

RECENT TRENDS IN INDUSTRIAL PHARMACOGNOSY - 2017

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March 31st, 2017

Theme: “*Natura Insignem Magistrum*”

Organized by



Department of Pharmacognosy - College of Pharmacy
MTPG & RIHS, Puducherry

PROGRAMME SCHEDULE

TIME	PROGRAMME	DETAILS
09.00 AM - 10.00AM	Registration	Venue: Registration Counters
10.00 AM - 11.00AM	Inauguration <i>Venue: Multi-Purpose Hall (II Floor)</i>	<ul style="list-style-type: none">• Invocation• Welcome Dance – Bharadhanatiyam by Ms. Keerthana• Institute Anthem• Welcome Address By Prof. DR. V.Gopal, Principal-COP, Academic Registrar – MTPG&RIHS• Lighting the Kuthuvilakku• Honoring the Guest• Unveiling the theme of the conference By DR. E. Selvakumari, Asst. Professor, Dept. of Pharmacognosy, MTPGRIHS• Presidential Address By Dr.R.Murali Dean, MTPG&RIHS, Puducherry• Felicitation Address By Prof.DR. S. Anbazhagan Principal, Surya School of Pharmacy, Tamil Nadu• Felicitation Address By Dr.A.Rajendra kumar Research Officer(Siddha),Siddha Regional

		<p>Research Institute,Puducherry</p> <ul style="list-style-type: none"> • Key Note Address By Shri.M.Dwarakanath Director, Department of Science,Technology &Environment,Puducherry • Release of Conference Proceedings • Chief Guest Address Prof.Dr.R.S.Ramaswamy Director General, Central Council for Research in Siddha, Chennai • Vote of Thanks By DR. Prakash Yoganandam Asst. Professor, Dept. of Pharmacognosy, MTPGRIHS 	
	11:00 AM – 11:15 AM	HIGH TEA (Food Court - II Floor)	
11:15 AM – 01:30 PM	11:15 AM – 12:00PM	Invited Lecture I	<p>The Emergence of Metabolomics and Ethnopharmacology; Approaches In Herbal Drug Discovery and Research By Prof.Dr.Anbalagan, Principal, Surya College of Pharmacy, Villupuram <i>Venue: Multi-Purpose Hall (II Floor)</i></p>
	12:00 PM –12: 45PM	Invited Lecture II	<p>Protective effect of Nigella Sativa oil and Astaxanthin against Monosodium Glutamate induced Neurotoxicity in pubertal rats By Prof.Dr.Kumaran, Principal, Indira Gandhi College of Arts & Science, Puducherry <i>Venue: Multi-Purpose Hall (II Floor)</i></p>
	12:45 PM – 01:30PM	Invited Lecture III	<p>Recent Trends In Cultivation Of Medicinal Plants Prof.DR.V.Gopal, M.Pharm.,M.B.A.(Edu.Mgmt.),Ph.D. <i>Venue: Multi-Purpose Hall (II Floor)</i></p>
	PARALLEL SESSION 11:15AM -11:45AM	QUIZ Prelims	Venue: Pharma Biology Lab (II Floor)
PARALLEL SESSION 11:30 AM – 1: 30 PM	SCIENTIFIC ORAL PRESENTATIONS	Venue: Seminar Hall- II (II Floor)	
	01:30 PM – 2:15 PM	LUNCH (Food Court - II Floor)	

2:15 PM – 3:45 PM	2: 15 PM – 3:00 PM	Invited Lecture IV	Natural Products - Continuing Lead for Drug Discovery by Prof.Dr.P.Valentina , HOD, Dept. of Pharmacognosy, Jaya College of Pharmacy, Thiruninravur, Chennai. <i>Venue: Multi-Purpose Hall (II Floor)</i>
	3: 00 PM – 3:45 PM	Invited Lecture V	Current Scenario of Herbal Industry by Prof.Dr.R.Radha , HOD, Dept. of Pharmacognosy, MMC, College of Pharmacy, Chennai <i>Venue: Multi-Purpose Hall (II Floor)</i>
	PARALLEL SESSION 2: 15 PM – 3:45 PM	QUIZ	<i>Venue: Seminar Hall- II (II Floor)</i>
	PARALLEL SESSION 2:15 PM onwards	SCIENTIFIC POSTER PRESENTATIONS	<i>Venue: Examination Hall (II Floor)</i>
	3: 45 PM – 4:30 PM	VALEDICTORY	<ul style="list-style-type: none"> • Welcome Address By DR. Prakash Yoganantham, Asst. Professor, Dept. of Pharmacognosy, MTPGRIHS • Honoring the Guest • Report of the conference By DR. E. Selvakumari, Asst. Professor, Dept. of Pharmacognosy, MTPGRIHS • Feedback from Participants • Felicitation Address by Guest of Honor By Prof.DR. A. Maheswaran Principal, Jaya College of Pharmaceutical Science, Avadi, Chennai. • Presidential Address By Dr.R.Murali Dean, MTPG&RIHS, Puducherry • Distribution of Prizes • Chief Guest Address By Shri. A. Karunakaran Managing Director, WellousPharma Pvt, Ltd. • Vote of Thanks By Prof. DR. V.Gopal, Principal-COP, Academic Registrar – MTPG&RIHS • National Anthem
	4:30 PM	HIGH TEA(Food Court - II Floor)	

Abstracts of speakers

THE EMERGENCE OF METABOLOMICS AND ETHNOPHARMACOLOGY : **APPROACHES IN HERBAL DRUG DISCOVERY AND RESEARCH**

Natural products have been used since ancient times and in traditional folklore medicines used for the treatment of many diseases and illnesses. Classical natural product chemistry methodologies enabled a vast array of bioactive secondary metabolites from terrestrial and marine sources to be discovered. Secondary metabolites from plants provide lead molecules for drug development. Metabolomics is a modern omic-technique for comprehensive analysis of phytochemicals. Metabolomics is a recent science that could be defined as the comprehensive qualitative and quantitative analysis of all small molecular weight compounds present in a cell, organ (including biofluids) or organism at a specific time point. More and more applications have been found these last years to metabolomics in the pharmaceutical field. Specifically in the drug discovery process, metabolomics open new perspectives, in new targets identification, in toxicological studies and in bioactive natural products discovery. The challenge in metabolomics is to find a technological approach allowing the reproducible identification and quantitation of as much metabolites as possible. Furthermore a discussion of how natural product chemistry has resulted in the identification of many drug candidates; the application of advanced hyphenated spectroscopic techniques to aid in their discovery, the future of natural product chemistry and finally adopting metabolomic profiling and dereplication approaches for the comprehensive study of natural product extracts will be discussed.

CURRENT SCENARIO OF HERBAL INDUSTRY

ABSTRACT

The knowledge of certain herbs, animals and minerals that have curative and palliative effect were transmitted from one generation to another and it is the outcome of bold experimentation through trial and error methods over hundreds of years.

People are using herbal medicine from centuries for safety, efficacy, cultural acceptability and lesser side effect. Written records about medicinal plant date back at least 5000 years to the Sumerians and ancient records are suggested earlier use of medicinal plants. Due to the side effect of synthetic products, herbal products are going popularity in the world market.

Nature has bestowed our country with an enormous wealth of medicinal plants , therefore India has been referred to as the medicinal Garden of the world. The one reason for popularity and acceptability of plant medicine is belief that all products are safe.

The ancient literature relating to the application of various herbs in the treatment of many ailments serve as a primary tool not only to the indigenous systems of medicine but also to the synthetic routes of drug discovery.

It can be proved by quoting many examples.

- The classical one is the popular modern drug Aspirin has its origin from the plant *Filipendula ulmaria* used for as an analgesic and anti-inflammatory.
- Interestingly many recent diseases finds the herbal medicines only as their curative ,and additionally the prophylactic option as the synthetic drugs haven't been found out yet.
- The above statement is proved in case of dengue fever where the leaf extract of *Carica papaya* is available commercially as a value added herbal product.

The pharma market worldwide worth US \$ 550 billion in 2004, \$ 590 billion in 2009. WHO estimates that the demand for medicinal plants sums approximately to \$ 14 billion per year and hence would reach \$ 5 trillion by 2050.

With the advent of industrialisation, numerous diseases arising day by day in an alarming rate. The most weird thing is that more than 75% of them are idiopathic in nature. Our mother nation uses 30,000 plant based formulations in traditional and folk medicine. Around 1.5 million medicinal practitioners are prescribing traditional medicine for health care in India.

The rising awareness of the several health benefits of herbal supplements the herbal market sector promises to have a positive outlook in the upcoming decades. Hence the pharma professionals out there are expected to have an healthy career.

NATURAL PRODUCTS - CONTINUING LEAD FOR DRUG DISCOVERY

For millennia, medicinal plants have been a valuable source of therapeutic agents and still many of today's drugs are plant-derived natural products or their derivatives. Current drug discovery is aimed at identifying and characterizing natural products with potential pharmacological activity by the combined and synergistic use of computational techniques, ethnopharmacological knowledge, phytochemical analysis and isolation, organic synthesis, plant biotechnology, and a broad range of *in vitro*, cell-based, and *in vivo* bioactivity models. Using their multidisciplinary gathered experience, present session brief an outline of historical development together with a comprehensive overview of used approaches and recent developments relevant to plant-derived natural product drug discovery.

Natural products as drug candidates: a historical perspective

Rational drug discovery from plants started at the beginning of the 19th century, when the German apothecary Friedrich Sertürner isolated *morphium* (morphine). Subsequently, efforts were undertaken to produce natural products by chemical synthesis in order to facilitate production at higher quality and lower costs. Salicylic acid was the first natural compound produced by chemical synthesis in 1853. Of the 1073 new chemical entities belonging to the group of small molecules that had been approved between 1981 and 2010, only 36% were purely synthetic, while more than the half were derived or inspired from nature. Prominent examples of plant-derived natural compounds - **paclitaxel** and its derivatives from yew (*Taxus*) species, **vincristine** and **vinblastine** from Madagascar periwinkle (*Catharanthus roseus* (L.) G. Don), and **camptothecin** and its analogs initially discovered in the Chinese tree *Camptotheca acuminata* Decne. cholinesterase inhibitor **galanthamine** that for the treatment of Alzheimer's disease and was initially discovered in *Galanthus nivalis* L. and the important antimalarial **artemisinin** originally derived from the traditional Chinese herb *Artemisia annua* L.

