



**National Conference
On
INTELLECTUAL PROPERTY RIGHTS
NEW AGE CHALLENGES**

On 16th & 17th February 2018

**Organized by
MES's College of Pharmacy Sonai,
Tal-Newasa, Dist- Ahmednagar (Maharashtra)**



**Sponsored
By
Savitribai Phule Pune University, Pune.**

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For

MES's College of Pharmacy Sonai,

Tal-Newasa, Dist- Ahmednagar (Maharashtra)

Our Inspiration



Hon'ble Shri. Yashwantraoji Gadakh Patil

(Founder, Mula Education Society, Sonai)

President Message



I am delighted to know that, M.E.S's College of Pharmacy, Sonai is organizing Savitribai Phule Pune University, Pune Sponsored national level seminar on "Intellectual Property Rights: New Age Challenges" on 16th and 17th February 2018.

The pharmaceutical world today is adopting new technologies and practices and pharmacy education in India needs to be relevant in the global context. In order to endure rapid changes in technology, we need to merge pharmaceutical education with the developing trends. Thus, continuous research by teachers and students is an integral part of education system. I am sure that, discussion during the conference will be very successful and contribute to the betterment of society.

I extend warm and sincere wishes to all the participants and organizing committee.

Hon. Prashant Gadakh Patil
President, Mula Education Society, Sonai

- Secretary Message-



I am happy to know that, M.E.S's College of Pharmacy, Sonai is organizing Savitribai Phule Pune University, Pune Sponsored national level seminar on "Intellectual Property Rights: New Age Challenges" on 16th and 17th February 2018.

Modern medicines have significantly extended life expectancy of the people and we recognize the vital role that research plays in health care. The seminar serves as a platform for students, teachers and academicians. I hope that the deliberations during the seminar shall help in enhancing quality of research in pharmacy institutions.

I extend my warm greetings to the participants and organizing committee and wish the seminar every success.

Hon. Shri. U. M. Londhe
Secretary, Mula Education Society, Sonai

-Joint Secretary Message-



It is indeed great matter of pride for us to welcome you all, to Savitribai Phule Pune University, Pune Sponsored national level seminar on “Intellectual Property Rights: New Age Challenges” on 16th and 17th February 2018.

The objective of this seminar is to provide a forum to discuss the latest advances and the breathtaking developments and opportunities in the pharmaceutical field. A dynamic platform to many investigators to share their research experience and to promote advancement of knowledge. It is a good opportunity to the students and faculties to get a very comprehensive overview on Intellectual Property Rights: New Age Challenges”

I welcome all participants, experts to this seminar and look forward to interacting with you in person.

Dr. V. K. Deshmukh
Joint Secretary, Mula Education Society, Sonai

- Message -



It is indeed great matter of pride for us that M.E.S's College of Pharmacy, Sonai is organizing Savitribai Phule Pune University, Pune Sponsored national level seminar on "Intellectual Property Rights: New Age Challenges" on 16th and 17th February 2018.

This seminar aims to provide an excellent opportunity to students and teachers to explore the diverse research areas in pharmaceutical field.

Our team is striving hard to ensure that all participants have a valuable and enjoyable experience at this seminar. We anticipate an energizing seminar that guarantees great scientific debate and pleasant social collaborations.

We look forward to welcoming you to our institute.

Dr. R. B. Pandhare
Chairman, Scientific Services, Committee
Associate Professor & Head, Dept. of Pharmacology
M.E.S's College of Pharmacy, Sonai

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PHARMACEUTICS

EDIBLE PLATES AND SPOONS WITH ORAL HYGIENE

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ABSTRACT:

It is very important to keep ourselves fit and avoid the use or contact of harmful contaminants in what we eat, drink or use. Worldwide focus has shifted towards coming closer to the nature and various natural practices are being adopted to keep one fit.

With same the important problem is Dental infections such as dental caries is an infectious disease which is also affecting most of the peoples. This Work relates to a novel method of making eco-friendly and biodegradable edible Plates and spoons with natural plant extract of curing dental caries for oral hygiene, without any preservatives or chemical additives.

KEYWORDS: edible, dental caries, eco-friendly.

