oil, Vitamin E, and potato juice, with an emphasis on their roles in hydration, exfoliation, and microbiome regulation. Furthermore, the ability of jaggery to promote collagen synthesis and combat oxidative stress was explored.

Curd offers significant benefits for improving skin texture, reducing acne, and repairing the skin barrier due to its lactic acid and probiotics. Jaggery, rich in essential nutrients and antioxidants, helps to reduce pigmentation and promotes skin health by neutralizing free radicals.

Good Curd and jaggery offer a promising natural remedy for skin problems because of their hydrating, exfoliating, and antioxidant properties.

KEYWORDS: Curd, Jaggery, Olive oil, Vitamin E, Potato benefits, Natural Skincare, Antioxidants, Skin Hea



Herbal Remedies for Diabetes Management: A Traditional Approach with Modern Insights

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ABSTRACT: Diabetes mellitus, a chronic metabolic disorder, has reached epidemic proportions worldwide, demanding effective and sustainable management strategies. While conventional therapies involving synthetic drugs are effective, they often carry risks of adverse side effects. Consequently, there is growing interest in herbal remedies, which have been an integral part of traditional medicine systems such as Ayurveda, Traditional Chinese Medicine, and Unani. This study explores the role of medicinal plants in diabetes management, focusing on their bioactive constituents and mechanisms of action. Herbs such as *Momordica charantia* (bitter melon), *Trigonella foenum-graecum* (fenugreek), and *Gymnema sylvestre* have demonstrated hypoglycemic effects, enhancing insulin sensitivity and reducing postprandial glucose levels. These plants act through mechanisms such as stimulating pancreatic beta cells, improving glucose uptake, and inhibiting carbohydrate-digesting enzymes.

KEYWORDS: Diabetes mellitus, Herbal remedies, Hypoglycemic effects, Tradition medicines, Phytochemicals.



SP-03

**Neutraceutical tablet from *Carica papaya* and *Murraya koenigii* to prevent
Thrombocytopenia**

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ABSTRACT: Thrombocytopenia is a blood disorder when you have a low number of platelets, which are blood cells that help form clots to stop bleeding. And diabetes is a disease that occurs when blood glucose or blood sugar, is too high. Among the various drug delivery routes, the oral pathway has attracted the most attention due to its unique advantages, including sustained and controllable delivery, ease of administration, feasibility for solid formulations and patients compliance. From the study neutraceutical herbal tablets were prepared from carica papaya leaves and murraya koenigii leaves by wet granulation method by using by using tablet punching machine to prevent thrombocytopenia and diabetes.

KEYWORDS: Neutraceutical, Herbal tablet, *Carica papaya*, *Murraya koenigii*.



Development and Evaluation of a Natural Turmeric Cream for Skin Care

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ABSTRACT: Turmeric, a spice commonly used in Indian and Middle Eastern cooking, has been utilized for centuries for its medicinal and cosmetic properties. Curcumin, a polyphenol extracted from turmeric, possesses potent antioxidant and anti-inflammatory properties, making it an effective ingredient for skin care. A natural turmeric cream was prepared using turmeric extract, coconut oil, shea butter, and beeswax. The cream's physical and chemical properties, including texture, pH, and stability, were evaluated. The antioxidant and anti-inflammatory activities of the cream were also assessed using standard methods. Results showed that the natural turmeric cream exhibited excellent physical and chemical properties, making it suitable for topical application. The cream demonstrated significant antioxidant and anti-inflammatory activities, which can help protect the skin from damage caused by free radicals and inflammation. This study suggests that the natural turmeric cream has potential as a natural and effective skin care product. Further studies are needed to evaluate the safety and efficacy of the cream in human subjects.

KEYWORDS: Turmeric, Cosmetic properties, Curcumin, antioxidant



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SP-05 To SP-09



NeuroSage AI-Powered Alzheimer's Detection

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ABSTRACT: Alzheimer's disease (AD) is a neurological disorder that affects cognitive functions or the brain where dementia is observed. In other words, Alzheimer's disease is characterized by neurological dysfunction that directly affects a person's memory, changes their behavioural patterns, and alters their reasoning, making it difficult to perform daily tasks and work. AD contributes nearly 60-70% of cases in the world and it's a major cause of dependency and disability among elderly population. By analysing the dataset of MRI scans gathered from Kaggle, which is divided into four types of dementia (4 stages), namely Non-Demented, Very Mild Demented, Mild Demented, and Moderate Demented, this project primarily tackles the difficulties of accurate stage detection using artificial intelligence, specifically machine learning and CNN technique. The project also focuses on future development, which includes a plan for software/application development using this model (NeuroSage). It centres on the excellent idea of offering a simple diagnosis plan based on the patient's constitution or inherent nature, which makes it easier for the patient to accept things and undergo a better diagnosis after learning about their own health. Together with the incorporation of disciplines like precision medicine, information and technology, health sciences, etc., this project forges a strong connection and correlation between artificial intelligence and healthcare.

KEYWORDS: Alzheimer's Disease, MRI, Artificial Intelligence, CNN



AI BASED SYSTEM FOR EARLY DETECTION OF SKIN CANCER.

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ABSTRACT: -

Early detection of skin cancer is critical, and AI technologies like convolutional neural networks (CNNs) are improving diagnostic accuracy.

A smartphone app using CNNs achieved 79% classification accuracy, allowing patients to analyze skin lesions via photos, while another system reached an impressive 96% accuracy using advanced image processing.

A different AI model achieved 89.7% accuracy in lesion classification, greater than traditional methods and some doctors.

Combining CNNs with techniques like discrete wavelet transformation has enhanced diagnosis, achieving 94% sensitivity and 91% specificity.

KEYWORDS: -Early detection, AI-based Skin cancer systems, Convolutional neural networks.



A Chemical Modification of Gum Acacia and its application as Pharmaceutical Excipient

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ABSTRACT:

Gum acacia is a significant natural polymer in the pharmaceutical industry, recognized for its stabilizing and emulsifying properties. However, its applications are constrained by inherent viscosity challenges. This study aims to enhance acacia gum through a sulfation process to improve its physicochemical characteristics. A functional group detection assay confirmed the successful introduction of a sulfonic acid group in the modified gum, which was not present in its unmodified counterpart. Future research will involve Fourier Transform Infrared (FT-IR) spectroscopy and viscosity assessments under varying concentrations and shear rates to evaluate the modified gum's efficacy as a viscosity modifier for pharmaceutical applications.

KEYWORDS: Acacia gum, Modified Acacia Gum, Sulfamic acid, Sulfation.



Formulation and Evaluation of Biogenic Silver Nanoparticle Loaded- Hydrogel for Topical
Melanoma Treatment

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ABSTRACT: The rise in melanoma cases necessitates the development of novel, localized treatments to reduce systemic side effects and improve therapeutic efficacy. In this study, we formulated and evaluated a hydrogel loaded with biogenic silver nanoparticles (AgNPs) synthesized from *Plumeria alba* for the topical treatment of melanoma. *Plumeria alba* extract was used as a bio reductant for the eco-friendly synthesis of AgNPs, which were characterized by UV-Vis spectroscopy, transmission electron microscopy (TEM), and dynamic light scattering (DLS) to confirm size, shape, and stability. The AgNPs were incorporated into the hydrogel as *plumeria alba* contain natural stabilizer no need to addition of polymer. The hydrogel formulation was optimized for skin application with an emphasis on rheological properties, spread ability, and bio adhesion to ensure ease of use and proper release. The in vitro cytotoxic study will be carried out. Cytotoxicity studies will be conduct using the B16-F10 melanoma cell line, and the AgNPs-loaded hydrogel will show significant anticancer activity with minimal toxicity as per the previous study of antioxidant as well as anti-inflammatory study. Additionally, the hydrogel exhibited strong antimicrobial properties, aiding in infection control at the application site as per the conclusion of anti-inflammatory activity, the biogenic silver nanoparticles from *Plumeria alba* loaded into the hydrogel formulation present a promising approach for the topical treatment of melanoma, offering controlled drug release, enhanced therapeutic efficacy, and reduced side effects. Further in vivo studies are recommended to assess long-term safety and efficacy

KEYWORDS: *Plumeria alba*, Melanoma, Cytotoxic study, Anti-inflammatory study



Biological Screening of *Mucuna pruriens* Seeds for Cardioprotective Effects Against Isoproterenol-Induced Myocardial Toxicity in Rats

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Abstract: Myocardial infraction (MI), an acute condition due to myocardial necrosis due to disruption in blood supply. Cardiac disorders are a significant health concern, and traditional synthetic medicines often have limitations. *Mucuna pruriens* L. seeds are useful in various therapeutic implications, including cardioprotective effects and has good antioxidant activity. The study was aimed to investigate the cardioprotective effect of *M. pruriens* seeds using isoproterenol (ISO)-induced myocardial toxicity in Wistar rats. The study utilized male Wistar rats (150-200 g). *M. pruriens* seeds were collected, authenticated, powdered, defatted, and further extracted (MP) with alcohol (Yield: 5.6% w/w). The residue and L-DOPA were isolated from MP by complexing with boric acid. Wistar rats were grouped into 8 (n=5). The animals were treated with saline, ISO (85 mg/kg s.c.), MP (100 and 300 mg/kg, p.o.), MP with ISO, L-DOPA complex (100 mg/kg, p.o.), and L-DOPA complex with ISO. Animals received ISO on 20th and 21st day. MP and L-DOPA complex were administered for 3 weeks. Parameters evaluated after 12 hrs of last dose of ISO were body weight, ECG and changes in vascular reactivity to various catecholamines, serum cardiac biomarkers: CK-MB and LDH, antioxidant enzymes: SOD and CAT followed by histopathological studies. The results indicated that *M. pruriens* show significant cardioprotective effects against isoproterenol-induced myocardial toxicity in rats (Table 1). Treatment reduces infarct size, suppresses oxidative stress, and mitigates myocardial damage.

KEYWORDS: Antioxidant; Creatine kinase; Isoproterenol, Myocardial damage.



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AMO-01 To AMO-08



AMO-01

**Formulation and evaluation of herbal dusting powder containing leaves
extract of Lonika (Portulaca oleracea)**

Dr. Manisha Gavit¹, Miss. Rutuja Matte¹, Miss. Shreya Wasankar¹, Dr. Nitin Gaikwad¹

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ABSTRACT-

The Lonika herb has been used for traditional medicine since ancient times, and the World Health Organization (WHO) lists it as one of the most often used medicinal herbs. Herbal dusting powder is a specialized formulation derived from natural herbs, designed to provide benefits across various applications, including personal care and medicinal use. The formulation of herbal dusting powders begins with careful selection of botanical extract of Lonika (Portulaca oleracea). Purslane is known to contain various bioactive compounds, such as flavonoids and alkaloids, which have demonstrated antimicrobial effects in some studies. Lonika (Portulaca oleracea L.), is yet explored till now and is rarely used for studies, considering its medicinal properties, it can be well used for commercial product formulations. Formulated powder was evaluated for appearance, Organoleptic, pH, Abrasiveness, Bulk Density, Tapped Density, Hausner's Ratio, Carr's index, Irritancy test etc. This herbal dusting powder is useful as an antimicrobial agent & for cooling effect as per the literature.

KEYWORDS:

Medicinal herbs, Lonika (Purslane), Portulaca oleracea, Herbal dusting powder, Antimicrobial



AMO-02

Prakriti and Its Associations with Metabolism

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ABSTRACT

Prakriti, a concept derived from Ayurvedic tradition, represents an individual's unique constitutional makeup, influencing both physical and mental attributes. It is believed to play a crucial role in determining metabolic functions, health predispositions, and responses to environmental factors. This article explores the intricate relationship between Prakriti and metabolism by reviewing its principles, scientific underpinnings, and implications for personalized healthcare.

KEYWORDS: Ayurveda, Prakriti, metabolism, personalized medicine, bio-energies.



AMO-03

Formulation and Evaluation of Analgesic Syrup from Chaturbeeja Churna with special reference to Shoolhara property.