Approaches for the identification of active plant constituents

A very common approach is to start pharmacological testing with crude plant extracts and subsequently to isolate and characterize the constituents responsible for the activity of the extract. Lead identification is the first step in a lengthy drug development process. Drug discovery from

medicinal plants has traditionally been lengthier and more complicated than other drug discovery methods. Natural products are typically isolated in small quantities that are insufficient for lead optimization, lead development, and clinical trials. Collaborating with synthetic and medicinal chemists is necessary to determine if synthesis or semi-synthesis might be possible. Another technique to improve natural product compound development may involve the creation of natural product and natural-product-like libraries that combine the features of natural products with combinatorial chemistry

Conclusion remarks

In conclusion, natural products discovered from medicinal plants (and derivatives thereof) have provided numerous clinically used medicines. Even with all the challenges facing drug discovery from medicinal plants, natural products isolated from medicinal plants can be predicted to remain an essential component in the search for new medicines.

PROTECTIVE EFFECT OF *NIGELLA SATIVA* OIL AND ASTAXANTHIN AGAINST MONOSODIUM GLUTAMATE INDUCED NEUROTOXICITY IN PUBERTAL RATS

Dr. Bassouvalingam Kumaran ,Indira Gandhi College of Arts & Science, Government of Puducherry, Kathirkamam, Puducherry

Monosodium glutamate (MSG) is a popular flavour enhancer used in food industries; Researchers have reported that MSG is a neurotoxic, killing brain cells, causing retinal degeneration, endocrinal disorders besides being associated with number of pathological conditions such as stroke, epilepsy, brain trauma, schizophrenia, anxiety, Parkinson disease and Huntington's disease. However, the effect of MSG on neurotransmitters and antioxidant system has not been studied in detail.

Nigella sativa oil (NSO) and Astaxanthin (ASX) are known for their potent antioxidant, anti-inflammatory and neuroprotective effects. Hence, the present study has been designed to evaluate the Neuroprotective effect of NSO and ASX on MSG-induced neurotoxicity in puberal rats. Forty eight pubertal albino rats were randomly divided into eight equal groups and treated daily for 28 days as follows, Animals in the first group were received distilled water serving as control (group: I), Rats of group II were orally treated with 0.8g/Kg b.wt of MSG, group III were orally treated with NSO (1ml/Kg b.wt), group IV rats were treated with ASX (25mg/Kg b.wt), group V were Co-administered orally with NSO+ASX, group VI rats were Co-administered orally with MSG+NSO, group VII rats were Co-administered with MSG+ASX and group VIII rats were Co-administered with combination of NSO+ASX along with MSG.

The results revealed that MSG caused a significant increase in Lipid Peroxidation (LPO) and Nitrite level while reduced glutathione (GSH) level and the activities of super oxide dismutase (SOD), catalase (CAT), glutathione-S-transferase (GST), glutathione reductase (GR), glutathione peroxidase (GPx) were significantly decreased, compared to control group. MSG treated rats show an elevated level in glutamate content and significant decrease in Dopamine, Serotonin and GABA in different regions of brain (cerebral cortex, hippocampus, striatum and cerebellum). However, the activities of enzymes and the contents of neurotransmitters were

brought to normalcy in the NSO and ASX treated rats suggesting the neuroprotective effect of NSO and ASX on MSG induced neurotoxicity.

RECENT TRENDS IN CULTIVATION OF MEDICINAL PLANTS

Prof.DR.V.Gopal, M.Pharm.,M.B.A.(Edu.Mgmt.),Ph.D.

The demand for Medicinal Plants is increasing day to day to cater to this requirement cultivation of medicinal plants has taken up on a scientific basis worldwide. The same principles applicable for the cultivation of food crops cannot be applicable to medicinal plants as fertilizers that change the regular pathway and lead to aberrant synthesis thereby decreasing in the production of secondary metabolites in turn affecting the medicinal value of the plant. Cultivation of medicinal plants has to concentrate on increase in secondary metabolites which are basically waste products of metabolism or products produced for the defence of the plant.

The standard agriculture methods increase the biomass of the plant but fail to increase the secondary metabolites of plant. Hence the extrinsic and intrinsic factors responsible for increasing the secondary metabolites cannot be generated for various classes of secondary metabolites various parameters of agriculture has to followed by Trial and error. These parameters have been standardized for popular medicinal plants based on their demand.

Adopting such parameters will reduce the biological varieties such as seasonal variation, ontogenic variation, edaphic variation, geographical variations and the like. Scientific cultivation of medicinal plants will lead to achieving health for all in the near future.

Abstracts of oral presentation

No : RTIP17/OP/001

**DEVELOPMENT OF POLYHERBAL HAEMATINIC CAPSULES AND ITS
PREFORMULATION STUDIES**

SHANMUGA PRIYA.S, MUTHUSAMY.P, VADIVU .R, RADHA.R, VIJAYA BHARATHI.R,
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ABSTRACT

Herbs are famous for their inherent quality. By which it is understood that, those using herbal products are gifted with its curative effects only and are not probably affected by any side effects or so called adverse effects. This proves to be the reason for choosing a polyherbal capsule formulation for treating anaemia. The present study was aimed at developing a capsule formulation from the ethanolic extracts of six famous plants. The extracts were freeze dried and powdered. Preformulation studies were performed. The parameters like Angle of repose, Tapped density, Bulk Density, Hausner's ratio were determined. The flow properties of powders play an important role when it comes to the solid dosage forms. There are standard values for the different parameters above mentioned. Hence the practically observed experimental values are compared with them. The plants chosen include *Murraya koenigii*, *Moringa oleifera*, *Phyllanthus embelica*, *Boerhavia diffusa*, *Eclipta prostrate*, *Tinospora cordifolia*. They were selected based on the ethanomedicinal uses, their traditional importance, surplus availability.

KEYWORDS: Herbs, inherent, polyherbal, capsules, anaemia, Ethanolic extracts , Freeze dried, preformulation studies.

No : RTIP17/OP/002

TOXICOLOGICAL EVALUATION OF VAISVANARA CHURNA

Karthick Murali, R. Vadivu, R.Radha, College of Pharmacy, Madras Medical College, Chennai-3

ABSTRACT

AYURVEDA- the most worthy wealth of our mother nation has endowed mankind with an infinite number of uses. One such formulation is the Vaisvanara Churnam which is prescribed widely by the Ayurvedic Physicians for treating rheumatoid arthritis. Apart from the arthritic treatment, it could be used in the treatment of duodenal ulcer, abdominal lumps, heart diseases, etc. A formulation possessing plenty of the values is being used in unstandardised form. This makes the usage of this Churnam to lose the confidence among the people. Hence, a complete standardisation technique has been developed as per Ayurvedic Pharmacopeia. Establishing the safety profile of the formulation is important to make the usage of Vaisvanara Churnam familiar. It also paves the way for uplifting our ancient system of medicine.

The present study includes determination of microbial count, determination of pesticide content, Aflatoxins and heavy metal analysis. Patients could contract serious infections from oral drugs contaminated with *Salmonella* and *Pseudomonas*. Hence, determination of microbial content such as Total Bacterial Count and Total Fungal Count were carried out in order to ensure the absence of microorganisms in the formulation. The modern floral world has witnessed enormous class of pesticides. This may cause leukemia, various other forms of cancer to human beings. Hence, pesticide content was carried out. Aflatoxins are highly dangerous substance present in any material of plant origin and extreme care should be exercised in handling Aflatoxins materials. The test for Aflatoxins has become mandatory. Since, common salt is also added in this Churnam, assay of sodium was also carried out. The medicinal plant materials can be contaminated with arsenic and heavy metals which can attributed to many cases including environmental pollution even its presence in trace amount will cause catastrophically huge changes. Presence of common heavy metals such as Pb, Hg, Ar, Cr, etc. was determined.

These toxicological profile carried out using sophisticated modern techniques, ensures the safety profile of the authentic formulation which is the need of the hour.

No : RTIP17/OP/003

**IN VITRO ANTIOXIDANT ACTIVITY OF VARIOUS EXTRACTS OF *ERYTHRINA*
VARIEGATA LEAVES USED FOR POLYCYSTIC OVARIAN DISEASE**

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ABSTRACT

Polycystic Ovary syndrome (PCOS) is a common heterogenous endocrinological and metabolic disorder in women of reproductive age leading to infertility / subfertility. Women (5% - 10%) of reproductive age are affected by PCOS. Clinical manifestations of PCOS include absent menses, abdominal obesity, acanthosis nigricans and signs of androgen excess (hyperandrogenism) which include acne and insulin resistance. Long term consequences include increased risk of endometrial cancer, type 2 diabetes mellitus, dyslipidemia, hypertension and cardiovascular disorders. The etiology of PCOS is not understood, but lipid imbalance, oxidative stress, insulin resistance and genetics are some of the contributing factors. Many studies reported oxidative stress as one of the pathological factors for PCOS. Increased oxidant levels may alter the stereo diagnosis in ovaries contributing to increased androgen production and polycystic ovaries. In the present study, it was observed that the PCOS group exhibited elevated oxidative stress markers and reduced endogenous antioxidants in ovary. Lipid peroxidation is generally used as one of the marker for oxidative tissue damage, as it induces free radical damage to the components of cell membrane which leads to cell necrosis and inflammation. TBRAS is formed as a by – product of lipid peroxidation. TBRAS formation significantly increased in Polycystic Ovaries. Treatment with *Erythrina variegata* leaf juice regularized its level. *Erythrina variegata* Linn is known as Indian coral tree belonging to family Fabaceae. Different parts of the plant have been used in the traditional system of medicine as a nervine sedative, collyrium in ophthalmia, anti-oxidants, anti-asthmatic, antiepileptic, antiseptic and as an astringent.