**A SHORT REVIEW ON QUALITY BY DESIGN APPROACH FOR
PHARMACEUTICALS**

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ABSTRACT:

Quality by Design is the modern approach for quality of pharmaceuticals. It describes use of Quality by Design to ensure quality of Pharmaceuticals. In this review, the Quality by Design is described and some of its elements identified. Process parameters and quality attributes are identified for each unit operation. Benefits, opportunities and steps involved in Quality by Design of Pharmaceutical products are described. The aim of the pharmaceutical development is to design a quality product and its manufacturing process to consistently deliver the intended performance of the product. Quality cannot be tested into products but quality should be built in by design. It includes the Quality target product profile, critical quality attributes and key aspects of Quality by Design. It also gives comparison between product quality by end product testing and product quality by Quality by Design. It is based on the ICH Guidelines Q8 for pharmaceutical development, Q9 for quality risk management; Q10 for pharmaceutical quality systems .It also gives application of Quality by Design in pharmaceutical development and manufacturing of pharmaceuticals.

KEYWORDS: Quality by Design (QbD), Process Analytical Technology (PAT), Quality target product profile etc.

GENERIC V/SBRANDED DRUGS

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ABSTRACT:

The concept of generic prescription is being widely accepted in various parts of the world. Nevertheless, it has failed to gain popularity in India due to factors such as non-availability and distrust on the product quality. However, now the Government of India has initiated exclusive generic drug outlets called “SWAST AUSHADI SEVA” in all over India. This study was undertaken due to less popularity and awareness of generic drugs in the country

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KEYWORDS: Quality by Design (QbD), Process Analytical Technology (PAT), Quality target product profile etc.

3D PRINTING IN HEALTHCARE SYSTEM

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ABSTRACT:

3D Printing is a relatively new, rapidly expanding method of manufacturing that found numerous application in healthcare, automotive, aerospace and defense industries and in many other areas. In this review, application in medicines that are revolunizing the way surgeries are carried out, disrupting prosthesis and implant markets as well as dentistry will be presented. The relatively new field of bioprinting that is printing with cells will also be briefly discussed.

KEYWORDS: 3D PRINTING, dentistry, applications in healthcare

9E5 PREMIUM HEALTH DRINK

Fulsaundar S.B., Warkad D.B. and Nagargoje S.U.

ABSTRACT:

Plants have been used worldwide in traditional medicines for the treatment of diseases. It is estimated that even today approximately two-thirds to three-quarters of the world's population rely only on medicinal plants as their primary source of medicines. 9E5 is food product not a medicine and can be effectively used in management of oxidative stress and for maintenance of the day to day activities. Antioxidants rich 9E5 is the substances that can take of the free radical and manage the oxidative stress. Some important and common disorders that are related to oxidative stress are Heart diseases, Diabetes, Cancer, Arthritis, Alzheimer, Parkinson's disease, Digestive dysfunctions, AIDS etc. 9E5 contains a unique blend of Super Berry Fruits, Amla, Noni & Aloe Vera etc. 9E5 Premium health drink contains several Biologically active substances that improves our body's immune system and offer protection against various life style related dis-orders.

KEYWORDS: 9E5, Antioxidants, Super Berry Fruits, Amla, Noni , Aloe Vera etc.

NANOMEDICINE - THE FUTURE OF CANCER TREATMENT: A REVIEW

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ABSTRACT:

Conventional cancer therapies are limited to surgery, radiation, and chemotherapy. Conventional treatments come with significant adverse effects. Modern cancer treatments focus on precise drug delivery to the cancer tissues and minimize adverse effects on healthy cells. It has led to the use of nanotechnology in cancer treatment. Nanotechnology is the science and engineering of controlling matter, at the molecular scale, to create devices with novel chemical, physical and biological properties. Nanoscale objects are used themselves or as part of larger devices containing multiple nanoscale objects. It has the potential to change the current methods to diagnose and treat cancer. Nanoparticles are mainly used as nanocarriers to deliver the cytotoxic drugs to the tumor tissue. Nanomedicine also is utilized to deliver multiple drugs at the cancer site at the same time for a better cytotoxic effect. CytImmune Sciences is a developing field of nanomedicine for targeted chemotherapy method. They selectively deliver the drug at the cancer site because of the increased permeability of the blood vessels at the tumor site. This article reviews various nanomedicine-based cancer therapeutics.