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Dr. Manisha Gavit¹**

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ABSTRACT- Pain (shoola) in Ayurveda is primarily associated with vata dosha, which plays a dominant role in its manifestation. Several Acharyas of Ayurveda have classified doshaj vyadhi (disease caused by doshas) based on sthanbheda (site of occurrence), offering a detailed perspective on pain management. Ayurveda's holistic system emphasizes addressing the root causes of pain and restoring balance in the body, providing both symptomatic relief and enhancing overall vitality and health. Chaturbeeja is a renowned Ayurvedic formulation composed of the seeds of Methika (*Trigonella foenum-graecum*), Chandrashur (*Lepidium sativum*), Kalajaji (*Nigella sativa*), and Yavani (*Trachyspermum ammi*). This combination has been traditionally used to treat conditions such as ajirna (indigestion), shoola (pain), adhman (bloating), parshwashool (flank pain), and katishoola (lower back pain). Each ingredient individually possesses analgesic and anti-inflammatory properties, making the formulation effective for conditions such as dysmenorrhea, PCOS, and lower back pain. Previous studies have focused on the therapeutic properties of these seeds in isolation. However, their combination offers enhanced efficacy. A novel syrup preparation of Chaturbeeja has been developed to address the inconvenience of consuming the traditionally bitter powder form. This syrup combines the benefits of Ayurveda with improved palatability and compliance, catering to modern preferences. By offering an innovative, easy-to-consume option, this formulation makes the health benefits of Ayurvedic herbs more accessible while staying rooted in the classical principles of holistic healing.

KEYWORDS- Chaturbeej, Aalgescic, Shoolhara karma, Methika, Chandrashoor, kalajaji, Yavani



AMO-04

STEROID USE IN DENTISTRY: - A BOON OR BANE

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ABSTRACT: Corticosteroids are used widely for their anti-inflammatory and immunosuppressive properties in various oral mucosal, post-operative cases, neuralgias. They have the potential to cause dramatic improvement as well as lead to equally dramatic adverse effects. The clinical overuse & long-term administration may cause many adverse effects leading to impaired oral health. This demands prevention of clinical misuse like over prescription of the drug should be avoided. The presentation aims to explore indications of corticosteroid in the treatment of oral and dento-facial diseases, their side effects and rational usage consideration. Due to the possible adverse effects of long term use of steroids, proper knowledge regarding when, where, and how to use them should be known to the practitioners. Moreover, rational usage and general principles should be considered before prescription to avoid further complication.

KEYWORDS: - Corticosteroids, Dentistry, Overuse, Rational use



AMO-05

AYURVEDIC DENTISTRY: MORDERN PROBLEMS, ANCIENT SOLUTIONS- A REVIEW

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ABSTRACT:

The sole purpose of medicine and health care is to strive to make human race easier and healthier with the available resources in nature. Nowadays herbal resurgence in medicine is back, which is an ancient and vital part of Indian Ayurveda.

Oral diseases are major health problem worldwide and are most neglected part of human health. Dental caries and periodontal diseases are global health problems nowadays adding on oral tissue lesions and oral cancer to the list. Herbal extracts interacts with specific chemical receptors within the body, so in pharmacodynamics sense are drugs themselves. Herbal medicines are highly effective antifungal, antiseptic, analgesics, astringent, edema reducing, soothing and healing accelerating property. Indian medicinal plants as neem, tulsi, amla, nimbu are proven abundant source of biologically active compounds.

Nowadays, pharmaceutical industry is relying on these ayurvedic preparations for modern medicine even in dentistry. The biggest challenge and problem is lack of information about the effects of herbs on oral tissues, mechanism of action and related side effects. This poster hence aims to enlighten dental clan about the ayurvedic dentistry, making expensive treatment affordable to all.

KEYWORDS: Ayurveda, Herbal Dentistry, Herbs



AMO-06

Formulation and evaluation of Herbal Paper Soap

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ABSTRACT: The current study's objective is to develop and assess herbal paper soap. thus there is a growing demand to achieve and preserve ideal skin. It is still unknown whether the complex synthetic compounds used to make antiseptic paper soap are safe for human skin and health. On the other hand, herbal extracts and plant-based ingredients are used to make herbal paper soap. They are composed of natural substances, which give the skin a number of benefits. The benefits include their natural scent, antibacterial properties, moisturizing and nourishing qualities, and environmental friendliness.

KEYWORDS: Plumeria obtusa , Ixora coccinea , Combined extract ,Herbal Paper soap ,Antimicrobial activity.



AMO-07

**Formulation and Evaluation of herbal Dispersible tablet from roots of spilanthes oleracea
Linn For toothache**

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ABSTRACT:

Spilanthes oleracea Linn. is an important medicinal plant, found in subtropical countries mainly in India. Popularly, it is known as “**Toothache plant**” which reduces the pain associated with toothaches and can induce saliva secretion. Formulation and Evaluation of Dispersible Herbal Tablets Containing Spilanthes oleracea Linn. root extract for analgesic and local anaesthetic property. Spilanthes oleracea Linn. extract was obtained through roots and standardized to contain active compound, **Spilanthol (C₁₄H₂₃NO)**. The extract was then formulated into tablets using by root power of Spilanthes oleracea Linn. Tablets were formulated using various excipients in formulation process, followed by granulation, compression and coating of the tablet. The tablets were evaluated for their physical characteristics, disintegration time, and analgesic local anaesthetic property. The formulated tablets showed acceptable physical characteristics and disintegration time. The study demonstrates the anaesthetic effect of Spilanthes oleracea Linn roots extract in the form of herbal tablets for analgesic property. The formulated tablets can be used as a natural remedy for various toothache disorders.

KEYWORDS :

Spilanthes oleraracea Linn., Toothache Plant, Dispersible Tablet, Analgesic, Local Anesthetic.



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SMO-01 To SMO-03



SMO-01

Design & Development of Digestive Tablet from Celosia Argentea

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ABSTRACT: Herbal digestive tablet is designed to address digestion problems, which are a common concern for people of all ages, especially with the rise of fast-food consumption and poor digestion. Despite the wide availability of digestive medications, many of them are enhanced for flavour, obscuring the true purpose behind their use. This study aims to develop, produce, and evaluate herbal digestive tablet to treat indigestion. After a thorough review of India's Ayurvedic formulary, a suitable recipe was selected. The ingredients for this formulation were sourced from trusted suppliers. Once manufactured, the herbal digestive tablet underwent various pharmaceutical and quality control tests according to World Health Organization (WHO) guidelines. The formulation was also tested for antioxidant properties. The herbal digestive tablet is well-tolerated due to their mild, non-bitter taste. The recipe allows for large-scale production of these digestive tablets.

KEYWORDS: Antioxidant properties, Digestion problems, Herbal digestive tablet, Indigestion



SMO-02

The Role of Antibiotics in Treating Bacterial Infections

Musale Vishal Machhindranath¹

SMBT Institute of D Pharmacy

ABSTRACT: Antibiotics play a vital role in treating bacterial infections, saving countless lives and improving healthcare outcomes. This presentation reviews the importance of antibiotics, their mechanisms of action, and their indications for use. Additionally, it highlights the adverse effects and contraindications of antibiotics, as well as the growing concern of antibiotic resistance. The presentation concludes by emphasizing the need for responsible antibiotic use, antibiotic stewardship, and the development of new antibiotics to combat the rising threat of antibiotic-resistant bacteria.

KEYWORDS: Antibiotics, Bacterial infections, Healthcare outcomes.



SMO-03

Substantial Use of Bioengineering Pharmaceuticals

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SMBT Institute of Diploma Pharmacy, Dhamangaon, Tal Igatpuri, Nashik

ABSTRACT: Bioengineering Pharmaceuticals are the applications of the engineering principles to the fields of biotechnology and biomedical sciences for developing the medicines. The critical analysis results revealed that system biology and synthetic biology along with advanced bioengineering tools like transcriptome, proteome, metabolome and nano bioengineering tools have shown a promising impact on the development of pharmaceutical's bioproducts. Bioengineering tools is a vital part of molecular biotechnology, and genetic engineering. it is described the current advancement in bioengineering tools for biopharmaceuticals and advancement of the process to obtain industrial important biopharmaceuticals with a global perspective, challenges and future possibilities.

KEYWORDS: Bioengineering pharmaceuticals, Nano bioengineering, Proteome, Synthetic biology.



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SMO-04 To SMO-10



SMO-04

Formulation and Evaluation of Herbal Nutraceutical chocolate for Primary Dysmenorrhea

Dr. Smita kakad, Pratibha More, Geetanjali Jadhav

ABSTRACT: Primary dysmenorrhea is spasmodic cramps and pain in the lower abdomen before or during the menses. These conditions affect women's daily activities. Conventional NSAIDs have adverse with chronic use. Herbal components were assessed in vivo to determine anti-dysmenorrhea activity in the female Wistar rats. Prepared herbal nutraceutical chocolate using polyherbal mixtures components were assessed in vitro. This product will aid in the palliative care of primary dysmenorrhea. Effect of composition on primary dysmenorrhea Wistar rat model was assessed with plasma levels of biomarkers like PGE2 and PGF2 α by ELISA and Ca²⁺ level by calcium assay kit and writhing response of uterine muscle. All results were checked for statistical significance by one way ANOVA with post-hoc Tukey test. Chocolate was prepared by using extracts of curcumin, ginger, amla, cinnamon, and moringa extracts. Date powder was used as a sweetener. Antioxidant activity of polyherbal mixture was assessed by a DPPH assay. All herbal mixtures showed significant decrease in PGE2 and PGF2 α levels in the rat uterine tissue. Cinnamon and ginger extract showed statistically more significant results as compare to other combinations. Chocolate color was brown to dark brown; thickness, hardness, taste, and weight variation were found in the range of 1.25 ± 0.083 to 1.71 ± 0.04 , 1.8 ± 0.26 to 3.1 ± 0.21 , and 6.49 ± 0.23 to 9.82 ± 0.098 respectively. From this study, it is concluded that polyherbal chocolate is a promising drug delivery system for primary dysmenorrhea with the aid of nutraceutical ingredients.

KEYWORDS: Dysmenorrhea, Nutraceutical chocolate, PGE2, PGF2 α , Curcumin, Cinnamon, Ginger, Amla, Moringa.



SMO-05

**FORMULATION & EVALUATION OF ACTIVATED CHARCOAL
EFFERVESCENT TABLETS IN THE MANAGEMENT OF HEAVY
METAL POISONING**

Mehvish A. Shaikh¹, Kanchan M. Khedkar¹

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ABSTRACT: Activated charcoal is widely recognized for its ability to adsorb toxins, drugs, and heavy metals in the gastrointestinal tract due to its large surface area and porous structure. The formulated effervescent tablet is designed to provide a fast and effective mode of delivering activated charcoal in cases of heavy metal poisoning & also promise in emergency scenarios due to its quick disintegration and ease of administration. Also study & examine their potential to enhance the efficacy, convenience, and patient outcomes in the management of heavy metal poisoning.

KEYWORDS: Absorbance, Toxicity, Effervescent, Disintegration.



SMO-06

Formulation and Evaluation of Oral Dry Reconstituted Suspension of *Pueraria tuberos*

Ms. Sakshi N. Pandharkar¹, Ms. Sujata Lambe¹, Dr. Avinash S. Dhake.

SMBT College of Pharmacy, India.

ABSTRACT: *Pueraria tuberosa* (Indian Kudzu) is valued in Ayurveda for its health-promoting "Rasayana" properties. Its tuber extract, rich in antioxidants, is being explored for therapeutic potential against menopausal osteoporosis and cancers. The main Objective is To Formulate & Evaluate the Oral Dry (Reconstituted) Suspension of *P. Tuberosa*. Phytochemical evaluation of Vidarikanda Powder was performed and oral dry Suspension *P. Tuberosa* (Vidarikanda) was Formulated using Powder Blending Method. The Evaluation of Flow Properties & Physiochemical Characteristics was done. The Oral Dry (Reconstituted) Suspension of Vidarikanda was formulated and evaluated. The Finding of the Present Study Confirmed that Oral Dry Suspension is stable and can use for further Pharmacological Studies.

KEYWORDS: *Pueraria Tuberosa*, Reconstitution, Dry Suspension, Anti-Osteoporotic Activity, Antioxidants.