Key words : PCOS, Lipid peroxidation, Oxidative stresses and *Erythrina variegata*.3

No : RTIP17/OP/004

SYNERGETIC COROLLARY OF POLYHERBAL EXTRACT MIXTURE FOR ANTI-ARTHRITIC ACTIVITY

M. Mukesh^{*}, R. Gowri, N. Narayanan, A. Maheswaran, S. Sounthar

Aim:Herbal medicines will act as parcels of human society to combat disease from the dawn of civilization. Arthritis is a painful swelling of joints and it is a common disease affecting large population. The present investigation aims to formulate a polyherbal formulation and evaluate its antiarthritic activity.

Method: The plant *Securinega leucopyrus(willd.)Muell* (F. Euphorbiaceae and *Phys. alis angulata* (F: Solanaceae), *Oryza sativa* were selected for the study. The reason behind the selection was in ayurveda it ows potential medicinal uses. They were macerated in the ratio of 1:1 by using extract n- hexane, chloroform, ethyl acetate, ethanol and water. Phytochemical analysis showed the presence of Steroids, Alkaloids, Triterpenoids, Flavonoids and Tannins. The quantitative estimation of primary and secondary metabolites was carried out by using standard parameters. Herbal Extract Mixture (10, 50, 100, 200, 400, 800, 1000 g/ml) concentrations like Standard Diclofenac sodium (200µg/ml),Chemicals/solution Bovine serum albumin, 1N Hydrochloric acid, using method to determine the anti arthritic activity (*In vitro* method) by Inhibition of protein denaturation method, All of the above solutions are adjusted to PH 6.3 using 1N HCL. The samples are incubated at 37°C for 20 minutes and heated at 27°C for 3 minutes. After cooling 2.5ml Phosphate buffer was added to the above solution . The absorbance of the above solution was measured using UV Visible Spectrometer at 660nm.

Results and discussion: The result showed that Ethanolic extract showed more activity as compared to Chloroform, Ethyl acetate, n-Hexane. The Ethanolic extract showed maximum anti-arthritic activity , is due the presence of Steroids, Flavonoids and Tannins.

Conclusion: From the present study it can be concluded that Polyherbal extract showed marked *invitro* antiarthritic activity in the management of Rheumatoid arthritis (RA).

No : RTIP17/OP/005

**A THERAPEUTIC APPROACH TOWARDS DIABETES MELLITUS & OBESITY
USING PITAYA FRUITS**

ABSTRACT:

Elevated levels of non-HDL cholesterol and LDL in the blood may be a consequence of diet, obesity, inherited (genetic) diseases or the presence of other diseases such as diabetes . Diabetes mellitus is a clinical syndrome characterized by hyperglycemia due to absolute or relative deficiency of insulin. Recent decades have experienced a sharp increase in the incidence and prevalence of diabetes mellitus in india.

Pitaya (also known as dragon fruit) is a nutritional fruit that is consumed widely in many countries nowadays. It is oval in shape and the peel appears as scaly structure. The flesh of the fruit is juicy and sweet with numerous small and edible black seeds. Three species of pitaya are commonly consumed, namely *Hylocereus polyrhizus*, *H. undatus* and *H. megalanthus*. The 3 species are distinguished based on their shape, size and color of their flesh. *H. polyrhizus* or red pitaya comes with red peel and flesh, *H. undatus* (commonly known as white pitaya) has red peel and white flesh while *H. megalanthus* (yellow pitaya) contains yellow peel with white flesh. The white (*H.undatus*) and red flesh (*H.polyrhizus*) varieties are common in china,mexico and also in Asian countries.Their consumption has been markedly increased for their anti-oxidant properties. The nutritional values and medicinal properties of the two species have been reported recently. Thus, this approach summarizes their medicinal properties particularly on hypoglycemic and hypocholestrolemic activity.

Keywords: obesity,diabetes milletus, hypercholesterolemia,hypocholestrolemic,hypoglycemic.

No : RTIP17/OP/006

**FORMULATION AND EVALUATION OF HERBAL EMULGEL USING
CARDIOSPERMUM HALICACABUM LEAF EXTRACT FOR ANTI ARTHRITIC
ACTIVITY**

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ABSTRACT

Herbal medicines are easily available, cheaper, time tested and considered safer than synthetic drugs. Emulgel is one of the recent technologies in novel drug delivery system suitable for hydrophobic drugs. It is used topically having characteristic of dual control release, i.e. an emulsion as well as gel. The aim of the present study is to formulate and evaluate a natural emulgel using *Cardiospermum halicacabum* leaf extract and investigate its anti arthritic activity. Ethanolic extract of *Cardiospermum halicacabum* were subjected to physiochemical evaluation. Various gelling agents like Carbopol, Sodium carboxy methyl cellulose, Hydroxy propyl methyl cellulose etc were used to prepare the emulgel formulation. The prepared emulgel were evaluated for their physical appearance, pH, viscosity, spreadability and *in vitro* drug release. The prepared emulgel possess good spreadability, viscosity, consistency. Mainly hydrophobic drugs can be used to develop emulgel because it contains gel base both oil and aqueous. Thus, emulgel proves to be an effective formulation for the delivery of hydrophobic drugs in water soluble bases.

No : RTIP17/OP/007

**Comparative study on *in Vitro* anti-arthritic Activity of ethanolic leaf extracts of
Clerodendron inerme and *Azima tetracantha***

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Abstract

Azima tetracantha belongs to the family salvadoraceae distributed from Tropical Africa to India, Srilanka, Madagascar, Philippines and southern region of India, which is used in the treatment of Ulcer, Spasmodic, inflammation and rheumatism. The qualitative phyto-chemical screening showed the presence of alkaloid, steroids, phenols, flavanoids, tannins, carbohydrates, Terpenoids, saponins and proteins. *Clerodendron inerme* belongs to the family Verbenaceae found in southern region of India, which is used in the treatment of Veneral diseases, Rheumatism, Elephantiasis and Intermittent fever. The qualitative phyto-chemical screening showed the presence of alkaloid, steroids, phenols, flavonoids and tannins. *Azima tetracantha* and *Clerodendron inerme* were subjected to ethanol for 72 hours, 48 hours and 24 hours. The ethanolic leaf extract of *Azima tetracantha* and *Clerodendron inerme* were subjected to *In vitro* Anti-arthritic activity by Protein denaturation method in various concentration i.e. 10,50,100,200,400,800,1000 μ g/ml. The effect was represented as follows ETLECI > ETLEAT. These result suggested that both ethanolic extract of *Clerodendron inerme* and *Azima tetracantha* possess promising anti-arthritic activity.

Key words: ETLECI- Ethanolic leaf extract of *Clerodendron inerme*

ETLEAT- Ethanolic leaf extract of *Azima tetracantha*

No : RTIP17/OP/008

Fabrication of *Arothron stellatus* fish skin collagen coated nanofiber scaffold as a potential dermal substitute for skin tissue regeneration

Rajaguru* Deepa Gohila

Corresponding Author : Dr T.S Uma (scientist)

Department of Bio products lab

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Adyar Chennai

Abstract:

Wound healing is a global health care problem. The use of a suitable dressing material by means of a nanofibrous scaffold with traditionally important medicine can help to repair the damaged skin tissue. An ideal wound dressing material should mimic the function of an extracellular matrix with its improved physiochemical, biological and antimicrobial properties. In this study, the significance features of a collagen coated electrospun poly (3-hydroxybutyric acid)–gelatin nanofibrous scaffold with a bioactive *Coccinia grandis* extract (CPE) meets the requirements for a wound dressing material. The nanofibrous scaffold with collagen has an attraction for fibroblast, which increases cell adhesion and proliferation. The fabricated nanofibrous scaffold with collagen was characterized physico-chemically using Fourier transform infrared (FTIR) spectroscopy, scanning electron microscopy (SEM), and it showed acceptable antibacterial property with both Gram positive and Gram negative bacteria. The thermal and in vitro stability of the nanofibrous scaffold was studied and it was found to have stability more than that required for a wound dressing material. This approach with a nanofibrous scaffold coated with collagen can be a promising tool in skin tissue engineering and can be useful as a wound dressing material in skin tissue engineering applications

Key word: wound healing dressing material 3 -Hydroxybutyric acid with a help of collagen plants

No : RTIP17/OP/009

FORMULATION AND EVALUATION OF IN-SITU GEL FOR INTRANASAL DELIVERY OF ANTIMIGRAINE DR

Deepa* Rajaguru Gohila

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Department of Industrial pharmacy

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Abstract

Intractable migraine presents a significant treatment challenge due to associated throbbing (or) pulsating headache, which affects one half of the head and lasts from 2 to 72 hours. Oral and nasal spray formulation of antimigraine drugs having poor bioavailability due to first pass metabolism, lesser half life and less residence time. To overcome these types of problem is developed for novel drug delivery i.e. in-situ nasal drug delivery system. In-situ gel is a process in which sol form before administration in the body, but once administered it undergo gelation in-situ, to form gel. Therefore, the objective of this study was to formulate a p^H sensitive intranasal in-situ gel. Gels were formulated by using carbopol 940 and HPMC K₄M. Formulated gels were characterized for gelation time, gel strength, p^H , viscosity, mucoadhesive strength and *in-vitro* drug release.

Key words: migraine, in-situ, nasal delivery, p^H sensitive, Carbopol 940, HPMC K₄M.

No : RTIP17/OP/010

Sabja Seed (*Ocimum basilicum*) – An Antioxidant Potent to Pharmacological Activities and Food Viability

V. Sarasvathi Ph.D Research Scholar

Dr. Josephine Nirmala Many

Head & Associate Professor

PG & Research Department of Home Science

Bharathidasan Govt. College for Women (Autonomous)

Puducherry

Abstract

Antioxidant is a substance that reduces damage due to oxygen, that caused by free radicals. The recent research focuses on searching the natural sources of antioxidant and the synthetic antioxidant are restricted due to their carcinogenicity. Sabja (*Ocimum basilicum*) are versatile herb as well as spice, and the seeds are shine due to their high amount of antioxidant that help to protect delegate fats in the seed. In the present study, the mucilage extraction of sabja seed was prepared by method of Box-Behn experimental design and the qualitative chemical tests carried out for the identification of the nature of phyto-constituents present in sabja. Free radical scavenging activity and metal chelating activity were identified and it includes Total Flavonoid Content (TFC), Total Phenolic Content (TPC), DPPH and Total Antioxidant Content (TAC) was analyzed. The total antioxidant activity was performed according to Ferrick Thiocyanate method. At the 50µg/ml concentration of sabja were found to be 0.28µg/ml of phenolic, 1.23mg of orientin, 2.78mg of vicenin, 1.7mg of vitamin C respectively. The sabja (*Ocimum basilicum*) had effective total antioxidant activity, DPPH radical scavenging, reducing power and metal chelating activities. Sabja is good antioxidant potential with enlightened total phenolic and flavonoid content in management of cholesterol reduction and heart protection. The common dosage recommendation is 20gm of sabja seed per day. Based on this properties, the present study was undertaken in such a way to utilize and explore the health benefits.