**AMORPHOUS SOLID DISPERSION: A PROMISING TECHNIQUE FOR
IMPROVING ORAL BIOAVAILABILITY OF POORLY WATER-SOLUBLE
DRUGS**

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ABSTRACT:

Out of many, one of the most promising strategies to improve the oral bioavailability of poorly water-soluble drugs is to develop amorphous solid dispersions. Reduction in drug particle size improves drug wettability and oral bioavailability significantly. Poorly soluble drugs are benefited by formulation approaches that overcome the issue of poor solubility and dissolution rate limited bioavailability. As Gibbs free energy is higher, the solubility of amorphous compounds is much greater than the more stable crystalline form. Moreover, amorphous forms are kinetically trapped high energy disordered materials that lack the periodicity of crystals but behave mechanically as solids. Lipophilic drugs, especially which belongs to the biopharmaceutics classification system (BCS) class II and IV, dissolves at a slower rate, leading to incomplete release of drug from the dosage form, poor oral bioavailability, increased food effect, and high inter-patient variability. Hence, to improve the solubility and dissolution of poorly water-soluble drugs, several formulation approaches can be considered, among which formulating the Active Pharmaceutical Ingredient in an amorphous form is recently gaining prominence. Formulating amorphous solid dispersions of poorly water-soluble drugs with water-soluble carriers has reduced the incidence of these problems and enhanced the rate of dissolution. This review mainly focuses on advantages, classification of solid dispersion, methods of preparation, and characterization of the amorphous solid dispersion.

KEYWORDS: amorphous solid dispersion, oral bioavailability, poorly water soluble.

ONLINE PHARMACY: BOON OR BANE

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ABSTRACT:

In recent years there is a tremendous increase in online shopping for different commodities like cloth, jewellery and the sale of medicines have been increased via online/ internet. Online pharmacy is one of the technology advancements that is about to create a huge demand in the upcoming days. Though it is convenient to get them, there is high risk of self medication and misuse of drugs especially that come under schedule H and X. In this article we have discussed in detail about online pharmacy, its advantages and disadvantages, differences between online and local pharmacy, and certain measures to avoid misuse of e-pharmacy.

KEYWORDS: Boon, Bane, Drug.

FDI: A THREAT OR OPPORTUNITY

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ABSTRACT:

The multi-brand international retailers have huge resources at their disposal. Many of these world leaders like Wal-Mart have retail pharmacy in their basket. These retail pharmacies would provide excellent opportunities for buying in a pleasant atmosphere and invite more customers due to improved services. The common retailers functioning like grocery stores are likely to lose their customers which would be a threat for their survival. Realizing the threat, the All India Organization of Chemists and Druggists (AIOCD) have called upon their members to gear up and face the challenge with developing their pharmacies to international level and ensuring professional ethics.

KEYWORDS: FDI, Opportunities and Threats

**FORMULATION AND EVALUATION OF DRY EMULSION FOR CLASS II
DRUG TO ENHANCE AQUEOUS SOLUBILITY**

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Tal- Newasa, Dist- Ahmednagar, Maharashtra

ABSTRACT:

The aim of the present investigation is to enhance the dissolution characteristics and oral bioavailability of Olmesartanmedoxomil by dry emulsion. The Preformulation of Olmesartanmedoxomil was carried out in terms of appearance, melting point, solubility, FTIR and DSC. Olmesartanmedoxomil is a poorly water soluble drug useful in the treatment of hypertension, absorption window of drug is stomach and upper part of small intestine. The liquid emulsion was prepared by using castor oil in which drug is highly soluble, Poloxamer 188 as water soluble carrier and aerosil 200 as an adsorbent. The stable milky formulation was formed by using surfactant (Tween 80 and Span 80). The liquid emulsion was converted into dry emulsion by Lab spray dryer (LU 222 ADVANCE). Dry emulsion was evaluated for drug content, percentage moisture content, solubility in distilled water and dissolution studies. The solubility of drug was increased with the use of surfactant and polymer at 1:1 ratio. Probable mechanisms of improved solubility were characterized by particle size determination, differential scanning calorimetry (DSC), powder X-ray diffractometry (PXRD) and scanning electron microscopy (SEM) of drug. This study revealed that solid dry emulsion technique was proved to be promising and useful for improvement of solubility of Olmesartanmedoxomil.

KEYWORDS: Dry Emulsion, Dissolution, Olmesartanmedoxomil, Oral bioavailability, Poloxamer 188.

MICRO BALLOONS FOR DRUG DELIVERY: REVIEW

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ABSTRACT:

Gastroretentive drug delivery system is novel drug delivery systems which has an upper hand owing to its ability of prolonged retaining ability in the stomach and thereby increase gastric residence time of drugs and also improves bioavailability of drugs. An optimized level of drug bioavailability can be reached by judicious gastric retention. The floating drug delivery system is a novel approach for the same. It is needed for drugs that have an absorption window in the stomach or in the upper small intestine. This method does not affect the rate of gastric emptying over a prolonged time. Microballoons are emerging as the most promising gastro retentive floating drug delivery system as it overcome many limitations of conventional drug delivery. The review includes the classification, advantages, disadvantages, method of preparation and future aspects of microballoons.