Organs-on-a-Chip

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ABSTRACT: Organs-on-a-Chip (OoC) are microfluidic devices that mimic the structure, function, and physiological environment of human organs. These devices use living human cells cultured in a 3D microenvironment, enabling researchers to study organ-level functions, drug responses, and disease mechanisms in a controlled, miniaturized system. The study involved the creation of human airway chip cultures using microfluidic two-channel Organ Chip devices with membranes with 7- μ m pores. The microdevices contained parallel microchannels separated by a porous membrane. The porous membranes were coated with collagen type IV from human placenta and aspirated from the chip for seeding cells. Immunofluorescence microscopy was used to assess tissue barrier permeability. Barrier-function assessment was done by measuring the fluorescence intensity of the medium in different human Airway Chips. Mucus was also quantified by infusing 50 μ l PBS into the upper channel of the Airway Chip and incubating for 1h at 37°C. The mucus production was quantified by quantifying the Alcian blue staining and comparing it to serially diluted standards of mucin. OoCs offer a platform for accurately modeling human diseases, reducing reliance on animal testing, and enabling personalized medicine. Researchers can recreate specific organ conditions, study disease progression, and test potential treatments. OoCs can also be used for drug development, assessing safety and efficacy before animal and human trials.

KEYWORDS: Chip, 3D microenvironment, Personalized, Organ.



SMO-08

Harnessing Nanopore Sequencing for the Development of Targeted Antibody-Drug Conjugates from Adansonia digitata Compounds: A Novel Approach to Skin Cancer Treatments.

Sanskruti Satish Shinde

S.M.B.T COLLEGE OF PHARMACY

ABSTRACT:- This study explores the potential of *Adansonia digitata*-derived compounds in developing antibody-drug conjugates (ADCs) for targeted cancer therapy. Utilizing nanopore sequencing, we identify novel anticancer compounds and design ADCs targeting specific cancer biomarkers. Our results demonstrate the efficacy and safety of baobab-derived ADCs in cancer cell lines and animal models. This research validates traditional Indo-African medicine practices and contributes to the discovery of sustainable, eco-friendly cancer therapies.

KEYWORDS: Nanopore, Drug conjugates, Skin cancer, *Adansonia digitata*



SMO-09

Formulation and Evaluation of herbal ointment from the leaf extract of *Acalypha indica* Linn.

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ABSTRACT:

Acalypha Indica Linn, commonly known as Indian copperleaf, has been utilized for treating various skin conditions due to its krimighna (antihelmithic) property as mentioned in ayurvedic texts and also as per modern sciences due to its antimicrobial, anti-inflammatory and wound healing properties. It helps in soothing the skin irritations, redness, swelling promoting an even skin tone this enhancing skin clarity and glow. Formulation and evaluation of herbal ointment from leaf extract of *Acalypha indica* Linn, aims to develop a stable and effective ointment for managing skin diseases, with an emphasis on eczema. The extraction process was done by ethanol Soxhlet and formulated with bases. Comprehensive physicochemical evaluation was performed to assess the quality of the ointment. The study highlights the therapeutic potential of *Acalypha indica* Linn. ointment as a herbal and cost-effective for treatment of eczema and other skin diseases.

KEYWORDS:

Acalypha indica Linn., antimicrobial, skin diseases, ointment, eczema.



Formulation and Evaluation of herbal Dispersible tablet from roots of *Spilanthus oleracea* Linn For toothache.

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ABSTRACT:

Spilanthus oleracea Linn. is an important medicinal plant, found in subtropical countries mainly in India. Popularly, it is known as “**Toothache plant**” which reduces the pain associated with toothaches and can induce saliva secretion. Formulation and Evaluation of Dispersible Herbal Tablets Containing *Spilanthus oleracea* Linn. root extract for analgesic and local anaesthetic property. *Spilanthus oleracea* Linn. extract was obtained through roots and standardized to contain active compound, **Spilanthol (C₁₄H₂₃NO)**. The extract was then formulated into tablets using by root power of *Spilanthus oleracea* Linn. Tablets were formulated using various excipients in formulation process, followed by granulation, compression and coating of the tablet. The tablets were evaluated for their physical characteristics, disintegration time, and analgesic local anaesthetic property. The formulated tablets showed acceptable physical characteristics and disintegration time. The study demonstrates the anaesthetic effect of *Spilanthus oleracea* Linn roots extract in the form of herbal tablets for analgesic property. The formulated tablets can be used as a natural remedy for various toothache disorders.

KEYWORDS : *Spilanthus oleracea* Linn., Toothache Plant, Dispersible Tablet, Analgesic, Local Anesthetic.



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APO-01 To APO-13



APO-01

Phytochemical Screening, HPLC, and HPTLC Fingerprint analysis of *Bauhinia variegata* Bark extract

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Abstract: *Bauhinia variegata*, which is popularly known as the orchid tree, is morphologically diverse and is widely distributed in the tropics together with its ethnomedical uses. In traditional medicine, parts of the tree including the bark have been used to treat diseases including inflammation, fever, and diabetes. It has also been established that the extracts of the plant will provide analysis of various biochemical constituents of the plant. For example, HPLC and HPTLC have been extensively used to investigate the constituents of plant extracts. In spite of the wide ethnobotanical use of *Bauhinia variegata* nothing has been done to provide a detailed chemical analysis of its bark by using these approaches.

The barks of *Bauhinia variegata* was harvested from a natural habitat, and it was subjected to the ethanol extraction by utilizing the Soxhlet apparatus. The extract was screened for various phytochemicals, along with the alkaloids, flavonoids, tannins, saponins, and phenolic compounds. A qualitative and quantitative analyses were performed by the means of HPLC, with the right mobile phase and detector settings for identifying and separating the main biologically active compounds. Served as the primary material for HPTLC fingerprinting, the chromatograms of separated extracts extracted on pre-coated silica gel plates. The chromatograms were made through a combination of suitable solvent systems and viewed with the help of UV light emitted upon the chromatographic plate. The data collected were then used to calculate the content of the above major carotenoids that were found together with, the appearance and qualitative nature of other minor carotenoids.

Keyword: *Bauhinia variegata*, Phytochemical screening, HPLC, HPTLC.



FORMULATION & EVALUATION OF POLYHERBAL TABLET

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ABSTRACT:

Background: The use of medicinal plants as the primary form of treatment, is a widespread practice across cultures. Traditional herbal medicine involves use of plants or plant materials, in their natural or processed form, to treat injuries or diseases. Medicinal plants with ethnomedicinal values are currently being studied for their therapeutic potential. Polyherbal formulations are mixtures that contain two or more herbs. Ayurvedic drug formulation adheres to two principles: using a single drug or combining multiple drugs, the latter being referred to as polyherbal formulation. Polyherbal formulations can be prepared in various dosage forms to suit different routes of administration and patient preferences.

KEYWORDS: Ayurveda, Herbal medicines, Polyherbal formulations.



APO-03

Herbal Wound Healing Dressing for Veterinary Use

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Abstract: The present invention relates to the development of a herbal wound healing dressing specifically designed for veterinary use. This dressing formulation comprises a standard paste made from a combination of powders of turmeric, neem leaves, Gokarna flowers, and arjun bark, with liquid paraffin serving as the vehicle. Each of these herbal ingredients is known for its potent medicinal properties, including anti-inflammatory, antibacterial, and wound healing effects. The study aims to evaluate the effectiveness of this herbal dressing in promoting wound healing in animals. The results indicate that the herbal dressing significantly accelerates the wound healing process, reduces the risk of infection, and minimizes adverse reactions compared to conventional synthetic dressings. This research provides a natural and effective alternative for wound care in veterinary medicine

Keywords: Veterinary use, Turmeric, Neem leaves, Gokarna flowers.



APO-04

Advancing Sustainable Trade of Natural Products through synthesis and Characterization of innovative Biodegradable Polymer from Banana Peel

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ABSTRACT: The rising demand for sustainable materials in the global market has created a pivotal opportunity for innovative solutions to address environmental concerns. This study focuses on the synthesis of biodegradable polymer derived from banana peel, an abundant agricultural by-product, to enhance the sustainable trade of natural products. Banana peels, often discarded as waste, are rich in polysaccharides and other biomolecules, making them a promising feedstock for environmentally friendly materials. In this research, banana peel was utilized as a primary raw material to develop an innovative biodegradable polymer through a green synthesis approach. The biodegradable polymer was synthesized from banana peel waste through thermal hydrolysis, mechanical homogenization, glycerol plasticization, and acetic acid for structural modification. Sodium hydroxide treatment was optionally employed to depolymerize cellulose, enhancing the uniformity of the polymer. The biopolymer's mechanical properties, thermal stability, water absorption, and biodegradability were thoroughly characterized. The synthesized biopolymer exhibited a tensile strength of 18.5 MPa, elongation at break of 21.3%, water absorption capacity of 35%, and thermal stability up to 230°C. Biodegradability tests indicated 75% degradation within 60 days, facilitated by microbial activity. Green chemistry metrics confirmed the use of renewable feedstock, low-toxicity reagents, and energy-efficient processes. The biodegradable polymer derived from banana peel waste shows significant promise as a sustainable alternative to conventional synthetic polymers. Its mechanical properties, biodegradability, and environmentally friendly synthesis process position it as a viable material for eco-friendly applications in packaging and agriculture.

KEYWORDS: - Banana peel waste, green chemistry, biodegradability, sustainable materials.



APO-05

Co-processed excipients: new era for excipients with multifunctional activities

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ABSTRACT

Co-processing two or more pre-existing excipients allows for manipulation of the excipient's functionality. Co-processing is a new technique that involves two or more excipients interacting at the sub-particle level. This enhances functionality and hides the unfavourable aspects of each excipient separately. The need for excipient functionality has grown, primarily in relation to the excipients' physico-chemical characteristics for formulation development. An appealing method for creating high functionality excipients will be co-processed excipients, which combine two or more pre-existing excipients at the sub-particle level. The co-processing of excipient performed by different methods like wet granulation, hot melt extrusion, spray drying, roller drying, milling, solvent evaporation, etc. and evaluated for different tests flow properties, moisture sorption capacity and swelling behaviour, density and porosity. The formulated co processed excipients have the advantages improved compressibility, better dilution potential, reduced lubricant sensitivity, ease of production, improved flow properties, fast disintegration, stability, cost saving.

KEYWORDS: Co-processed excipients, Multifunctional, Functionality



APO-06

Quality by Design Approach on Analytical Method Development and Validation for the estimation of Cardiovascular drugs in their formulations by LC MS

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ABSTRACT: Quality by design (QbD) is a part of the design of experiments (DOE) that predict the responses using the software. Identification of critical quality attributes (CQAs) is the first step in QbD. The main concept of QbD is the study of dependent parameters as well as the examination of different factors and their interactions. Hence the present study is designed to develop the QbD-based high performance liquid chromatography (HPLC) method and validation of milrinone lactate

KEYWORDS: Stability indicating analytical method, HPLC, Degradation products,

LC/MS



APO-07

Protective effect of *cynara scolymus* in vincristine induced neuropathic pain in experimental animal.

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ABSTRACT:

The term "traditional medicine" describes medical procedures, cures, and therapies that have been handed down through the ages and are frequently founded on empirical, spiritual, and cultural knowledge. Herbs, plants, minerals, animal products, and other holistic methods can all be used. Restoring harmony and balance to the body, mind, and spirit is frequently the goal of these activities.

Herbs and plants are used in many cultures to treat a variety of illnesses. For instance, ginseng, ginger, and liquorice root are employed in traditional Chinese medicine (TCM), but turmeric, ashwagandha, and neem are frequently used in Ayurveda, or Indian traditional medicine. Traditionally used as a meal and for its possible digestive benefits, artichokes (*Cynara scolymus*) have also been studied for their potential medical uses, such as the treatment of neuropathic pain.

There is little scientific evidence directly connecting artichokes to the reduction of neuropathic pain, despite the fact that traditional medicine provides insights into the use of artichokes for inflammation and general health. The potential benefits of artichokes in neuropathy are indirectly supported by some research on artichoke extracts that have concentrated on liver health, general pain alleviation, and inflammation reduction. Vincristine is a chemotherapy medication that is mostly used to treat solid tumours, leukaemia, and lymphoma, among other cancers. It is a member of the vinca alkaloids drug class. Vincristine inhibits the growth and reproduction of cancer cells by interfering with their ability to divide. But even though vincristine is primarily used to treat cancer, it has also been linked to neuropathic pain and nerve damage, which is a serious.