No : RTIP17/OP/011

Evaluation of anti-inflammatory activity by cotton pellet granuloma in ethanolic bark and leaf extracts of *Albizia procera* in sprague dawley rats

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Abstract

Albizia procera (Family: Mimosaceae) is a tree with an open canopy found widely in the sub - himalayan tracts from Yamuna eastwards to west Bengal. Bark of the tree is a smooth, yellowish-brown or brown with horizontal ridges. The plant is used for stomach and intestinal diseases. The bark decoction of *Albizia procera* is traditionally used in the treatment of gastric ulcers, cancer, inflammation and arthritis. The qualitative phyto-chemical screening showed the presence of phenols, steroids, alkaloids, flavonoids, tannins, carbohydrates and terpenoids. The present study was undertaken to scientifically validate the anti- inflammatory activity by cotton pellet granuloma in ethanolic bark and leaf extracts of *Albizia procera* in sprague dawley rats. Acute toxicity of ETBE and ETLE were performed following OECD 423 guideline in sprague dawley rats. Anti-inflammatory activity of ETBE and ETLE were investigated in Cotton pellet granuloma model in sprague dawley rats. Diclofenac (10mg/kg, p.o) was used as standard drug. ETBE of *Albizia procera* at 200mg/kg showed significant decrease in the weight of exudate (32.84%); $P < 0.05$, inhibition and dry weight of granuloma (37.85%); $P < 0.05$ when compared to positive control and the values were comparable to that of standard drug (diclofenac). No significant alterations in other extracts were observed when compared to positive control. Thus the results support the folklore use of the plant in inflammation.

No : RTIP17/OP/012

**MEDICINAL PLANTS USED IN THE TREATMENT OF POLYCYSTIC OVARY
SYNDROME – AN OVERVIEW**

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ABSTRACT

The aim of this review was to provide a comprehensive summary of medicinal plants used as infertility especially polycystic ovary syndrome (PCOS) in females throughout the world by various tribes and ethnic groups. We undertook an extensive bibliographic review by analyzing classical text books and peer reviewed papers, and further consulting well accepted worldwide scientific databases. Plants, including their parts and extracts, that have traditionally been used to facilitate infertility especially (PCOS) have been considered as infertility agents. In this paper, various medicinal plants have been reviewed for thorough studies such as **Ashwangandha** (*withania somnifera*), **Cinnamom** (*cinnamomum zeylanikum*), **Maca** (*lepidium meyenii*), **Tribulus**(*tribulus terrestris*), **Saw palmetto**(*serenoa repens*), **Liquorice** (*glycyrrhiza glabra*), **Gymnema** (*gymnema sylvestris*), **White peony** (*paeonia lactiflora*), **Burdock**(*arctium lappa*), **Eleuthero**(*eleutherococcus senticosus*). Many of these medicinal plants appear to act through an infertility agents especially PCOS. Nowadays treatment of PCOS, Nonsteroidal agents (Anti oestrogen – Clomifene), Insulin sensitizers (Metformin, Rosiglitazone) causes marked side effects. There is a scope on alternative Indian medicine can improving PCOS with overcome side effects. This review clearly demonstrates that it is time to expand upon experimental studies to source new potential chemical constituents from medicinal plants; plant extracts and their active constituents should be further investigated for their mechanisms. This review creates a solid foundation upon which to further study the efficacy of plants that are both currently used by women as traditional infertility especially PCOS medicines, but also could be efficacious as an infertility agent with additional research and study

Keywords: Medicinal plants, Polycystic Ovary Syndrome, Clomifene, Metformin

No : RTIP17/OP/013

***EUPHOBIA HYPERCIFOLIA* : ITS CHEMISTRY, TRADITIONAL AND MEDICINAL
USES, AND PHARMACOGNOSTICAL ASPECTS**

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Abstract:

The largest genus of family Euphorbiaceae is *Euphorbia* with about 1600 species. The *Euphorbia hypercifolia* glabrous annual, branched herb, commonly seen in KMCPGS campus, Lawspet, Puducherry. Apex of branches is drooping. Leaves are opposite, simple; stipules triangular, apex obtuse, margin obscurely toothed. 'cyathium' type of inflorescence is seen. It is characterized by the presence of white milky latex is present in aerial part of the plant except root. Aliphatic alcohols have been isolated from the aerial parts. Active compounds from *Euphorbia hypercifolia* have the sterols i.e. taraxerol, β -sitosterol, stigmasterol, campesterol and the flavonoids i.e. kaemferol, quercetin, quercetrin (quercetin-3-rhamnoside), rhamnetin-3-galactoside, rhamnetin-3-rhamnoside and ellagic acid. **It is traditionally used** to treat bowel disorders, toothache, asthma, bronchitis, conjunctivitis, dysentery, dysuria, fever and vaginitis. It is also used for the treatment of measles and skin rashes. The present study intends to provide an overview of pharmacognostical study to standardize the medicinal important plant *Euphorbia hypercifolia*.

Key words: *Euphorbia hypercifolia*, sterols, flavonoids

No : RTIP17/OP/014

PHARMACOGNOSTICAL AND CYTOLOGICAL STUDIES OF *WITHANIA*
SOMNIFERA (L.) DUNAL

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Abstract

Withania somnifera L. Dunal is commonly known as Ashwagandha belongs to the family Solanaceae. It is one of the most important medicinal plants and also known as “Indian ginseng”. The root of Ashwagandha is very useful medicine due to its properties of being effective narcotic, tonic, aphrodisiac, diuretic, anthelmintic, thermogenic, antimutagenic, astringent, antiangiogenic in case of tumor, and stimulant. Most of the pharmacological activities of ashwagandha have been attributed to withaferin A, withanolides, and withanolide D. Hplc analysis was done in root samples for the confirmation of withaferin A by comparing with the Hplc chromatogram of standard withaferin A. The anatomical and cytological characteristics of the leaf, stem and root of *Withania somnifera* have been studied. The analysis provided here by studying root tip mitosis and the cross sections of root, stem, leaf and trichome comprises the species. The results showed that there is concentration of vascular bundles at the central portion of root cortex, calcium oxalate presence in the root powder and non glandular trichome were present in the leaves and also in the stem. The stomatal study also done by epidermal peeling. The root tip mitotic study also proved that the species has diploid chromosome number of $2n=48$.

No : RTIP17/OP/015

**DEVELOPMENT AND EVALUATION OF HERBAL CHOCOLATE – A NOVEL
THERAPY FOR COUGH**

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Abstract

Introduction: Cough and cold are not only very common but also recurrent among children thereby leading to one of the most common reasons for home remedies during childhood. Chocolate is one of the most popular foods liked by all age groups especially children. Although the good taste of chocolate/cocoa together with its therapeutic properties has been recorded since ancient times it is still criticized as a hazardous food rather than a functional food.

Objective: The present study is undertaken to develop and evaluate the herbal chocolate. Herbal chocolate was developed as a novel therapy for cough using unsweetened cocoa powder, coconut oil, oats, palm sugar, flaxseed powder, liquorice powder and corn flour in 2 different variations and evaluated on sensory characteristics, nutritive value and cost parameters.

Results and discussion: From the sensory analysis, product A was found to be more acceptable. The nutrient content of 100 g of accepted herbal chocolate contributes 272.17 Kcal, 7.96 g protein, 19.29g fat and 632.16 mg of theobromine.

Conclusion: Herbal chocolate can be used as a substitute for lozenges and can also be considered as a healthy energy snack for children.

No : RTIP17/OP/016

PROSPECTIVE ANTIFILARIAL ACTIVITY OF PLANTS DRUGS

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ABSTRACT

Filariasis (Philariasis) is a parasitic and infectious or a mosquito-borne disease, which is caused by thread-like filarial nematode worms. Eight filarial nematodes of medical importance causing infections in human are *Wuchereria Bancrofti*, *Brugia malayi*, *Brugia timori*, *Loa Loa*, *Onchocerca volvulus*, *Mansonella streptocerca*, *Mansonella ozzardi*, and *Mansonella perstans*. These filarial nematodes are responsible for several diseases which include elephantiasis, liver blindness and tropical pulmonary eosinophilia. The current drugs such as Diethyl carbamazine (DEC), Ivermectin and albendazole are available in the market for the treatment of filarial worms but it could not effective against the adult worms and indiscriminate use of them has also resulted increase in drug resistance cases. So, The present review summarizes some important pharmacological and preliminary studies on anti-filarial medicinal plants, its derivative products and isolated principles from them, which can be investigated further to achieve lead molecules in the search of novel herbal drugs to treat filariasis. The profiles of the plants as anti-filarial agents which not only affect the target but should have very low or no side effects. From the above data, very helpful information could be obtained for the prospective plants against filarial worms.