**FORMULATION AND EVALUATION OF PARACETAMOL TABLET USING
NATURAL PLANT BASED EXCIPIENT AS A BINDER**

Gaydhane S.B., GunjalV.B. and Wagh J.G .

M.E.S College of Pharmacy, Sonai .Tal-Newasa, Dist-Ahmednagar

ABSTRACT:

Excipients are additives used to convert active pharmaceutical ingredient into dosage forms suitable for administration to patients. Excipients of natural origin are of particular interest to us for reasons of reliability, sustainability and avoiding reliance upon material derived from fossil fuels.

The aim of present study is to evaluate gum of *Mangifera indica* (mango) as a tablet binder employing Paracetamol as a model drug. Natural gums are economic, easily available and find useful as a tablet binder. Paracetamol tablets were prepared by wet granulation technique using mangifera indica gum as a tablet binder. The prepared tablets were evaluated for physico chemical characteristics. The friability of the tablets ranges from 1.12 to 0.26 % and the disintegration time from 3 to 8 min. The binding efficacy of the mangifera indica gum was compared with the standard binder gum acacia at similar concentration (5% w/w). The tablets hardness prepared from mangifera indica gum varies from 6.3 to 6.8 kg/cm² which are comparable with the standard binder, gum acacia (4.8 kg/cm²). In conclusion, MIG could be used well as a binding agent in the formulation of tablet dosage forms.

KEY WORDS: *Mangifera indica* gum, tablet binder, paracetamol.

NOVEL DRUG DELIVERY STRATEGIES FOR DRUG DELIVERY OF LOW MOLECULAR WEIGHT HEPARINS: A REVIEW

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ABSTRACT:

Biologic products are large molecules such as proteins, peptides, nucleic acids, etc., which have already produced many new drugs for clinical use in the last decades. Due to the inherent challenges faced by biologics after oral administration (e.g., acidic stomach pH, digestive enzymes, and limited permeation through the gastrointestinal tract), several alternative routes of administration have been investigated to enable sufficient drug absorption into systemic circulation. Low molecular weight heparins (LMWHs), the anticoagulant drug of choice in many indications, had been suggested as novel drug treatment for a range of diseases like Antithrombotic, Thromboplastic, Inflammatory bowel diseases (IBD), Ulcerative colitis, deep vein thrombosis, pulmonary embolism. The poor oral absorption and poor bioavailability of LMWH motivated the scientist to explore the new advanced drug delivery strategies with different routes of administration. The present review discusses the various novel strategies for drug delivery of LMWH.

KEYWORDS: Heparin; anticoagulant; oral bioavailability.

GST TO BENEFIT PHARMA INDUSTRY

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ABSTRACT:

GST is expected to be a win-win situation for drug maker as it will not only simplify tax structure but also create a level-playing field for pharmaceutical companies.

The GST India's biggest indirect tax reform is expected to be beneficial for Indian drug maker in the medium to long term as it aims to simplify tax structure and bring operational efficiency. However, concerns about drug prices, exemptions and compliance remain.

KEYWORDS: GST, pharma industry etc.

DIGITAL SUCCESS IN PHARMA

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ABSTRACT:

Pharmaceutical companies can play a central role in the digital revolution of healthcare. But capturing this opportunity requires identifying the right initiatives.

Pharmaceutical companies are running hard to keep pace with changes brought about by digital technology. Mobile communications, the cloud, advanced analytics, and the Internet of Things are among the innovations that are starting to transform the healthcare industry in the ways they have already transformed the media, retail, and banking industries. Pharma executives are well aware of the disruptive potential and are experimenting with a wide range of digital initiatives.

KEYWORDS: pharma companies, digital source etc.

THE WAR OF ETHICS

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ABSTRACT:

In current situation a Indian health care system, the approach of Indian doctors towards the use of generics for a convenient and cost effective healthcare is a major concern for all Indian citizens. There is a need to establish a significant relation between doctors, patients, pharmacist and medicines. The major part of this system is running out of track and if it remains unsolved an Indian patient can't expect a cost effective and efficient health services in future.

KEYWORDS: Generic medicine , Doctors, Patients etc.

**FORMULATION AND EVALUATION OF EZOGABINE *IN-SITU GEL FOR*
INTRANASAL TO BRAIN TARGETING DRUG DELIVERY SYSTEM**

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ABSTRACT:

Background: Ezogabine is used in the treatment of Epilepsy. It get absorbed from small intestine, but Ezogabine get metabolized in peripheral tissues, and thus serves as a significant barrier to the absorption of intact Ezogabine; only 40% of an orally administered dose reaches the circulation. Ezogabine (EZG) aqueous solubility is very poor. Hence solubility enhancement is necessary for intranasal delivery of Ezogabine (EZG) as nasal delivery cannot permit administration of large volumes of liquids.