KEYWORDS: *Cynara scolymus*, neuropathic pain, Vincristine, traditional use

APO-08

Unveiling the Antithyroid Potential of Medicinal Plant Extracts

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ABSTRACT: Numerous pharmacological agents are available as Antithyroid drugs. Although *D. strictus* is widely available, its scientific validation for Antithyroid use is yet to be explored. This study aimed to assess its Antithyroid activity. This study aimed to investigate the Antithyroid potential of *D. strictus* plant parts in Wistar rats and subsequently develop a formulation. *D. strictus* is known for its anti-inflammatory, antimicrobial, anti-allergic and antidiabetic properties. Additionally, extracts from this plant have shown Antithyroid activity. In this study, hyperthyroidism was induced in male Wistar rats through oral administration of thyroxine for 14 days. The hyperthyroid rats were then treated for 21 days with oral doses of *D. strictus* ethanol and aqueous extracts at 100 and 200 mg/kg. Propyl thiouracil was used as the standard reference treatment for the same period. The study revealed that *D. strictus* extract effectively reduced T3 and T4 levels in a dose-dependent manner, comparable to the standard treatment with PTU. Serum levels of triiodothyronine, thyroxine, and thyroid-stimulating hormone were analyzed, accompanied by a histopathological evaluation of the thyroid gland. The Antithyroid activity of *D. strictus* is evident through its ability to reduce T3 and T4 levels. This suggests that *D. strictus* has a prominent effect, potentially attributed to the presence of tyrosine.

KEYWORDS: Hyperthyroidism, *D. strictus* extract, Thyroxine, T4, TSH.



APO-09

Development and assessment of nanosponges loaded with antihypertensive drug for chronological disorders

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ABSTRACT: In recent years, nanosponges (NS) have gained tremendous impetus in drug delivery through nanotechnology. Nanosponges are capable of providing solutions for several formulation related problems. Nanosponges are tiny sponges with a size of about a virus, which can be filled with a wide variety of drugs. These tiny sponges can circulate around the body until they encounter the specific target site and stick on the surface and begin to release the drug in a controlled and predictable manner. Because the drug can be released at the specific target site instead of circulating throughout the body it will be more effective for a particular given dosage. Another important character of these sponges is their aqueous solubility; this allows the use of these systems effectively for drugs with poor solubility. Owing to their small size and porous nature they can bind poorly-soluble drugs within their matrix and improve their bioavailability. They can be crafted for targeting drugs to specific sites, prevent drug and protein degradation and prolong drug release in a controlled manner.

KEYWORDS: Nanosponges, Cyclodextrins, Bioavailability



A REVIEW ON TRANSDERMAL DRUG DELIVERY SYSTEM

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ABSTRACT: A transdermal patch is a medicated adhesive patch that is placed on the skin to deliver a specific dose of medication through the skin and into the bloodstream. Often, this promotes healing to an injured area of the body. An advantage of a transdermal drug delivery route over other types of medication delivery such as oral, topical, intravenous, intramuscular, etc. is that the patch provides a controlled release of the medication into the patient, usually through either a porous membrane covering a reservoir of medication or through body heat melting thin layers of medication embedded in the adhesive. Transdermal drug delivery offers controlled release of the drug into the patient, it enables a steady blood level profile, resulting in reduced systemic side effects and, sometimes, improved efficacy over other dosage forms. The main objective of transdermal drug delivery system is to deliver drugs into systemic circulation through skin at predetermined rate with minimal inter and intra patient variations.

KEYWORDS: Nanogel, Preparation, Limitation, Evaluation, Targeted drug delivery



APO-11

Pharmacognostic study, phytochemical screening and anticancer activity of selected medicinal plants

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ABSTRACT

Plectranthus is a large and widespread genus with a diversity of ethnobotanical uses. In traditional Molis has been used to treat snakebites, as a pulmonary stimulant and vasoconstrictor, as a cardiovascular depressant, as a haemorrhage remedy, and to cure mental disorders and rheumatism. *P. mollis* is reported to exhibit relaxant activity on smooth and skeletal muscles, and has cytotoxic and anti-tumour promoting activity, and can be used in the treatment of cancer. The current study sought to determine the chemical makeup of *P. mollis* essential oil as well as its antibacterial activity. The essential oil of *P. mollis* blooming aerial parts was recovered by hydro-distillation and analysed using gas chromatography with a flame ionisation detector (GC-FID) and gas chromatography combined with mass spectrometry (GC/MS). Twenty-seven compounds were identified, which comprised 98.6% of the total constituents. The main compound was identified as fenchone (32.3%), followed by α -humulene (17.3%), piperitenone oxide (8.5%), cis-piperitone oxide (6.0%) and E- β -farnesene (5.9%). The oil was found rich in oxygenated monoterpenes type constituents (52.0%), followed by sesquiterpene hydrocarbons (40.2%), oxygenated sesquiterpenes (4.9%), and monoterpene hydrocarbons (1.5%). Antimicrobial activity of the essential oil of *P. mollis* was tested against six Gram-positive and eight Gram negative bacteria, and three fungi, by using the tube dilution method. The oil was active against the tested Gram-positive and Gram-negative bacteria, and fungi at a concentration range of 0.065 ± 0.008 - 0.937 ± 0.139 mg/mL, 0.468 ± 0.069 - 3.333 ± 0.527 mg/mL and 0.117 ± 0.0170 - 3.338 ± 0.062 mg/mL respectively. The current investigation found that the oil contents were qualitatively comparable but quantitatively different from previous studies from various places of the world. *P. mollis* essential oil contains antibacterial action, which may be effective in the treatment of different infectious disorders caused by bacteria and fungus.

KEYWORDS: *Plectranthus mollis*, Lamiaceae, Essential oil composition, Fenchone, Antimicrobial active



**Streamlined UPLC Method for Concurrent Analysis And Stability Evaluation of
Samidorphan and Olanzapine.**

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ABSTRACT

The development of a straight forward, precise, and accurate method for the simultaneous estimation of Samidorphan and Olanzapine in their dosage forms took place ACQUITY UPLC BEH C18 Column, 1.7 μm , 2.1 mm X 100 mm, was used to run the chromatogram 0.1% OPA mobile phase containing buffer (4.6 pH): Acetonitrile, which was taken in a ratio of 55:45, was pumped through the column at a 0.2 ml/min flow rate. In this method 0.1% orthophosphoric acid was used as buffer. The temperature was kept at 30°C 264 nm was the preferred wavelength Samidorphan retention time was 0.669 minutes, while Olanzapine retention time was 0.880 minutes. Samidorphan %RSD was 0.3, while Olanzapine was found to be 0.91 % Recovery was 99.93% for Samidorphan and 100.26% for Olanzapine Samidorphan LOD and Olanzapine LOQ values were 0.05, 0.14, and 0.41, 1.24, respectively from their regression equations Samidorphan regression equation is $y = 19497x + 10313$, while Olanzapine equation is $y = 23803x + 7958.2$ The method was simple and cost-effective because retention times and run time were reduced.

Keywords: Samidorphan, Olanzapine, RP-UPLC.



Preparation and evaluation of silver nanoparticles of almond oil for assessment of antibacterial study

Kokane Rutuja Sharad

ABSTRACT:

The present investigation details a green synthesis of silver nanoparticles (AgNP) using the essential oil *Prunus persica* L. (Almond) as reducing agent. The synthesis of AgNP was performed at different pH conditions (pH 7, 8, 9 and 10), and was monitored by UV-Vis Spectroscopy and Transmission Electron Microscopy. The synthesized nanoparticles presented characteristic Surface Plasmon Resonance bands with maximum absorbance between 405 and 460 nm. The DLS analysis revealed particle sizes from 31 to 72 nm and zeta potential between -30.1 and -50.8 mV indicating good stability against the agglomeration of the particles in solution. The micrographs obtained by TEM showed different particle shapes and a predominance of spherical-shaped nanoparticles, and average size ranging from 27 to 94 nm. The Almond -based silver nanoparticles efficiently controlled the growth of *Escherichia coli* and *Staphylococcus aureus* bacteria, and the minimum inhibitory concentration ranged from 60 to 100 $\mu\text{L}/\text{mL}$. This study highlights the feasibility of Almond essential oil as an alternative for the synthesis of silver nanoparticles by a simple, inexpensive and eco-friendly method.

KEYWORDS: Silver nanoparticle, *Prunus Amygdalus* oil (almond oil), Antibacterial assay.



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SPO-01

Body lotion by Hibiscus flower Extract Aadesh S.Gadhawe, Ms.Bhavana D.Tambe

SMBT Institute of D.Pharmacy, Dhamangaon, Nashik Maharashtra India 422403,

ABSTRACT

An Herbal lotion that can give effective protection to skin and free from any toxicity As they are natural and are found to be safe to use as compound to chemical based formulations lotion are semi-solid form it directly applied on the body lotion may be used for local action as cooling, soothing or protection purpose lotion maintain skin hydration level by locking in the moisture keeping the skin healthy, soft and supple there are some benefits of herbal products are it can help to reduce side effects it can help with self healing it can help improve the overall health etc.

The hibiscus having the different types of benefits in the health they having the many kind of properties such as cleanses pores,wound healing, Antioxidant, Evens skin tones, Glowing skin, Exfoliation, Acne, collagen production, calms irritated skin etc.

KEYWORDS: Herbal Drug, Skin care, Lotion, Evaluation



Formulation and Evaluation of herbal body lotion by using Morus alba leaves

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ABSTRACT. Herbal plant used for its scent, flavor, or therapeutic properties. Herbal medicines are one type of dietary supplement. People use herbal medicine to try to maintain or improve their health. Many people believe that product labeled “natural “are always safe and good for them. Herbal cosmetics are those when natural herb and their product used of their aromatic value in cosmetics preparation among consumers for herbal product triggered the demand for natural product and natural extract in cosmetics preparation. Lotion are liquid preparation that is for external application without friction. They are applied directly on the skin. Herbal lotion is used as antioxidant, skin brighting, reducing the melanin, hyperpigmentation. As moisturization it is use to prevent dryness of skin during winter. Herbal lotion is green colour and smooth appearance. Lack of documentation for herbal ingredients, no standardized processes for extraction and production, and unstable active compounds that can degrade over time and free from chemicals. The lotions physical and chemical stability including pH, viscosity and microbial load were rigorously tested. The result indicated excellent stability,safety and significant improvement in skin hydration and appearance without causing irritation. The herbal lotion present a promising natural alternative for effective and safe skin care.. Formulation of morus alba lotion with leaves powder is prepared using different composition. The morus alba lotion was formulated by using various type of ingredient such as , aleo vera gel, glycerin ,rose water, honey, Xanthum gum,almond oil, coconut oil, vitamin E capsule. The leaves of morus alba used for therapeutic purposes for scientific confiramation of these they were studied for laxative properties, antimicrobial function.

KEYWORDS: Herbal drug, Morus alba leaves extract, Herbal lotion, Antioxidant



CARBON FOOTPRINT REDUCTION IN PHARMA

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ABSTRACT: The pharmaceutical industry plays an important role in improving global health but is also a main contributor to carbon emissions due to energy-intensive manufacturing, extensive supply chains, and waste generation. This study aims to identify and evaluate strategies for usually the carbon footprint of the pharmaceutical industry, focusing on sustainable manufacturing, renewable energy use, and eco-friendly supply chain management. The findings indicate that adopting energy-efficient technologies, transitioning to renewable energy, optimizing supply chains, and incorporating green chemistry significantly reduce carbon emissions. For instance, continuous manufacturing and eco-friendly packaging have helped companies like Pfizer and GSK achieve measurable sustainability milestones. Collaborative carbon offset programs and employee engagement further enhance these efforts. Reducing the carbon footprint of the pharmaceutical industry is achievable through a combination of technological innovation, strategic planning, and stakeholder collaboration. By embracing sustainable practices, the industry can not only minimize its environmental impact but also contribute to global health goals in a more responsible and eco-friendly manner. Future research should focus on quantifying long-term impacts and exploring novel technologies.

KEYWORDS: Carbon footprint, Pharmaceutical industry, Sustainable manufacturing, Renewable energy, Green chemistry.