Key words: Filariasis, DEC, Anti-filarial medicinal plants,

No : RTIP17/OP/017

Synergetic effect of Biotite and Endophytic Actinomycetes -A theoretical approach

ABSTRACT

The Multidrug resistant pathogens acronymically dubbed as “The ESKAPE pathogens” (*Enterococcus faecium*, *Staphylococcus aureus*, *Acinetobacter baumannii*, *Pseudomonas aeruginosa* and *Enterobacter species*) are the leading cause of nosocomial infections throughout the world which is one of the greatest challenges in clinical practice. The development of antimicrobial agents is crucial to combat these pathogens as they escape the inhibitory effects of existing antibacterial agents & the immune response. The Kisameet clay a natural clay mineral whose antibacterial activity against “ESKAPE” pathogens has been recently reported. The KC possesses biotite and a significant resident microbial community which includes Actinobacteria. The concept of this theoretical approach is to formulate a herbo-metallic drug using biotite and herbs from which actinomycetes can be isolated. This approach may serve as therapeutic option in future trends

Keywords: Biotite, Endophytic actinomycetes, Antimicrobial agents, ESKAPE pathogens, Kisameet Clay

Abstracts of Poster presentation

No : RTIP17/PP/018

PHARMACOGNOSTICAL STUDY OF *SPILANTHES ACMELLA* (L.) MURR.

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Abstract:

Spilanthes acmella (L.) Murr. belongs to the family Asteraceae, commonly called as Toothache plant, which reduces the pain associated with toothaches and can induce saliva secretion. It is a herb, commonly seen in and around Poothurai area, Tamilnadu. Various extracts and active metabolites from various parts of this plant possess useful pharmacological activities. Literature survey proposed that it has multiple pharmacological actions, which include antifungal, antipyretic, local anaesthetic, bioinsecticide, anticonvulsant, antioxidant, aphrodisiac, analgesic, pancreatic lipase inhibitor, antimicrobial, antinociception, diuretic, vasorelaxant, anti-human immunodeficiency virus, toothache relieve and anti-inflammatory effects. The herb is also used for the treatment of rheumatism and inflammation, a sialagogue for stammering, tongue paralysis, stomatitis, sore throat, diuretic and gum infections. The compounds reported from *Spilanthes acmella* so far are Spilantol, Acmeleonate, Scopoletin, β -Sitosterol, Stigmasterol, Limonene, Vanillic acid and 3-Acetylaleuritolic acid. *Spilanthes acmella* is collected from the above said area to carry out the pharmacognostical investigation involving anatomical and histochemical aspects. The present study reveals the traditional/ medicinal uses, chemical constituents and pharmacognostical aspects to standardize the medicinal plant *Spilanthes acmella*. It should pave the way for the pharmacist to develop the novel drug.

Key words: *Spilanthes acmella*, Toothache plant, Spilantol, Acmeleonate.

RTIP17/PP/019

**KNOWLEDGE ATTITUDE AND PUBLIC PERCEPTION TOWARDS USAGE OF
PLANTS FOR VARIOUS AILMENTS – A PILOT STUDY**

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Abstract

Introduction: Mother nature has provided with various natural products which helps to survive healthy in her lap. The primary goal of cis to help people live long, healthy and balanced lives without the need for prescription drugs, complicated surgeries or suffering through painful conditions.

Aim : The present study comprises to assess knowledge attitude and perception towards usage of plants for various ailments

Method : Pilot study (220 participants) enrolled in the study. A structured questionnaire was used to assess public knowledge ,attitude and perception towards usage of plants for various ailments.

Results And Discussion: Results indicated that 47 % do not know the use of simple herbs and plants, 68 % not interested in ayurvedic treatment, 56 % do not have any herbs/ plant in their home. 42 % declares that allopathic treatment was their choice due to their prestige status.

Conclusion: Two of the most important aspects of restoring balance in Ayurveda is tuning in to the natural rhythms of our body and also bringing our lifestyle into synchronise with nature and its cyclical patterns. It is just a pity that today, in the 21st century in the we seemed to have lost the art of even being able to identify healing herbs when we see them in the fields or alongside the road. As a wholepeople should be educated how they carry a complete pharmacy in their kitchen cabinets and home fridge and help to cure many unwanted diseases just sitting at home.

Key words: Ayurvedic medicine, herbs, perception

No : RTIP17/PP/020

FORMULATION AND CHARACTERISATION OF RUTILANT FACIAL SCRUBER

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Abstract

Facial scrubs are important to keep the skin pores clean and skin problems away. The combination of cleansing, exfoliation and massage provides benefits that go beyond what a bar soap can do. The present investigation aims to formulate and evaluate a rutilant polyherbal facial scrub. Extract of orange peel, *Actinidia deliciosa*, Flowers of *nelumbo nucifera*, *rosa centifolia*, *Nyctanthes arbor-tristis*, *Avena sativa*, *Santalum album*, *Trigonella foenum-graecum* were prepared by maceration process. Aqueous phase with preservative and propylene glycol and sodium lauryl sulphate were dissolved and stirred well. Carbopol 940 was dispersed to the above mixture and then all the above extracts were added and smoothly stirred and ethanol was added as preservative until gel like consistency is obtained. Finally triethanolamine was added. The formulated gel was evaluated for viscosity, pH, spreadability, washability, consistency, percentage moisture loss, foamability, test for microbial growth, skin sensitivity test. Results indicated that pH of the gel was found to be 6.4. viscosity was 1139 cps, good consistency with easy spreadability and washability, no microbial growth was observed. It passes the skin sensitivity test. Formulated facial herbal scrub can be prepared easily with higher quantity of herbal component without toxic ingredient. It may soften and improve the texture of the skin.

Key words: *Actinidia deliciosa*, *Santalum album*, Face scrub.

No : RTIP17/PP/021

Siddha – The effectual system to relieve from Stone Age (Urolithiasis)

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Abstract

Urolithiasis or Urinary Calculosis is a medical condition characterized by the presence of concretions of minerals and acid salts in the urinary tract. Urolithiasis is one among the most common urological disorders, afflicting humans since time immemorial. It is affecting 20% of the worldwide population. The incidence of Urolithiasis depends on Geographical, Climatic, Ethnic, Dietary and Genetic factors. Urolithiasis can be managed by Powerful Analgesia, Oral Chemolysis, Medical Expulsive Therapy (MET) or by surgical and laser treatment. These methods have an increased risk of side effects and adverse effects and leads to further complications. In this context it is wise to use a safe and well established system to cure the renal calculi. Siddha system is one among the oldest traditional medical system of Indian subcontinent, which is practised mostly in the southern parts of India. The Siddha medicines are useful in treating various conditions from simple fever to dreadful diseases in safe manner without any side effects/ adverse effects. Siddha system is a pioneer in curing Urolithiasis very effectively and it is reported to be very safe too. In siddha urolithiasis is mentioned as Kalladaippu. Siddha literature suggests many forms of medicaments for the conservative management of Urolithiasis, which includes; Kudineer, Choornam, Parpam, Chendooram, Chunnam etc. Beyond these there are many erstwhile surgical methods of Siddha which were once practised for the effective management of the condition. Important plants used for the treatment of urolithiasis are *Aerva lanata*, *Boerhavia diffusa*, *Tribulus terrestris*, *Hygrophila spinosa*, *Anderson*, *Ocimum gratissimum*, *Moringa oleifera*, *Raphanus sativus*, *Scoparia dulcis*.

Keywords: Urolithiasis, Urinary Calculosis, Kalladipu, Siddha Formulation

No : RTIP17/PP/022

CISALPINACEAE

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THIRUNINDRAVUR.**

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ABSTRACT:

AIM:

To perform the basic anatomy and pharmacognostical study of the plant cassia fistula Linn. **Materials and Methods:** The cassia fistula was collected, authenticated and performed the review of the plant, physicochemical, microscopical, Powder microscopical and Pharmacognostical evaluations. **Conclusion:** Standardisation of the plant using the basic anatomical study such as microscopical and powder microscopical study and physicochemical studies for further proceeding
In future.

KEYWORDS

Cassia fistula, Pharmacognostical evaluation, physical evaluation, chemical evaluation.

No : RTIP17/PP/023

**Physicochemical evaluation and phytochemical investigation of the leaves of
Grewia tiliaefolia Vahl**

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ABSTRACT

The present study was aimed to evaluate physicochemical standardization and preliminary phytochemical investigation of the leaf of *Grewia tiliaefolia* Vahl belonging to the family tiliaceae. The standardization parameters included determination of foreign matter, loss on drying, ash values, extractive values, fluorescence analysis, preliminary phytochemical screening was performed according to standard procedures. The preliminary identification was done by using Macroscopical observation and final authenticity was done by botanist.

Key words: *Grewia tiliaefolia* Vahl, Tiliaceae, Physicochemical standardization, Phytochemical analysis, Fluorescence analysis.

No : RTIP17/PP/024

An Overview on the Anti Cancer Activity of Marine Sponges

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Abstract:

Marine Ecosystem consists a wide array of flora and fauna which are distributed throughout the oceans, .marine flora such as bacteria, actinomycetes ,cyanobacteria and fungi microalgae, seaweeds, mangroves, and other halophytes are extremely important oceanic resources, constituting over 90% of the oceanic biomass these marine flora are not only in large quantity but also are very diverse in their distribution throughout the ocean biomass and also constitute up to 90 %of the ocean biomass. They are taxonomically diverse, largely productive, biologically active, and also chemically unique which offers a greater scope for the discovery of potential active ingredients and out of all the active ingredients till now discovered, substances which are possible or are active ingredient for anticancer activity, the substances discovered till now which are a potential active ingredients are chemically poly phenols and sulphated polysaccharides. Along with anti cancer activity, these potent chemical agents have also shown wide array of other pharmacological activity. Marine sponges act as an popular and reliable source for isolation of anticancer chemical constituents. Triterpenoids are the most abundant secondary metabolite present in marine sponges. A large number of triterpenoids are known to exhibit cytotoxicity against a variety of tumor cells as well as anticancer efficacy in preclinical animal models. Therefore, triterpenoids from marine sponges leads to be used in the pharmaceutical industry as new chemical classes of anticancer agents. Hence in this review article this paper reviews the works so far conducted on this aspect with a view to provide a baseline Information for promoting the marine flora-based anticancer research in the present context of increasing cancer incidence, Deprived of the cheaper, safer, and potent medicines to challenge the dreadful human disease.

Key words: Marine Ecosystem, Marine Sponges, Anti Cancer Activity, Triterpenoids

No : RTIP17/PP/025

**A FACILE SYNTHESIS AND BIOLOGICAL STUDIES OF IMINE DERIVATIVES
CONTAIN PHENYL BENZOTHAZOLE FROM GREEN CHEMISTRY**

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ABSTRACT

Green chemistry is one of the level-headed concepts for procuring healthy environment in concern to this green solvent like ethanol, glycerol, and water are used in synthesis. A novel ten substituted imines derivative contain phenyl benzthazole in synthetically prepared. A novel imines derivative are prepared by condensing substituted 2-(4-amino phenyl) benzothiazoles with different aryl aldehyde in rectified spirit under catalytic glacial acetic acid (GAA). 2-(4-amino phenyl)benzthazole was obtained by alkali hydrolysis of substituted 2-amino benzthazole to give substituted thiophenol. Later on cyclising with Para amino benzoic acid in green solvent (glycerol) at ambient temperature. The obtained compound are recrystallized, identified and characterised by physical state (melting point, thin layer chromatography) and spectroscopic studies (IR by KBR method). All the compounds are subjected for in-vitro, anti-oxidant, antifungal activity by using zone of inhibition. Key words: Green chemistry, Phenyl benzthiazole, imine derivatives, anti-oxidant anti microbial.

No : RTIP17/PP/026

**ACIDIC DYES AS ION-PAIRING REAGENTS FOR THE DETERMINATION OF
MEMANTINE IN PHARMACEUTICAL FORMULATION**

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ABSTRACT :

Memantine hydrochloride (MTH) is an uncompetitive ,moderate affinity N-methyl-D aspartate (NMDA) receptor antagonist used for treating patients with moderate to severe ALZHEIMER'S Disease.The chemical name is 1-Amino-3,5-dimethyladamantane hydrochloride.Literature survey indicate that Stability indicating high performance liquid chromatographic method coupled with ultra violet detection has been applied in the determination of MTH in bulk,though the above mentioned chromatographic method are sensitive, they are not suitable for routine analysis of the MTH in quality control laboratories.The methods suffer from one or more drawbacks such as expensive instrumentation , tedious extraction procedures ,time consumption ,complex and derivatization of the drug with suitable chromophores or fluorophores.

The present methods are based on formation of ion-pairs of the MTH with anionic dyes such as bromothymol blue (BTB)And solochrome black T (SBT) ,which are extracted into chloroform and have absorption maxima at 415 nm (BTB) and 510nm (SBT). Regression analysis of the Beer's plots showed good correlation in the concentration range 2-20 and 5-25 ug/ml for BTB and SBT, respectively .this accuracy and validity of the methods was also checked and found within the range between 98-102% .The proposed methods were successfully

applied to the tablet dosage forms containing the MTH . No interference from common excipients was observed.

No : RTIP17/PP/027

KAPI KACHU: A POTENTIAL SOURCE OF BIO ACTIVE DRUG

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ABSTRACT

The genus **Mucuna**, belonging to the Fabaceae family, sub family Papilionaceae, includes approximately 150 species of annual and perennial legumes. KapiKachu (Velvet bean) **Mucunapruriens** is widespread in tropical and sub-tropical regions of the world. It is considered as a viable source of dietary proteins due to its high protein concentration (23–35%) in addition its digestibility, which is comparable to that of other pulses such as soybean, rice bean and lima bean. It is therefore regarded a good source of food. **Mucuna** spp. has been reported to contain the toxic compounds L-dopa and hallucinogenic tryptamines and anti-nutritional factors such as phenols and tannins. Due to the high concentrations of L-dopa (4–7%), Velvet bean is a commercial source of this substance, used in the treatment of Parkinson's disease. The toxicity of unprocessed velvet bean may explain why the plant exhibits low susceptibility to insect pests. Velvet bean is well known for its nematicidal effects; it also reportedly possesses notable allelopathic activity, which may function to suppress competing plants. Thus the current review highlights the pharmacognosy, phytochemistry and pharmacology of *M.Prureins* for better understanding to choose as a potential source of bioactive drug.

Key Words: KapiKachu, *MucunaPrureins*, Bioactive drug, Parkinson's disease.

No : RTIP17/PP028

PROS AND CONES OF USE OF CHINESE DRUGS IN INDIA

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Abstract: Chinese herbal and natural drugs are making an entry into the Indian market. There are nearly 17 recognised Chinese medicinal clinics and large number of unauthorised drug stores of Chinese in India. It is time to evaluate these drugs on Indian standards and reveal the relevance of Chinese drugs in Indian scenario. In this review, we have made comparative study on the principles of Indian system of medicine and Chinese system of medicine. It is noted that the basic principles of Ayurveda and Chinese system of medicine depends on “Panja bootha”, But the treatment plan vary. Similarly herbal drugs like ginseng have Indian counterpart namely Ashwagandha (*withania somnifera*), Chinese ginseng (*Panax ginseng*). The lack of scientific data to explain the effectiveness of Indian system of drugs is the main drawback as a competitor to the Chinese system of medicine.

Keywords: Chinese herbal drugs, Ayurveda, Ginseng, Ashwagandha.

No : RTIP17/PP/029

A NEW ERA OF PHARMACOGNOSY -“MOLECULARPHARMACOGNOSY”

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Abstract:

At the edge between Pharmacognosy and Molecular biology, Molecular pharmacognosy has developed as a new intermediate branch. It explores the biosynthetic approach of medicinal natural products and advancement in herbal drug discovery. The main background focus in this review is development, research and advancement in Molecular pharmacognosy. Recent innovations are rising up with the developing evolution on identification, quality evaluation, and production of active compounds in crude drugs.

Keywords:

DNA marker,Genetic diversity,Molecularbiology,Reversepharmacognosy.

No : RTIP17/PP/030

Anticancer Drugs From Marine Pharmacognosy

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Abstract: Cancer is a dreadful human disease increasing with a changing life style. Cancer treatments do not have potent medicine as the currently available drugs are causing side effects in some instance. Marine floras include microflora [bacteria, actinobacteria, cyanobacteria and fungi], microalgae, macroalgae [seaweeds], and flowering plants [Mangroves and other halophytes]. The vast marine floral resource has a great scope for the discovery of new drugs. Hence, this paper reviews the works so far conducted on this aspects with the view to provide a baseline information regarding the various anticancer drugs obtained from different marine floras. The Anticancer agents from the marine floras may include bacteria, actinomycetes, marine fungi, marine algae, macro algae [seaweeds], mangroves and other higher plants.

Keywords: Anticancer drugs, Marine Pharmacognosy, Micro and Macro algae.

No : RTIP17/PP/031

INVITROCYTOTOXIC ACTIVITY ON LEAVES OF NYCTANTHES ARBORTRISTIS
LINN

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ABSTRACT:

Nyctanthes arbortristis (Night flowering jasmine) is a shrub or tree of 10m tall and belongs to the family oleaceae. It has high medicinal value in Ayurveda and considered as one of the most useful traditional plants of India. It is reported to contain various phytoconstituents such as alkaloids, glycosides, flavonoids, fixed oils, proteins and phytosterols. The aim of the study is to investigate the antioxidant and *in-vitro* antineoplastic activity of hydroalcoholic leaf extract of *Nyctanthes arbortristis* (HAEL). The antioxidant activity was carried out by DPPH method. The anticancer activity of the HAEEL were studied in two human cancer lines namely MC57 and A549, using MTT assay and trypan blue dye exclusion method. Two human cancer cell lines MCF7 & A549 were treated with HAEEL of concentration ranging from (100µg/ml -500µg/ml) by trypan blue dye exclusion method for 2hours and (50µg/ml -150µg/ml) by MTT assay method for 72 hours. Then, the cell viability was measured. The results showed that the maximum cytotoxicity were observed as $58.18 \pm 0.29\%$ and $58.77 \pm 0.37\%$ for MCF7 and A549 cell lines respectively at a concentration of 150µg/ml. The potent cytotoxicity against cancer cell lines (IC 50 for MCF7 is $128.57 \pm 1.35 \mu\text{g/ml}$ and IC 50 for A549 is $134.86 \pm 0.97 \mu\text{g/ml}$) were exhibited. The antioxidant studies were carried out using DPPH radical scavenging activity on comparison with standard ascorbic acid and shows significant activity at 150µg/ml. In conclusion, the hydro-alcoholic leaf extract of *Nyctanthes arbortristis* possess potent antioxidant and cytotoxicity activity.

No : RTIP17/PP/032

**APPLICATION OF DNA FINGERPRINTING FOR IDENTIFICATION AND
AUTHENTICATION OF MEDICINAL PLANTS**

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ABSTRACT:

DNA fingerprints led to the identification of closely related plant species and it is one of the tool for assessing genetic diversity and species relationship. DNA is most stable and does not vary seasonally and with age of the plant. DNA based fingerprinting techniques plays greater role in authentication of botanicals. This review gives an outline about the identification and authentication of *Ocimum sanctum*, *Ocimum barilicum*, *Ocimum gratissimum* by RAPD and ISSR method, *Ipomoea mauritiam* by RAPD and SCAR method, Endangered species by RAPD method, *Embelia ribes*, *Embelia tsjeriam-cotton* by AFLP method, *Solanum melongena* and *solanum violaceum* by RAPD method, *Zingiber officinale* by RAPD method, *Citrus volkameriana*, *Citrus sinensis*, *Citrus reticulata* by PCR method and *Cryptocoryne pallidinervia* by PCR method.

Key words: DNA fingerprinting, Authentication, PCR, RAPD, AFLP method.

No : RTIP17/PP/033

**POWDER MICROSCOPIC STUDIES OF FRUITS OF *TRIBULUS TERRESTRIS* L.
COLLECTED FROM DIFFERENT GEOGRAPHICAL LOCATIONS OF SOUTH
INDIA A COMPARATIVE STUDY**

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ABSTRACT

Objective: In the present study includes collection of *Tribulus terrestris* fruit samples from three geographical locations of south India. Whose powder microscopical characters were assessed by comparative study by using standard pharmacognostical methods prescribed in standard reference books. Collected fruit samples were shade dried and pulverised to get coarse powder. Fruit powder taken on micro slide and treated with various colouring reagents to give colour to various tissues by following standard pharmacognostical methods prescribed in reference books. The slide was mounted by adding glycerine and observed under microscope. The fruits consist of five triangular cocci which develop from pentacarpellary syncarpous ovary. Each coccus has two long sharp and two short spines. All fruits show significant variation in diameter, radial length of the coccus and length of the spines. The tomentum in fruit sample 3 is less when compared with fruit samples 1 and 2. The entire growth period in all geographical regions, the basic characters of cell inclusions like thick walled parenchyma cells, epidermal, sclerenchymatous, prismatic calcium oxalate crystals and type of cells like sclereids (fibre sclereids and brady sclereids), trichomes (short, long and thick walled trichomes) and their pattern of arrangement are almost same.