Recycling of Pharmaceutical Waste

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ABSTRACT: The improper disposal of pharmaceutical waste poses significant environmental and public health risks, including water and soil contamination and harm to biodiversity. Recycling pharmaceutical waste offers a sustainable solution by minimizing environmental impact and recovering valuable resources, such as packaging materials and chemicals. This study examines strategies for recycling pharmaceutical waste, focusing on the recovery of expired medications, manufacturing by-products, and packaging materials to promote environmental sustainability in the pharmaceutical industry. A review of current practices, case studies, and technological advancements in pharmaceutical waste management was conducted. Emphasis was placed on evaluating recycling methods for different waste categories, including expired drugs, chemical waste, packaging materials, and biohazardous waste. The role of policy frameworks and public awareness programs was also analyzed.

Recycling initiatives demonstrated significant potential to reduce the environmental impact of pharmaceutical waste. For example, closed-loop systems in drug manufacturing enable the recovery and reuse of solvents and reagents. Innovations in material recycling allow for the efficient separation and repurposing of plastic, glass, and aluminum packaging. Moreover, pharmaceutical take-back programs, combined with public education, improve the safe collection and recycling of unused medications. Recycling pharmaceutical waste is a viable strategy for addressing environmental concerns while promoting resource efficiency. However, challenges such as regulatory barriers, logistical complexities, and low public awareness must be addressed. Future efforts should focus on scaling advanced recycling technologies, strengthening policy frameworks, and fostering collaboration among stakeholders to enhance recycling systems globally.

KEYWORDS: Pharmaceutical waste, Recycling, Sustainability, Waste management, Environmental impact



SPO-05

AI AND MACHINE LEARNING IN DRUG DISCOVERY

Pournima Lavate & Ashlesha Birari

ABSTRACT: Traditional drug discovery is a long and expensive process, often taking more than 10 years and thousands of dollars. However, AI and machine learning (ML) can speed up this process and reduce its cost. This technology can analyse large data sets, predict how drugs will interact with their targets, and identify the most effective drug candidates. Therefore, AI and machine learning will not only accelerate drug discovery, but also increase safety and efficiency.

This study looks at how Artificial Intelligence & ML are beneficial in discovering new medicines; its focus on 3 keys area. The study also highlights the benefits of using AI and ML, such as speeding up the process and lower cost, while discovering the challenges involved in applying these technologies. We conducted a detailed review of the existing research, case study & industry practices to understand how AI & ML are being used in differ stage of drug discovery. They are target identification, virtual screening, generative drug design, clinical trial optimization. We also looked at real world example of pharmaceutical companies using AI technology to show how tools are used in practical. AI & ML have significantly improved the drug discovery process, Faster target identification, designing better drugs, Improved clinical trials, this advantage is led to faster drug development & lower cost as well as successful demonstrated these benefits. AI & ML are transforming drug discovery by making the process faster, more accurate & cost effectives. However, there are still challenges, such as data quality regulatory hurdles & ethical concerns. Despite issues, AI adoption is rapidly changing the pharmaceutical industry.

KEYWORDS: -Drug discovery, AI, ML.



SPO-06

Wearable Technologies for Personalized Health Monitoring

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ABSTRACT

Wearable health technologies have revolutionized healthcare by enabling real-time monitoring of physiological parameters. These technologies provide a personalized approach to health monitoring, aiding early disease detection and enhancing patient-centric care. To explore the role of wearable technologies in personalized health monitoring, focusing on their applications, advantages, and emerging trends in healthcare. A comprehensive review of wearable devices was conducted, including fitness trackers, smartwatches, and advanced biosensors. Key parameters such as heart rate, oxygen saturation, and glucose levels were evaluated. Data on the integration of artificial intelligence (AI) and cloud-based platforms for analytics were also assessed. Wearable devices demonstrate high efficacy in monitoring chronic diseases such as diabetes, cardiovascular disorders, and hypertension. Emerging technologies like AI-enhanced analytics provide predictive insights, improving patient outcomes. Challenges remain in data security and device affordability. Wearable health technologies significantly contribute to personalized medicine, bridging the gap between traditional healthcare and digital innovation. Addressing current challenges can further enhance their utility in global healthcare systems.

KEYWORDS:

Wearable technologies, Personalized medicine, Health monitoring, Artificial intelligence, Biosensors



Formulation & Evaluation of Herbal Powder Handwash

Sneha Gawali, Bhavana Tambe

ABSTRACT:

Hands are a primary site of infection transmission was critical issue in children and employer in pharmaceutical industry, hospitals and also a home. The hand was available in local market is mainly composed of different compounds which may be might pose several threat on our skin. This project main aim develop natural and effective poly-herbal handwash by using lemon grass powder, tulsi powder, shikakai powder, ritha powder, aloe vera powder, mentha powder, sodium lauryal sulphate, carbopol 940 and methyl paraben. All ingredients was dried at home and then powdered, using instruments like motar pistle, hot air oven , mixture, other instruments also to make better and less side effects cleaning hand wash. The formulate powder hand wash was found to be good in physical parameters with good cleaning of hands , effectively clean and possess antiseptic properties. This innovative product takes hand hygiene to the next level providing a convenient, way to keep your clean and protected. The final product was evaluated based on odour, colour, pH, viscosity and stability.

KEYWORDS: - Lemon grass, Antiseptic hand wash, Evaluation



SPO-08

Evaluation and Formulation of Anti-Acne Stick: A Comprehensive Study

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ABSTRACT

Acne is a common skin condition that affects individuals of all ages, especially during adolescence. Various treatments, such as topical creams, gels, and oral medications, are available for managing acne. However, these treatments can be inconvenient and may cause side effects. In recent years, anti-acne sticks have gained popularity as a convenient and effective option for targeted treatment. The purpose of this study is to introduce an anti-acne stick, explore its material composition and methodology of preparation, and evaluate its effectiveness in acne treatment.

Material and Method – 5 gm pomegranate powder, salicylic acid, bees wax, cocoa butter, tea tree oil, coconut oil and Stearic acid.. Firstly take a pomegranate powder and this powder added in salicylic acid and oil and then the honey of bees wax and coconut butter. All that is the two melted ingredients added in base mixture. Added in active ingredient to melted base and then mix properly. The all above formulation are transferred in mould.

KEYWORDS: Herbal drug, Pomegranate, Evaluation



Herbal plant medicine.

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ABSTRACT: Herbal plant medicine, also known as herbalism or phytotherapy, is the practice of using plant-derived substances for medicinal purposes. This approach is one of the oldest forms of healthcare, with roots in various traditional medicine systems, including Chinese, Ayurvedic, and Native American healing practices. Herbal medicine involves the use of different parts of plants—such as leaves, roots, stems, flowers, and seeds—to treat ailments, support health, and promote well-being. The active compounds in plants can have therapeutic effects, such as anti-inflammatory, antimicrobial, and antioxidant properties, and are used to address a wide range of conditions, from digestive issues to skin conditions and stress management.

KEYWORDS- Herbalism, Phototherapy, Natural medicine, Medicinal plants, Botanical medicine, Holistic healing, Alternative medicine, Complementary medicine.



SPO- 10

**Formulation and evaluation of "hair revitalizing gel" of Alopecia Areata
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ABSTRACT: Alopecia areata is a chronic autoimmune condition causing hair loss, affecting approximately 2% of the global population. While conventional treatments such as corticosteroids and minoxidil show some effectiveness, they are often associated with side effects like skin thinning, hormonal imbalances, and irritation. This has sparked increasing interest in natural alternatives for safer management of the condition. This study focuses on the formulation and evaluation of a topical herbal gel containing natural extracts of pumpkin seeds, Fenugreek seed, sabja seed, aloe vera, and saw palmetto. These ingredients have demonstrated potential to promote hair growth, reduce scalp inflammation, and inhibit DTH, a significant factor contributing to hair follicle shrinkage. The gel was formulated using xanthan gum as a gelling agent and methyl paraben as a preservative. Evaluation parameters included pH, viscosity, irritation potential, and washability to determine stability and user acceptability of the formulation. The study highlights the promising potential of herbal formulations as effective, stable, and safe alternatives for managing alopecia areata and promoting hair regrowth.

KEYWORDS: Alopecia areata, Topical herbal gel, Pumpkin seeds extract, Fenugreek seed extract.



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SPO-11 TO SPO-42



SPO- 11

**FORMULATION AND EVALUATION OF DRY POWDER SUSPENSION OF CISSUS
VITIGINEA ROOT FOR TREATMENT OF OSTEOPOROSIS**

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ABSTRACT: This study aimed to formulate and evaluate a reconstitutable dry suspension using the root powder of *Cissus vitiginea*, a herb traditionally recognized in Ayurvedic medicine for its benefits in bone health, inflammation, and wound healing. With the increasing prevalence of osteoporosis and the difficulty some patients experience in swallowing tablets, this formulation offers a convenient and palatable alternative. The suspension was prepared using *Cissus vitiginea* root powder alongside excipients such as gum karaya, clove, and sucrose, chosen for their roles in ensuring stability, antimicrobial activity, and taste enhancement. Comprehensive evaluations were conducted to assess physical properties, including bulk density, viscosity, sedimentation, pH, pourability, and re-dispersibility. Phytochemical analysis confirmed the presence of active compounds such as alkaloids, tannins, and flavonoids. The findings suggest that the formulation is stable, effective, and well-suited for managing osteoporosis and promoting bone health. Further research is recommended to optimize the formulation, validate its clinical efficacy, and explore additional therapeutic applications

KEYWORDS: *Cissus vitiginea*, Traditional use, Formulation, Physical properties.



SPO-12

Formulation, development and characterization of anti-wrinkle cream enriched with silver nanoparticles synthesized from flowers of *cosmos sulphureus* and leaves of *Azadirachta indica*, *Ocimum sanctum*, *Aloe vera*, and *Thuja orientalis*.

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Ms. Vaishali Sharad Borade², Mr. Mitesh S. Hire¹.

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ABSTRACT

This study explores the green synthesis of silver nanoparticles using plant extracts from *Cosmos sulphureus*, *Azadirachta indica* (neem), *Aloe vera*, *Ocimum sanctum* (tulsi), and *Thuja orientalis*. The nanoparticles were synthesized through a chemical reduction method using silver nitrate and plant extracts, confirmed by a color change. Characterization was performed using UV-Vis spectroscopy, FTIR, and freeze-drying for incorporation into an anti-wrinkle cream. The formulated cream exhibited a baby pink color, smooth texture, good spreadability, and stability with a zeta potential of -37.4 mV. It was easily washable with no phase separation. The silver nanoparticles, rich in antioxidants, demonstrated potential for skin rejuvenation and anti-aging effects by protecting against oxidative damage. Nanoparticle sizes ranged from 424 nm to 6702.1 nm, with a polydispersity index of 5.487. SEM analysis confirmed the presence of silver nanoparticles in the range of 5 µm to 20 µm. An animal study conducted on albino mice showed no skin irritation, indicating the formulation's safety. These findings suggest the cream is effective, with promising applications for natural, nanoparticle-infused cosmetic products aimed at skin enhancement and anti-aging.

KEYWORDS: Silver nanoparticles, *Cosmos sulphureus*, *Azadirachta indica*, *Aloe vera*, *Ocimum sanctum*, *Thuja orientalis*



SPO-13

**BIOANALYTICAL METHOD DEVELOPMENT AND VALIDATION OF
TRIMETAZIDINE HYDROCHLORIDE IN HUMAN PLASMA BY USING RP-HPLC
METHOD AND ITS APPLICATION IN BIOEQUIVALENCE STUDY**

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ABSTRACT:

A simple, rapid, sensitive and economical RP-HPLC method were developed and validate (ICH M10) for quantification of trimetazidine in human plasma by using internal standard as caffeine. Trimetazidine hydrochloride (TMZ) is an antianginal drug (BCS Class I) used to treat angina pectoris. Liquid-Liquid extraction (LLE) method was developed for the optimum extraction of trimetazidine and caffeine from biological matrix. An isobestic wavelength set at 210 nm on UV detector and the mobile phase was composed of Methanol: Water: Acetonitrile: Sodium Hept-Sulfonate Buffer (40:60:10:03%, v/v/v/v). The separation was accomplished with the help of column Nucleosil ODS (15cm×4.6 mm, 5 μ) at 25°C and an Agilent HPLC with control panel software. The recovery of TMZ in human blood plasma was found to be 95.80 %.