The present investigation revealed variation shows in the quantity of cell inclusions and size of sclereids, trichomes and wall thickness of parenchymatous, epidermal and sclerenchymatous cells. Powder microscopic observation can be employed to detect the source of adulteration in powdered raw medicinal plant materials.

No : RTIP17/PP/034

MARKETLY AVAILABLE TRANSDERMAL PATCHES FROM NATURAL ORIGIN

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ABSTRACT

Herbal transdermal patches are medicated adhesive patches that is designed to release active ingredient at a constant rate over a period of several hours or day after application to skin. It is unique delivery system in which the active ingredients bypass the body digestive system. It provides the controlled release of the medication into the patient usually through a porous membrane or through body heat, melting thin layers of medication embedded in the adhesive. The different transdermal patches from natural origin available in the market are nicotine patches, opioid patches, oestrogen patches, contraceptive patches, testosterone patches, scopolamine patches, vitamin B₁₂ patches, 5HT patches and rivastigmine patches. Herbal transdermal therapy is an extremely effective modern technique, combining therapies from herbology and modern formulation techniques.

No : RTIP17/PP/035

**APPLICATION OF DNA FINGERPRINTING FOR IDENTIFICATION OF
PHYTOCONSTITUENTS IN MEDICINAL PLANTS**

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ABSTRACT:

DNA fingerprints led to the identification of closely related plant species and it is one of the tool for assessing genetic diversity and species relationship. DNA is most stable and does not vary seasonally and with age of the plant. DNA based fingerprinting techniques plays greater role in authentication of botanicals. This review gives an outline about identification of phytoconstituents of genetic similarity between five species of mentha by RAPD method, *curcuma aeruginosa* using PCR analysis and *Aloe arborescens* by using DNA method.

Key words: DNA fingerprinting, identification of phytoconstituents, RAPD, PCR and DNA method.

No : RTIP17/PP/036

**APPLICATION OF DNA FINGERPRINTING FOR ADULTERATION DETECTION IN
MEDICINAL PLANTS**

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ABSTRACT:

DNA fingerprints led to the identification of closely related plant species and it is one of the tool for assessing genetic diversity and species relationship. DNA is most stable and does not vary seasonally and with age of the plant. DNA based fingerprinting techniques plays greater role in authentication of botanicals. This review gives an outline about adulteration detection of *Angelica decursiva* (*Peucedanum decursivum*) *Peucedanum praeruptorum* and *Anthriscus sylvestris* by using SCAR marker and *Zanthoxylum acanthopodium* and *Zanthoxylum oxyphyllum* by AFLP marker.

Key words: DNA fingerprinting, Adulteration detection, SCAR& AFLP marker.

No : RTIP17/PP/037

PHYTOPHARMACOLOGICAL OVERVIEW OF TRIBULUS TERRESTRIS

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ABSTRACT

Tribulus terrestris (family Zygophyllaceae), commonly known as Gokshur or Gokharu or puncture vine, has been used for a long time in both the Indian and Chinese systems of medicine for treatment of various kinds of diseases. Its various parts contain a variety of chemical constituents which are medicinally important, such as flavonoids, flavonol glycosides, steroidal saponins, and alkaloids. It has diuretic, aphrodisiac, antiurolithic, immunomodulatory, antidiabetic, absorption enhancing, hypolipidemic, cardiogenic, central nervous system, hepatoprotective, anti-inflammatory, analgesic, antispasmodic, anticancer, antibacterial, anthelmintic, larvicidal, and anticariogenic activities. For the last few decades or so, extensive research work has been done to prove its biological activities and the pharmacology of its extracts. The aim of this review is to create a database for further investigations of the discovered phytochemical and pharmacological properties of this plant to promote research. This will help in confirmation of its traditional use along with its value-added utility, eventually leading to higher revenues from the plant.

Key words: Pharmacology, saponin, tribulus terrestris

No : RTIP17/PP/038

**REVIEW ON APPLICATION OF ETHLYCELLULOSE POLYMER IN THE
DEVELOPMENT OF MULTIPARTICLES.**

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ABSTRACT

Ethyl cellulose is a derivative of cellulose in which some of the hydroxyl groups on the repeating anhydroglucose units are modified into ethyl ether groups, largely called as non-ionic ethyl ether of cellulose. Ethyl cellulose extensively been used for multiparticulates due to its many versatile properties such as water insoluble but soluble in many organic solvents such as alcohol, ether, ketone, and ester; biocompatible and compatible with many cellulose, resin and almost all plasticizers; non- biodegradable, thus used in oral formulation only; stable against light, heat, oxygen and wetness and chemicals; non-toxic; non-irritant; non- swell able and water insoluble, thus ethyl cellulose compactness and porosity plays key role in drug release from such hydrophobic material; although ethylcellulose is water insoluble, it can take up water. This is owing to its hydrogen bonding potential with water attributable to the polarity difference between the oxygen atom and ethyl group of ethylcellulose. This review narrates the applications of using ethylcellulose for the development of its multiparticulates.

Keywords: ethylcellulose, multiparticulates applications

No : RTIP17/PP/039

Antioxidant Activities of the Sustainable and Ecofriendly *Spirulina*

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ABSTRACT

The highly nutritional and ecofriendly *Spirulina* (*Arthrospira platensis*) has hypolipidemic, hypoglycemic, and antihypertensive properties. *Spirulina* contains functional compounds, such as phenolics, phycocyanins, and polysaccharides, with antioxidant, anti-inflammatory, and immunostimulating effects. Studies conducted on *Spirulina* suggest that it is safe in healthy subjects, but attitude to eating probably affects the acceptability of *Spirulina* containing foods. Although the antioxidant effect of *Spirulina* is confirmed by the intervention studies, the concerted modulation of antioxidant and inflammatory responses, suggested by in vitro and animal studies, requires more confirmation in humans

No : RTIP17/PP/040

INVITROCYTOTOXIC ACTIVITY ON LEAVES OF NYCTANTHES ARBORTRISTIS
LINN

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ABSTRACT:

Nyctanthes arbortristis (Night flowering jasmine) is a shrub or tree of 10m tall and belongs to the family oleaceae. It has high medicinal value in Ayurveda and considered as one of the most useful traditional plants of India. It is reported to contain various phytoconstituents such as alkaloids, glycosides, flavonoids, fixed oils, proteins and phytosterols. The aim of the study is to investigate the antioxidant and *in-vitro* antineoplastic activity of hydroalcoholic leaf extract of *Nyctanthes arbortristis* (HAEL). The antioxidant activity was carried out by DPPH method. The anticancer activity of the HAE L were studied in two human cancer lines namely MC57 and A549, using MTT assay and trypan blue dye exclusion method. Two human cancer cell lines MCF7 & A549 were treated with HAE L of concentration ranging from (100µg/ml -500µg/ml) by trypan blue dye exclusion method for 2hours and (50µg/ml -150µg/ml) by MTT assay method for 72 hours. Then, the cell viability was measured. The results showed that the maximum cytotoxicity were observed as $58.18 \pm 0.29\%$ and $58.77 \pm 0.37\%$ for MCF7 and A549 cell lines respectively at a concentration of 150µg/ml. The potent cytotoxicity against cancer cell lines (IC 50 for MCF7 is $128.57 \pm 1.35 \mu\text{g/ml}$ and IC 50 for A549 is $134.86 \pm 0.97 \mu\text{g/ml}$) were exhibited. The antioxidant studies were carried out using DPPH radical scavenging activity on comparison with standard ascorbic acid and shows significant activity at 150µg/ml. In conclusion, the hydroalcoholic leaf extract of *Nyctanthes arbortristis* possess potent antioxidant and cytotoxicity activity.

No : RTIP17/PP/041

**PRELIMINARY PHYTOCHEMICAL SCREENING ON ANTICANCER MARINE
DRUG *STOECHOSPERMUM MARGINATUM***

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ABSTRACT

The brown algae *Stoecheospermum marginatum* is reported for cytotoxic activity against B16F10 melanoma cells and BeWo choriocarcinoma cells. In order to correlate its anticancer activity and phytoconstituent, this research work was carried out to identify the constituents by performing preliminary photochemical analysis and TLC fingerprints. The preliminary photochemical analysis of hexane extract of *Stoecheospermum marginatum* showed the presence of steroids and absence of Carbohydrate, Protein and Amino acid, Alkaloids, Phenols, Tannins, Glycosides, and Flavonoids. The TLC finger prints showed three spots with the RF values (short UV) 0.14, 0.52, and 0.73 respectively with the mobile phase Hexane: Ethyl acetate 8:2. Hence the preliminary photochemical analysis and TLC fingerprint gives the standardization data for the anticancer brown algae *Stoecheospermum marginatum*.

Keywords: *stoecheospermum marginatum*, Brown algae.

No : RTIP17/PP/042

**NATURAL ORIGIN USED AS A REMEDY FOR TREATING
VARIOUS AILMENTS – AN OVERVIEW**

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ABSTRACT:

Medicinal plants have played an essential role in the development of human culture. Plants have been used for thousands of years to flavour and conserve food, to treat health disorders and to prevent diseases including epidemics. Active compounds produced during secondary vegetal metabolism are usually responsible for the biological properties of some plant species used throughout the globe for various purposes including treatment of infectious diseases. The knowledge of their healing properties has been transmitted over the centuries within and among human communities. This study illustrates the importance of herbal medicine in the treatment and management of human diseases and ailments. It has been confirmed by WHO that herbal medicines serve the health needs of about 80 percent of the world's population; especially for millions of people in the vast rural areas of developing countries. Some important medicinal plants used for treatment of various disorders such as **Obesity** (Kelp), **Osteoporosis** (Alfalfa), **Chronic Obstructive Pulmonary Disease** (Ginseng), **Atherosclerosis** (Onion), **Alzheimer** (Coconut oil), **Ulcer** (Liquorice), **Dental Caries** (Clove), **Cerebral vascular insufficiency** (Ginkgo biloba extract), **Cancer** (Mustard seeds), **Kidney stones** (Uva ursi). Thus in the present work, medicinal plants with emphasis on their remedies are reviewed.