KEYWORDS: RP-HPLC, Trimetazidine, Method development, Validation.



SPO-14

Novel Assisted Treatment Method for Arthritis: Agricultural By Product Miracle”

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ABSTRACT:

Arthritis, an inflammatory joint disease, significantly impacts mobility and quality of life. It is characterized by pain, swelling, stiffness, and reduced joint function. The two most common types of arthritis are Osteoarthritis (OA), which primarily affects older adults, and Rheumatoid Arthritis (RA), which predominantly affects women. In India, arthritis affects approximately 180 million people, with 22% of adults over the age of 60 exhibiting symptoms. Furthermore, children and young adults are also susceptible to arthritis, as seen in conditions like Juvenile Idiopathic Arthritis (JIA). Current treatment options, including NSAIDs, DMARDs, corticosteroids, and biologic agents, provide symptomatic relief but often come with significant side effects such as gastrointestinal discomfort, liver damage, weight gain, and an increased risk of infections. These limitations highlight the need for innovative, safer, and more effective alternatives.

Transdermal patches, which deliver medication directly to the affected area, offer pain relief and minimize systemic side effects. Natural remedies like Bael fruit have anti-inflammatory and antioxidant properties, while eco-friendly bamboo fiber patches ensure biocompatibility, antibacterial activity, and sustained drug release for prolonged therapeutic effects.

This study explores the potential of combining natural anti-inflammatory agents with advanced transdermal technology to develop effective, long-lasting, and side-effect-free treatments for arthritis. These innovative approaches could revolutionize arthritis management, improving the quality of life for millions of patients while minimizing the environmental footprint of therapeutic interventions.

KEYWORDS: Transdermal patch, Bamboo fiber, Aegle marmelos, Arthritis management, Anti-inflammatory, Hydroge



**PhytoDock: A Computational Framework for Target-Based Screening of Medicinal Plant
Phytochemicals against Monkey pox Virus**

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ABSTRACT:

The World Health Organization (WHO) has classified the monkey pox outbreak as a public health emergency due to the lack of specific treatments for monkey pox virus (MPXV) infection. Traditional medicinal plants, rich in bioactive phytochemicals, provide a promising reservoir for drug discovery. This study employs an AI-driven in silico approach combining molecular docking, molecular dynamics (MD) simulations, and network pharmacology to evaluate the antiviral potential of phytochemicals against key viral proteins of Monkey pox Virus. Molecular docking was conducted to identify potent phytochemicals with high binding affinities against viral targets such as the Monkey pox DNA polymerase. MD simulations confirmed the stability of these complexes under physiological conditions, as evidenced by root mean square deviation (RMSD) and hydrogen bond analyses. Network pharmacology analysis revealed the multi-target interactions of these phytochemicals with host and viral proteins, unveiling their role in modulating crucial pathways like viral replication and immune response. Pathway enrichment analysis identified key biological processes and hub genes, providing mechanistic insights into their antiviral action. This study underscores the potential of integrating traditional medicine with AI-based computational tools to accelerate the identification of antiviral candidates. The findings contribute to the growing evidence supporting the use of phytochemicals as complementary therapies for emerging and re-emerging viral diseases.

KEYWORDS: - Traditional medicine, Phytochemical, Docking, Monkey Pox Virus, Network Pharmacology



SPO-16

Differential spectrophotometric method for estimation and validation of atenolol in tablet dosage form

Chetana Krushna Belkare, Dr. Nirmala Shinde

Abstract:

This work describes a novel and beneficial differential spectrophotometric method for detecting the content of atenolol in tablet. To precisely quantify atenolol levels, the method evaluates the difference in absorbance spectra under acid (0.1N HCl) and alkaline (0.1N NaOH) conditions. This method is simple, cost-effective due to readily accessible reagents, very sensitive for detecting low atenolol concentrations, and minimizes interference from other tablet components, ensuring precise measurement. It also simplifies sample preparation, making quick analysis possible. The maximum wavelength is 275nm, the Beers law limits are 2-10 µg/ml. the regression equation is $Y=0.0386x+0.2161$ the slope is 0.03859, the intercept is 0.21608 and the correlation coefficient (R) is 0.999005. The processes were validated in compliance with ICH Guidelines. With its advantages in simplicity, cost-effectiveness, high sensitivity, and minimal interference, this innovative differential spectrophotometric methodology represents a valuable tool for routine pharmaceutical analysis and future quality control investigations, particularly due to its simple, precise, and economical nature.

KEYWORDS: Atenolol, Differential spectroscopy, Accuracy, Precision, Tablet, Validation.



SPO-17

Utilization of Banana Peel Starch in the Production of Biodegradable Films for Sustainable Packaging Solutions

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ABSTRACT: This study investigates the synthesis of biodegradable films from banana peel starch as a sustainable alternative to conventional plastics. Starch was extracted from banana peels using a simple process of soaking, blending, and sedimentation. The extracted starch was then mixed with glycerol, a plasticizer, to form a film solution, which was cast onto a flat surface and dried at low temperatures. The resulting film exhibited good tensile strength (6.5 MPa) and flexibility (elongation at break of 15%), making it suitable for packaging and agricultural applications. Water resistance was observed, with the film maintaining its integrity after exposure to moderate humidity. Biodegradability testing in soil confirmed complete degradation within 30 days. Additionally, the incorporation of clove essential oil enhanced the antimicrobial properties of the film, making it suitable for food packaging applications. This research demonstrates the potential of banana peel starch as a renewable material for biodegradable films, offering an eco-friendly solution to plastic pollution.

KEYWORDS: Plastic Alternatives, Film Properties, Biodegradability, Eco-Friendly Materials, Biopolymer Films.



SPO-18

To develop anti-cancer drug-doped carbon quantum dots: A novel strategy for targeted delivery and bioimaging

Gaurav Shivaji Bhagure

ABSTRACT: Graphene quantum dots (GQDs) are new efficient nanomaterials used in therapeutic applications. CQDs are a type of fluorescent nanocarbon material that possess excellent optical properties.

Blue fluorescent nitrogen-doped GQDs were synthesized by a Microwave Assisted method via citric acid as the carbon source and urea as the nitrogen source. the N-GQDs were loaded with the anticancer drug to prepare Drug-(N-GQDs) as an efficient drug delivery system. Physicochemical properties of the CQDs were characterized by UV–VIS, FTIR, TEM.

The synthesis of Anticancer QDs has yielded remarkable nanomaterials with exceptional physicochemical & Optical properties. Collectively, these properties position the C-Dots as promising candidates for future research and development in nano technology. This finding is crucial as it indicates bio-compatibility & safety, making them suitable for multiple biomedical and environmental applications.

KEYWORDS: Nanomaterials, Graphene quantum dots, Anticancer, Bio-compatibility



**Development and Evaluation of Botanical-Loaded Electrospun Chitinate Composite
Micro-Bandages for Enhanced Pain Management and Infection Control in Wound Care**

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ABSTRACT

Effective wound care requires innovative materials that address pain management, infection control, and tissue regeneration. This study presents the development of botanical(resveratrol)-loaded electrospun micro-bandages using a Chitinate composite matrix—a blend of chitosan and alginate. Chitosan provides antimicrobial and regenerative properties, while alginate ensures excellent gel formation and moisture retention. The incorporation of plant-derived bioactives enhances anti-inflammatory and antimicrobial capabilities, offering a comprehensive solution for wound healing. The micro-bandages were fabricated through electrospinning, resulting in nanofibrous mats with high surface area and porosity for controlled release of bioactives. Structural integrity and active component distribution were confirmed using SEM, FTIR, and XRD analyses. In vitro antimicrobial studies demonstrated significant inhibition of *Staphylococcus aureus* and *Escherichia coli*. Botanical/Drug release studies indicated a sustained release profile, ideal for prolonged therapeutic effects. The synergistic properties of Chitinate composites and botanicals provide a multifunctional approach to wound care, targeting infection control, pain management. This study highlights the potential of botanicals-loaded Chitinate micro-bandages as an advanced, biocompatible alternative for wound management. Future work will focus on In vivo evaluations, clinical trials and scalable production methods for commercial applications.

KEYWORDS: Wound care, SEM, FTIR, XRD, *Staphylococcus aureus*



**FORMULATION & EVALUATION OF ACTIVATED CHARCOAL
EFFERVESCENT TABLETS IN THE MANAGEMENT OF HEAVY METAL
POISONING**

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ABSTRACT: Activated charcoal is widely recognized for its ability to adsorb toxins, drugs, and heavy metals in the gastrointestinal tract due to its large surface area and porous structure. The formulated effervescent tablet is designed to provide a fast and effective mode of delivering activated charcoal in cases of heavy metal poisoning & also promise in emergency scenarios due to its quick disintegration and ease of administration. Also study & examine their potential to enhance the efficacy, convenience, and patient outcomes in the management of heavy metal poisoning.

KEYWORDS: Absorbance, Toxicity, Effervescent, Disintegration.



Formulation and Evaluation of Gel Based Herbal Handwash

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ABSTRACT

The primary objective of this study was to develop a gel-based herbal handwash using *Calotropis procera* latex to promote personal hygiene and address the limitations of synthetic handwashes. Synthetic handwash formulations, often alcohol-based, are associated with adverse effects such as itching, dryness, irritation, and dermatitis. The herbal handwash was formulated to provide an effective and skin-friendly alternative. Its antibacterial activity against *Escherichia coli* was assessed using the agar plate well diffusion technique. Additionally, the product was evaluated for physical and chemical properties, including pH, viscosity, foam height, foam retention, and skin irritation. The results indicated that the herbal handwash met standard criteria, demonstrating satisfactory antibacterial efficacy with minimal to no adverse effects, making it a promising alternative to synthetic formulations.

KEYWORDS: Herbal handwash, *Calotropis procera* latex, Antibacterial activity, *Escherichia coli*



Evaluation of *Withania somnifera* in Paclitaxel Induced Neuropathy in Wistar Rats.

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ABSTRACT

Paclitaxel, an anticancer drug, can induce neuropathy and is used in animal models to evaluate new therapeutic approaches. It increases oxidative stress, a key factor in peripheral neuropathy. Medicinal and herbal drugs with antioxidant potential are proven as neuroprotective. *W. somnifera* have proven antioxidant, anti-inflammatory activity. This study aims to assess its efficacy in paclitaxel-induced neuropathy. To carry out phytochemical investigation and to evaluate effect of *W. somnifera* on behavioral changes like heat hyperalgesia, cold allodynia, mechanical allodynia, locomotor activity, electrophysiological, biochemical, histopathological changes in Paclitaxel Induced Neuropathy in Wistar Rats. Wistar rats ($n=6$ per group) were divided into nine groups. Neuropathy was induced with Paclitaxel (2mg/kg, i.p), administered on days 0, 2, 4 and 6. Treatment with *W. somnifera* (100, 200, 400mg/kg/p.o.) and Gabapentin (300mg/kg/p.o.) started after last paclitaxel injection for next 4 weeks. Behavioral studies, thermal hyperalgesia, cold allodynia, mechanical allodynia and locomotor activity were conducted weekly using hot plate, cold plate, Von Frey filaments and actophotometer respectively. Motor nerve conduction velocity was performed by 8 channel power lab, biochemical studies and histopathological studies were performed using sciatic nerve homogenate at the end of the study.

KEYWORDS: Neuropathy, Chemotherapy, Allodynia, Hypera



**TO SYNTHESIZE AND CHARACTERIZE THIOPHENE ANALOGUES AS AN
ANTICANCER AGENT”**

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ABSTRACT

A series of compounds containing heterocycle rings were synthesized. The Thiophene compound is a biologically active scaffold with anticancer, antitumor, and antiproliferative properties and other useful biological actions, the important pharmacophore in medicinal chemistry, due to their widespread pharmacological activities. so, we have selected these heterocycle rings to exploit their anticancer potential for our research work.

Cancer has a long history, dating back to 3000 BC in Egypt. The term "cancer" was coined by the Greek physician Hippocrates (460-370 BC), who classified cancers into early-stage malignancies and "occult" cancers. His theory was based on an imbalance of four bodily fluids: phlegm, yellow bile, black bile, and blood, with health depending on their equilibrium.