KEY WORDS: Medicinal plants, Remedies, Secondary metabolites, Pharmacological action.

No : RTIP17/PP/043

**REVIEW ON CLINICALLY APPROVED NANOPARTICLES AND CURRENT
CLINICALLY TRIALS FOR NANOPARTICLES FORMULATION**

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Abstract

Nanoparticles or microparticles delivery systems and widely investigated preclinically with many particles based formulation and technologies having already been introduced in the clinic. Oral, local, topical, and systemic [Eg.IV] administration are all proven methods that have been food and drug administration [FDA] approved for the delivery of nanoparticles, depending on desired application of targeted site. Of these delivery methods intravenously administered nanoparticles receive the most attention both preclinically and clinically. This review is aimed to highlight the nanoparticles advantages, disadvantages and application. In particular we will focus on current clinical trials for nanoparticle formulation that have yet to be clinically approved additional emphasis will be on clinically approved systems both for their approved indication and their use in active clinical trials.

Key words:

Clinic, translational medicine, clinical translation, clinical trials, drug delivery, nano medicine, nanoparticles

No : RTIP17/PP/044

MEDICINAL PLANTS USED IN SKIN DISEASE

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ABSTRACT

Skin diseases are most common form of infections occurring in people of all ages. The aim of the study is not only to prescribe remedies for skin diseases in human beings but also to draw attention for the need towards a detailed study on medicinal plants, which could provide novel I remedies leads for other dreadful diseases.This review has highlighted the role and utilities of some medicinal plants on different skin diseases.

Key Words:Traditionally,etho-medicinal,nature,Knowledge

No : RTIP17/PP/045

Liposome: An Overview on Liposome and Its Marketed Products

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Abstract

Liposomes are colloidal lipidic bilayer vesicles which are beneath extensive exploration as drug carriers for enhancing the delivery of therapeutic agents. Liposomes are adequate and advanced carriers and have capacity to encapsulate hydrophilic and lipophilic drugs as well as maintain them from external environmental condition which leads to degradation. Besides, formulation of drugs in liposomes has risen up with new opportunity to enhance the therapeutic indices of various potent agents mostly by changing their pharmacokinetics and pharmacodynamics. This review discusses the overview on liposomes, which includes the preparation, stability and application and also mainly focused on the marketed products, which are available as liposomes.

Keyword: Preparation, Stability, Marketed products and Application of liposome.

No : RTIP17/PP/046

Technical Evaluation of Antioxidant Activity

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Abstract

There are several *in vitro* methods for evaluating antioxidant activity. This review article gives information regarding different methods that are used to measure the antioxidant defense system. In addition; the advantages and shortcomings, as well as the specific cases of their application also are demonstrated. The chemical principles of methods based on biological oxidants comprise superoxide radicals scavenging ($O_2^{\cdot-}$); hydroxyl radical scavenging ($HO\cdot$); hydrogen peroxide scavenging (H_2O_2); peroxy radical scavenging ($ROO\cdot$) and nitric oxide scavenging ($NO\cdot$). Among the non-biological testing can highlight scavenging of 2,2-diphenyl-1-picrylhydrazyl radical (DPPH \cdot assay) and scavenging of 2,2-azinobis-(3-ethylbenzothiazoline-6-sulphonate) radical cation (ABTS assay). Furthermore, thiobarbituric acid reactive substances (TBARS) and protein carbonyl assays also have been described. This article will be a comprehensive ready reference for those who are interested on antioxidant study.

Key words:

Antioxidant capacity; Free radicals; Medicinal plants

No : RTIP17/PP/047

**ENHANCEMENT OF ORAL BIOAVAILABILITY IN CURCUMIN BY
NANOPARTICULATE DRUG DELIVERY SYSTEM**

Abstract: The aim of the present research was formulation and evaluation of PLGA nanoparticles loaded with curcumin which is one of the three curcuminoids present in turmeric. The curcumin was selected as a drug candidate due to its poor bioavailability and were formulated into biodegradable nanoparticles with view to improve its oral bioavailability. PLGA polymeric nanoparticles are ideal carrier for curcumin as they are capable of producing targeted and controlled release. The nanoparticles containing curcumin were prepared by solvent evaporation method using various concentrations of PLGA. The interaction of Curcumin with other excipients used in the preparation of nanoparticles were performed by IR and DSC. The prepared nanoparticles were characterized for various physical parameters such as particle size , zeta potential, TEM and chemical parameters such as drug content, entrapment efficiency and *in vitro* drug release of curcumin. The optimized curcumin nano formulation was subjected to stability studies as per ICH guidelines. The evaluation results confirmed that there was no interaction between curcumin, and other excipients used in the formulation. The stability study results confirmed that the optimized formulation was stable. Hence the newly developed curcumin-PLGA nanoparticles were found to be suitable for controlled release of curcumin for the period of 24hrs.

No : RTIP17/PP/048

EVALUATION OF ANTI DEPRESSANT ACTIVITY OF PETROLEUM ETHER
EXTRACT OF “*ROSA CENTIFOLIA*” IN SWISS ALBINO MICE

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ABSTRACT:

Depression is the disorder of mood rather than disturbances of thought or cognition which ranges from very mild condition, to severe depression accompanied by hallucinations and delusions. A number of drugs are available for the treatment of depression, but clinical evaluation of these drugs has shown incidence of relapses, side effects and drug interactions. This has been the rationale for the development of new antidepressants which includes herbal drugs. Thus researchers are exploring natural resources for newer, safer and efficacious antidepressant drugs.

Objective: To study the antidepressant activity of petroleum ether extract of *Rosa centifolia*.

Materials and methods: The extract was primarily subjected for preliminary phytochemical investigation and for Maximum Tolerance Dose (MTD). Antidepressant activity was evaluated in various animal models like Tail suspension test, Acto-photometer. **Results and discussion:**

The petroleum ether extract of was positively identified with carbohydrates, tannins, proteins, amino acids, alkaloids, flavonoids, flavanone, glycosides and phenolic compounds. The extract was subjected for maximum tolerance dose upto the dose level of 2000mg/kg has not produced any mortality. **Conclusion:** The extract of *Rosa centifolia* showed significant antidepressant activity at high dose (100 mg/kg) in Tail suspension test, Acto-photometer. The extract didn't antagonize the hypothermia induced by apomorphine.

Keywords: *Rosa centifolia*, petroleum ether extract, Tail suspension test, Acto photometer, fluoxetine.

No : RTIP17/PP/049

NUTRACEUTICAL EFFECTS OF INDIGENOUS HERBS AND ITS IMPACT ON HIV-AIDS SUBJECTS IN PUDUCHERRY

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ABSTRACT

to formulate a multi herbal product and to study its impact on supplementation to HIV-AIDS subjects. The herbal product comprises of four different herbs namely *Achyranthes aspera* (600mg), **Tribulus terrestris**(300mg), **Trichopus seylanicus**(400mg), **Tinospora cordifolia** (200mg)and rice bran (500mg) in different dosage. The ingredients were shade dried and powdered and 2 grams of the mix with the above mentioned proportion was administered to the subjects twice. Acquired Immuno Deficiency Syndrome is a fatal illness caused by Human Immuno-deficiency Virus, which breaks down the host immune system, leaving the subject vulnerable to life-threatening infections. Current therapies available for symptomatic treatment of AIDS are quite expensive and are seeking help from alternative system of medicines. Findings suggest beneficial effects from herbs but require more evidences. Hence, this is a step to popularize indigenous herbs which possesses nutraceutical properties against retrovirus; inhibits the replication of it in human body, also prevent infectious diseases and hence delays the progression of the disease. Thus this study was ventured upon at a pilot level a day to be consumed along with cooked hot rice. The impact of the developed multi herbal supplement was studied before and after the treatment with reference to CD4 count. The finding of the study revealed that about 75% of the subjects showed improvement in the CD4 count on supplementation. The present study concluded that these potential herbs could be supplemented to the HIV-AIDS patients along with the ART drugs to boost their immune system.

Key words: HIV-AIDS, CD4, Anti Retroviral Therapy, nutraceuticals.

No : RTIP17/PP/050

OLIVE LEAF EXTRACT TINCTURE-AS ANTIFUNGAL AGENT

Presented by A. Thara*, R. Swomiya and S. Radhika.

Abstract

1. Olive leaf is a leaf of Olive tree *Olea europaea*. The Olive leaf extract in the form of antiagent. The cultivation is vast in European countries. The cultivation is by the seeding and vegetative parts for cultivation. The collection technique for the leaf extraction is collection of young leaves at the early morning. The character of leaves should be silvery green in color. The size of the leaf 4 – 10 cm long and 1 – 3 cm in the wide. The leaves are bitter in taste. Extract of Olive leaf. The collection of leaves are collected freshly, the suitable solvent used is Ethanol or Distilled water for the preparation of Tincture. The strength of Ethanol used is 40%. Active ingredients. Oleuropein, Polyphenols, Flavoids, Olecanthal, Elenolic acid, 10-hydroxyoleuropein, Ligstroside. Study of the extraction – In-vitro study. The study of Olive leaf extract is by inoculating the micro organism *Candida albicans* are destructible. Comparison Study. The study is compared with the Clotrimazole, Econazole. Significances. The significances of the study shows the action exhibition is more quicker in the Olive leaf Tincture than the clotrimazole which is in the capsule form which is in marketing. Uses. The Olive leaf extract is used to treat Diarrhea, vomiting, Human diet, an herbal tea and coffee. The other uses for Immune support, Cardiovascular protection, anti-aging, reduction of blood sugar and reduces blood pressure.