Cancer is caused by uncontrolled cell proliferation, leading to malignant tumour cells. It can be genetically driven, either inherited from parents or caused by genetic alterations during a person's life. Factors such as radiation, tobacco smoke, environmental exposures, and UV radiation can trigger cancer development.

The reaction starting material was treated with other reagents at normal room temperature and the reaction was monitored by TLC. It was further purified by recrystallization with appropriate solvent.

KEYWORDS: - Isothiocyanates, Anticancer, Cell line, Cytotoxic Activity, Molecular Docking, Hoechst Analysis



Digital Databases in Pharmacy: Driving Innovation and Practice

Om Bodake

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ABSTRACT

In today's fast-evolving pharmaceutical landscape, digital databases play a pivotal role in advancing research, education, and clinical practice. These tools provide pharmacists and researchers with immediate access to reliable, up-to-date information, helping them make informed decisions. This poster explores the different types of digital databases, including those for drug information, research literature, clinical trials, specialty resources, and education.

With their ability to streamline drug discovery, support personalized medicine, and enhance academic research, these databases have become essential for modern pharmacy. Real-world examples demonstrate their impact, from accelerating drug development to improving patient outcomes through evidence-based practice.

However, challenges such as high costs and limited accessibility remain. By integrating emerging technologies like artificial intelligence and open-access initiatives, these obstacles can be overcome, unlocking even greater potential for the future. This presentation underscores how digital databases are not just tools but catalysts for innovation and collaboration in pharmacy.

KEYWORDS: Digital Databases, Pharmacy, Personalized Medicine, Research Innovation, Clinical Practice



Evaluation of *Asclepias curassavica L.* For Anti-Asthmatic Screening

Omkar Vishnu Daware, Dr. Pradip Ghogare

SMBT College of Pharmacy, Dhamangaon Nashik

ABSTRACT: -

Ayurveda uses herbal remedies to treat asthma (Tamak-Shvasa) by balancing doshas. Modern asthma treatments, though effective, often have side effects. Herbal remedies offer benefits like bronchodilation, anti-inflammatory, and anti-allergic effects. The research emphasizes polyherbal formulations targeting asthma mechanisms, aiming for safer, more effective treatments with fewer side effects. *Asclepias curassavica L.*, also known as tropical milkweed or bloodflower, is a plant traditionally used for treating various ailments, including asthma. This study aims to investigate the antiasthmatic potential of *Asclepias curassavica L.* leaf extract. *Asclepias curassavica L.* leaves were collected, dried, and powdered. Extracts were obtained using Soxhlet extraction with methanol and water. Phytochemical tests for alkaloids, flavonoids, and saponins were conducted. Anti-asthmatic activity was evaluated using an isolated goat tracheal chain, measuring contraction responses to various agents for comparison with histamine. Pharmacognostic and phytochemical studies were conducted on the leaves, followed by extraction and antiasthmatic activity evaluation determining the Effect of histamine on isolated goat trachea. *Asclepias curassavica L.* leaves exhibited green colour, bitter taste, and fibrous texture. Methanol extract yielded 30%. Phytochemical tests confirmed the presence of carbohydrates, proteins, glycosides, flavonoids, alkaloids, and saponins. The methanolic extract showed dose-dependent inhibition of histamine-induced contractions in isolated goat trachea, indicating anti-asthmatic potential. The study found that methanolic leaf extract of *Asclepias curassavica L.* possesses antiasthmatic activity, potentially due to the presence of various phytoconstituents identified in the preliminary phytochemical screening.

KEYWORDS: - *Asclepias curassavica L.*, Asthma, Antiasthmatic activity, Pharmacognosy



**Nootropic Potential of Ayurvedic Plants in Alzheimer's disease: A Review of Mechanisms
and Therapeutic Benefits**

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ABSTRACT:

Alzheimer's disease (AD) is a progressive neurodegenerative disorder characterized by cognitive decline and memory loss. While there is no definitive cure at present, several approaches and treatments focus on symptom management and slowing disease progression. Plant-based nootropics are a diverse group of natural drugs that can improve cognitive abilities through various physiological mechanisms, especially in cases where these functions are weakened or impaired. This review highlights the nootropic potential of traditional Ayurvedic plants: Ashwagandha, Shankhapushpi, Jatamanasi, Brahmi, and Curcumin. Withanolide, a compound found in Ashwagandha, blocks the activity of acetylcholinesterase, an enzyme that breaks down the neurotransmitter acetylcholine. Shankhapushpi's bioactive compounds, such as scopoletin and quercetin, target signaling pathways to promote neuronal growth, enhancing memory and cognitive function. Jatamanasi protects against neurobehavioral and biochemical damage caused by cerebral artery occlusion, likely due to its antioxidant properties. The saponin and bacoside found in Brahmi are responsible for improving nerve impulse transmission, repair the damaged neurons by enhancing kinase activity. Curcuma longa's bioactive compounds, demethoxycurcumin and bisdemethoxycurcumin, exhibit antioxidant and anti-inflammatory effects, inhibiting pro-inflammatory cytokines and reducing oxidative stress. By exploring the nootropic potential of these plants, we may uncover new approaches for the prevention and treatment of AD.

KEYWORDS: Nootropics, Cognitive function, Ayurvedic plants, Ashwagandha, Shankhapushpi, Jatamanasi, Brahmi, Curcumin..



A Review on Formulation and Evaluation of Herbal Tablet for Arthritis

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ABSTRACT:

Arthritis is the swelling and tenderness of one or more joints. The main symptoms of arthritis are joint pain and stiffness which typically worsen with age. The most common type of Arthritis are osteoarthritis and rheumatoid arthritis.

In the present study, herbal tablet was formulated by using suitable ingredients such as Nycanthesis Arbor tristis (parijata), Tribulus terrestris (Gokhru), Vitex negundo linn (Nirgundi), Moringa oleifera (Drumstick tree), Adansonia digitata (Gorakh imli) in different proportion to formulate and evaluate its physicochemical property. Herbal tablet was evaluated by different types of parameters like Colour, Odour, Taste, Tablet variation, Hardness, Friability, Disintegration test, Dissolution test.

KEYWORDS: Arthritis, Herbal Tablet, Tribulus terrestris.



**FORMULATION AND EVALUATION OF HERBAL WOUND HEALING
TRANSDERMAL PATCHES OF PIPER BETLE LEAVES**

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ABSTRACT: The present study focuses on the integration of an affordable, readily available, and effective herbal ingredient into wound healing products. Leaves of Piper betle Linn, a plant from the Piperaceae family, are known for their diverse medicinal properties, including antibacterial, anti-cancer, anti-diabetic, and antioxidant effects. Traditionally, Piper betle leaf extract has been used for its health benefits. A transdermal patch, which delivers medication through the skin to the bloodstream, is often employed for enhancing wound healing. This investigation seeks to incorporate the herbal ingredient into a transdermal patch for more efficient wound-healing activity.

The primary objective of this research is to formulate a transdermal patch incorporating Piper betle leaf extract for effective wound healing. The aim is to harness the medicinal properties of the herb while developing a cost-effective, easily accessible wound treatment.

Piper betle leaves were sourced from a local vendor, washed with distilled water, and shade-dried for three days before being powdered for extraction. The extraction was carried out by maceration, and the resulting ethanol extract was used as the key ingredient for the herbal transdermal patch. The patch was formulated in the laboratory, and various evaluation tests were performed to assess its pH, folding endurance, thickness, organoleptic properties, moisture content, and drug content. These tests ensured the formulation was within acceptable limits for efficacy and quality.

The results of the evaluation tests indicated that the herbal transdermal patch, incorporating Piper betle leaf extract, and showed promising potential for effective wound healing. The leaf extract contains active chemical components such as betal-phenol, chavicol, and other phenolic compounds, which contribute to its therapeutic properties. Additionally, the extract can be directly applied to inflamed areas for treatment, further emphasizing its practical utility in wound care

KEYWORDS: Piper betle Linn, Herbal Transdermal patch, wound healing, Maceration, ethanolic extract



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SPO-29

**Recent Advancements in an emerging Blockchain technology in Pharmaceutical Sector and
it's Future Trends**

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ABSTRACT:

The pharmaceutical sector has long faced challenges such as counterfeiting, supply chain inefficiencies, and data integrity issues. Recent advancements in blockchain technology have emerged as a transformative solution to address these challenges. Blockchain's decentralized, transparent, and secure nature offers significant potential to enhance traceability, data privacy, and efficiency within pharmaceutical supply chains. This poster explores the latest developments in blockchain applications, such as smart contracts, decentralized ledger systems, and tokenization, focusing on their integration into drug manufacturing, distribution, and regulatory compliance processes. Furthermore, the poster delves into the future trends of blockchain adoption, including the potential role of artificial intelligence, interoperability with existing systems, and its impact on improving patient safety and regulatory transparency. By highlighting these advancements, this presentation offers insights into how blockchain can reshape the pharmaceutical landscape and contribute to a more secure and efficient global healthcare system.

KEYWORDS: Blockchain, Pharmaceutical sector, Supply chain, Smart contracts, Data security, Future trends, Patient safety.



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SPO-30

FORMULATION AND EVALUATION OF HERBAL MOSQUITO REPELLANT GEL

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ABSTRACT: A Mosquito borne disease are the major problem of human and animal health. The Disease include Malaria, Filariasis, Yellow fever, Zika virus, Japanese encephalitis. Growing concerns about the adverse effects of synthetic chemical mosquito repellents have driven the demand for safer, more environmentally friendly alternatives. This research focuses on the formulation and evaluation of a herbal mosquito repellent gel, utilizing plant-based active ingredients known for their insect-repelling properties. There are several ways to make herbal goods, including boiling in water, roasting, steaming, squeezing, and extracting with alcohol. These methods produce tinctures, juices, gums, essential oils, fixed oils, resins, decoctions, and infusions, among other kinds of herbal products. The proposed work was aimed to Formulate and Evaluate herbal mosquito repellent Gel by extracting active constituents from Ageratina Adenophora plant having mosquito repellent activity. This research represents the preliminary steps toward developing an effective and environmentally friendly mosquito repellent gel, with the potential for offering a natural alternative to conventional repellents for personal care and public health applications.

KEYWORDS: Ageratina adenophora, Mosquito repellent activity, Gel evaluation.



Tridax procumbens Linn.: A Comprehensive Review of Its Pharmacology, Phytochemistry, and Therapeutic Significance"

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ABSTRACT:

Tridax procumbens Linn, commonly known as “Coat Buttons” or “Tridax daisy,” is a medicinal plant belonging to the family Asteraceae. It is widely distributed in tropical and subtropical regions and has been extensively studied for its pharmacological properties. The plant exhibits a broad spectrum of therapeutic activities, including antimicrobial, anti-inflammatory, antioxidant, hepatoprotective, wound-healing, and immunomodulatory effects. Phytochemical investigations have revealed the presence of flavonoids, alkaloids, tannins, saponins, and sterols as key bioactive constituents. These compounds contribute to its medicinal efficacy. Experimental studies have demonstrated its role in managing diabetes, cardiovascular disorders, and microbial infections, as well as enhancing wound repair processes. Furthermore, its ability to scavenge free radicals highlights its antioxidant potential. However, limitations exist regarding clinical validation and toxicity evaluation in humans. This review summarizes the phytochemistry, pharmacology, and therapeutic significance of Tridax procumbens to support its application in traditional and modern medicine, while highlighting areas for future research.

KEYWORDS: Tridax procumbens, Phytochemistry, Pharmacology, Therapeutic significance



Evaluation of Anxiolytic Effect of *Macrosolen parasiticus* in Zebrafish Model

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ABSTRACT

Anxiety is a complex disorder; thus its mechanism remains unclear. Benzodiazepines are the most widely prescribed medication for anxiety disorder. However they have prominent side effects such as sedation, impairment of memory etc. Therefore development of new pharmacological agent is well justified. Traditionally the plant *Macrosolen Parasiticus*, especially crushed leaves and stem were reported as an antioxidant. The preliminary phytochemical investigation of methanolic extract of *Macrosolen parasiticus* showed the presence of bioactive phytoconstituents like phenolics, flavonoids, alkaloids, saponins, glycosides etc. The present work aims to study the potential effect of antioxidant rich methanolic extract of *Macrosolen parasiticus* on Monosodium Glutamate (MSG) induced anxiety in zebrafish (*Danio rerio*).

KEYWORDS: Anxiety, Monosodium glutamate, *Macrosolen parasiticus*, oxidative stress.

SPO- 33

Synthesis, Spectral Analysis and Molecular Docking of Some Thiazole Derivatives.

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ABSTRACT:

Antimicrobial resistance (AMR) is a key problem for human health and development. Rising rates of microbe resistance create a serious risk to human life, therefore it is critical to discover and develop new antimicrobial medications. One method to addressing these challenges is to employ heterocyclics to generate hybrid compounds. Thiazole is one of the most important heterocyclic compounds in drug design. In this study, we attempted to synthesise a thiazole derivative implementing substituted acetophenones via cyclocondensation using thiourea. The reaction's completion was observed using TLC (thin layer chromatography) and melting point. It was taken to determine the identity of the synthesised compound. Molecular docking studies revealed strong interaction between thiazole derivative and highlights their potential for enhanced binding affinity and specificity.

KEYWORDS: Antimicrobial resistance, Antimicrobial medications, Thiazole, Binding affinity



SPO- 34

Novel Experimental Cancer Treatments: Examining Herbal Plants on Various Cell Lines

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ABSTRACT: This study looked at how herbal extracts affected cancer cell lines, causing cytotoxicity and apoptosis. Bioactive plants include *Moringa oleifera* (drumstick tree), *Tinospora cordifolia* (giloy), *Psidium guajava* (guava), *Curcuma longa* (turmeric), and *Coriandrum sativum* (coriander). Herbal extracts have the potential to prevent cancer. According to phytochemical analysis, alkaloids, phenols, and flavonoids were present. Every one of these substances is known to have therapeutic and antioxidant properties.

KEYWORDS: Cell lines, Cytotoxicity, Apoptosis, Herbal extracts, Anticancer activity.



**Formulation and Evaluation of Herbal Ointment: Bridging Traditional Medicine with AI.
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ABSTRACT

The present study aimed to assess the anti-inflammatory activity of a herbal ointment using animal study and greenness assessment tools. The ointment was formulated using a combination of natural oils. Three combinations F1, F2 and F3 were prepared and F3 was selected based on the stability and activity study reports. Anti-inflammatory activity was evaluated by carrageenan induced paw edema model in mice. The formulation (F3) showed enhanced anti-inflammatory activity by reducing the edema and inflammation by 85% compared to the standard Dual scan Gel which showed 70% reduction. The greenness assessment tools used in this study included EATOS (Environmental Assessment Tool for Organic Synthesis), GAPI (Greenness Assessment Protocol Index), and Eco-Scale. The results showed that the herbal ointment formulation F3 possesses potential anti-inflammatory activity, while also demonstrating a high degree of greenness.

KEYWORDS: Ointment, Anti-inflammatory, Stability, Greenness.

Synthesis, Characterization, and Biological Evaluation of Pyrazoline Derivatives

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ABSTRACT: The various biological actions of pyrazoline derivatives, such as their antibacterial, anti-inflammatory, and antioxidant properties, have drawn a lot of interest in pharmaceutical chemistry. The objective of this research is to create new pyrazoline derivatives, assess their biological activity, and characterize those using innovative analytical methods. Pyrazoline derivatives were created throughout the synthesis process by cyclization reactions between chalcones and hydrazine hydrate in the presence of acetic acid. Mass spectrometry (MS), nuclear magnetic resonance spectroscopy (NMR), and Fourier-transform infrared spectroscopy (FTIR) were used to confirm the compounds' structures. The antibacterial and antioxidant potential was evaluated biologically. The cup plate method was used to test the antibacterial activity against both Gram-positive and Gram-negative bacterial strains, and the scavenging method was used to assess the antioxidant potential. Strong antibacterial action against *E. coli* and *S. aureus* was shown by a number of derivatives. This study highlights how crucial it is to combine biological assessment and synthetic chemistry in order to find molecules with significant pharmacological potential. To clear a path for medication development, future research will concentrate on improving these compounds' pharmacokinetic characteristics and mode of action.

KEYWORDS: Pyrazoline derivatives, Antimicrobial activity, anticancer activity, Chalcone.



Design, Synthesis and Computational Studies of Benzothiazol-2-ylmethyl-(x-halide-phenyl)-amine derivatives as Antialzheimer's

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ABSTRACT:

This study explores the potential of benzothiazol-2-ylmethyl-(x-halide-phenyl)-amine derivatives as anti-Alzheimer's agents by integrating halogenated phenyl groups and amine functionalities into benzothiazole frameworks. These chemical modifications aim to enhance bioactivity, selectivity, and blood-brain barrier permeability while optimizing interactions with key Alzheimer's disease targets, the research evaluates pharmacokinetic parameters, activity spectra, and molecular docking scores to identify promising candidates. Notable results include docking scores that demonstrate the derivatives' binding affinities compared to Galantamine, a standard reference compound, with Benzothiazol-2-ylmethyl-(2-methyl-5-nitro-phenyl)-amine achieving a docking score of -9.6. Synthesis and computational studies.

KEYWORDS: Anti-Alzheimer's agents, Bioactivity, Selectivity, blood-brain barrier permeability



RP-HPLC Method for the Simultaneous Determination of Ciclesonide, Tiotropium Bromide and Formoterol fumarate: Method Development and Validation.

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ABSTRACT:

The stability-indicating reversed-phase high-performance liquid chromatography (RP-HPLC) method was developed to test ciclesonide (CLS), tiotropium bromide (TRI), and formoterol fumarate (FOR) simultaneously. within a lung medicine. The necessary chromatographic separation was achieved by the Zorbax SB C8 5 μm (150 x 4.6 mm) column using gradient elution at a detector wavelength of 230 nm. In the optimized mobile phase, 0.2% v/v perchloric acid was used as solvent A and acetonitrile as solvent B. While its five unidentified degradation products were present, the new method extracted FOR, TRI, and CLS in 10 minutes. The stability-indicating capacity was developed by means of forced degradation research and the isolation of unknown degradation products. Guidelines from the International Conference on Harmonization (ICH) were adhered to in order to validate the created. For the simultaneous measurement of FOR, TRI, and CLS in commercially available Triohale® pMDI (Pressurized Metered-Dose Inhaler) samples, this validated method was used. Additionally, this approach can be expanded to estimate FOR, TRI, and CLS individually in a range of commercially accessible pulmonary dose forms.

KEYWORDS:

Method validation, Forced degradation, Method development, Assay, Metered-dose inhaler, Chromatograp

Drug Discovery Inspired By Nature

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ABSTRACT

Nature has long served as a prolific source of bioactive compounds that have shaped the foundation of modern drug discovery. Natural products derived from plants, microorganisms, and marine organisms offer unique chemical scaffolds and mechanisms of action that are often unparalleled by synthetic counterparts. This study explores the integration of traditional knowledge, advanced screening technologies, and biotechnological advancements in deriving therapeutic agents from natural sources.

The study employed a systematic review of natural compounds reported in recent literature, focusing on their bioactivity and pharmacological relevance. Bioinformatics tools were used for virtual screening, and high-throughput screening (HTS) was conducted to assess the activity of purified natural extracts against various biological targets. Structural elucidation of promising candidates was performed using nuclear magnetic resonance (NMR) and mass spectrometry (MS). Further in vitro and in vivo studies evaluated the efficacy and safety profiles of lead compounds. The investigation identified several promising compounds, including alkaloids, flavonoids, and polyketides, with potent antibacterial, anticancer, and anti-inflammatory properties. One marine-derived peptide showed exceptional selectivity against multi-drug-resistant bacterial strains. Furthermore, bioinformatics analysis revealed unique target binding sites, enabling the rational modification of lead molecules. Challenges, including complex isolation processes and environmental sustainability, were discussed, emphasizing the need for innovative techniques such as biosynthetic engineering and combinatorial chemistry.

KEYWORDS: Bioactive compounds, Drug discovery, NMR, Mass spectrometry



In-silico study of Phytophenol-NSAIDs Prodrugs: Synergizing Nature and Pharmaceuticals

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ABSTRACT:

Non-steroidal anti-inflammatory drugs (NSAIDs), such as etodolac, are widely used to treat various inflammatory conditions. However, their use is associated with gastrointestinal (GI) lesions and hepatotoxicity. Etodolac can cause GI ulcers due to its free carboxylic acid group. To mitigate these side effects, the prodrug approach has been explored, particularly focusing on the combination of etodolac with phytophenols. The rationale behind this strategy is that phytophenols may enhance the therapeutic effects of etodolac while reducing the risk of GI ulcers by inhibiting the formation of reactive oxygen species (ROS) at the site of inflammation. Synthesized etodolac-phytophenol mutual prodrugs have shown promise in improving therapeutic efficacy and reducing GI irritancy compared to etodolac alone. However, potential drawbacks such as unexpected drug interactions, side effects, increased manufacturing costs, and regulatory hurdles must be considered. Future research should investigate the bioavailability, metabolic profiles, and synergistic effects of these prodrugs. The development of etodolac-phytophenols mutual prodrugs aims to enhance stability, solubility, bioavailability, penetration, and permeability while minimizing side effects. In silico studies using computational tools such as SwissADME, ProTox-II, Passonline, solubility prediction software, and molecular docking can provide valuable insights into the physicochemical properties, pharmacokinetics, toxicity, and binding affinity of these prodrugs. These tools can aid in prioritizing promising candidates and guiding the design of optimized prodrugs with improved therapeutic potential and reduced side effects.

KEYWORDS: Anti-inflammatory, Phytophenols, NSAIDs, Prodrugs, GI irritancy.



In Silico Analysis of Thiazolidine-2,4-dione Conjugates: Toward Novel Therapeutic.

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ABSTRACT:

Thiazolidine-2,4-dione (TZD) is a multifunctional heterocyclic compound known for its diverse biological activities, including antidiabetic, anti-inflammatory, anticancer, and antimicrobial properties. This study leverages *in silico* approaches to explore the therapeutic potential of TZD–amino acid conjugates, combining the pharmacological efficacy of TZD with the biocompatibility and targeting capabilities of amino acids.

Molecular docking studies revealed strong interactions between TZD conjugates and critical biological targets, highlighting their potential for enhanced binding affinity and specificity. Dynamic simulations were conducted to evaluate the stability and conformational behavior of the conjugates in target environments. Conjugates involving glycine, proline, alanine, phenylalanine, and aspartic acid were further analyzed for pharmacokinetic properties, including absorption, distribution, metabolism, and excretion (ADME), to predict their drug-likeness and biocompatibility, with their PASS activity study. The findings from this *in silico* study provide compelling evidence for the utility of TZD–amino acid conjugates in drug discovery. This work establishes a robust framework for further experimental validation and positions these conjugates as promising candidates for developing next-generation therapeutics.

KEYWORDS: Thiazolidine-2,4-dione, Antidiabetic, Anti-inflammatory, Anticancer



EXTRACTION, FORMULATION AND EVALUATION OF LIGNIN TRANSDERMAL PATCHES FROM BLACK LIQUOR.

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ABSTRACT:

The utilization of sustainable materials in pharmaceutical formulations has garnered significant attention in recent years. Lignin is one of the primary components of woody biomass and serves as its most abundant raw material. Accounting for approximately one-third of the biomass, lignin is commonly utilized in paper mills and biorefineries, where it is burned to generate heat and electricity. Lignin, a natural polymer extracted from black liquor, a by-product of the paper and pulp industry, offers promising potential as a base material for transdermal drug delivery systems. This study focuses on the extraction of lignin, its characterization, and its application in developing a transdermal patch. The study evaluates the physical, chemical, and pharmacokinetic properties of the formulated patch to establish its efficacy as a drug delivery system.

Transdermal drug delivery systems (TDDS) offer advantages like controlled drug release, improved bioavailability, and reduced side effects. Transdermal patches designed for antifungal activities present an innovative solution to challenges like poor patient adherence, systematic side effects and limited efficacy in penetrating affected layers of skin.

KEYWORDS: Lignin, Black Liquor, Transdermal Patch, Drug Delivery System, Sustainable Materials.



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