Methods: In situ nasal gel of Ezogabine was prepared to increase its bioavailability as well as rapid onset of action. Deacetylated Gellan gum was used as the gelling agent to form the mucoadhesive gel in the nasal by ion mediated mechanism. To overcome the problem of mucociliary clearance we used here Deacetylated Gellan gum as the mucoadhesive polymer. Thus different formulations were prepared by using different combination of the polymers judiciously and evaluated them in respect of ion mediated mechanism, mucoadhesive force and permeation of Ezogabine.

Results *Ex- vivo* and Pharmacodynamics Study data revealed that the developed Ezogabine Ion-Mediated Mucoadhesive *In-Situ* Gel For Intranasal To Brain Targeting Drug Delivery System have great potential for intranasal to brain drug delivery system for treatment of CNS disorder and disease.

KEYWORDS: Ezogabine, Deacetylated Gellan gum, In situ nasal gel, Nose to Brain targeting.

**FORMULATION AND EVALUATION OF POLYHERBAL TOOTHPASTE
FOR ORAL CARE**

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ABSTRACT:

The demand for herbal based product such as toothpaste is high these days. Consumers believed by using herbal based toothpaste are safe, effective and less toxicity because less and only safe chemical used as compared to the synthetically produced toothpaste. Therefore, this study was aimed to formulate and evaluate new polyherbal toothpaste which containing herbal extracts that used to treat periodontal problem. The polyherbal toothpaste was formulated using polyherbal extracts namely Neem, Pudina, Clove, Tulsi, Myrrh, Elachi, Sunthi. The formulations were subjected to various evaluation tests like pH, spreadability, abrasiveness, foaming ability, cleaning ability, fineness, moisture and volatile content, tube inertness, test for F-, Pb, As and stability studies. The formulation showed very good anti microbial profile during microbial assay. The formulated toothpaste showed potent inhibition against gram positive bacteria but not against gram negative bacteria. Thereby, it opens a window for future study to enhance the ability of the toothpaste and to prove the efficacy and safety of the formulated toothpaste.

KEYWORDS: Polyherbal toothpaste, antibacterial activity

HOMEMADE HERBAL COUGH LOZENGES

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ABSTRACT:

Herbal medicines are the oldest form of healthcare known to mankind. Phytomedicines based on principles of Ayurveda are need of the hour and is more feasible than allopathic drugs which is not only more expensive in terms of "leads" but is also associated with many unwanted effects.

Cough is an important defensive pulmonary reflex that removes irritants, fluids or foreign materials from the airways. Frequently, cough is non-productive and requires suppression and opioid receptor agonists such as codeine are commonly used as antitussive agents. However, opioids produce side effects that include sedation, addiction potential and constipation. Novel cough suppressant therapies should maintain or improve upon the antitussive efficacy profile of opioids but with minimum or no side effects.

The present invention relates to new polyherbal pharmaceutical formulation, herbal cough lozenges which have been found to be effective in treating and managing cough and sore throat. Formulation prepared was subjected to various physicochemical parameters like moisture content, hardness, content uniformity, friability, weight variation, *In Vitro*- drug dissolution and microbial check etc. The invention also describes processes for preparation, detection and quantitative analysis of the phytochemicals used in the polyherbal formulation.

KEYWORDS: Cough, Herbal formulations; Lozenges.

**FORMULATION AND IN VITRO CHARACTERIZATION OF
GASTRORETENTIVE MICROBALLOONS OF DROTAVERINE
HYDROCHLORIDE**

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ABSTRACT:

The main aim of the current study was to formulate and evaluate microballoons for Drotaverine hydrochloride which is having poor bioavailability. Drotaverine hydrochloride belongs to class II according to BCS classification of drugs, i.e. low solubility and high permeability. The Microballoons for Drotaverine hydrochloride were prepared by emulsion solvent evaporation method using different polymers and their ratios. The polymers include ethyl cellulose and HPMC. The obtained microballoons formulations were evaluated for percentage yield, particle size, buoyancy, drug content, in-vitro release studies. The bioavailability of Drotaverine hydrochloride can be increased by formulating it as gastroretentive drug delivery i.e. microballoons.

KEYWORDS: Drotaverine hydrochloride, Tween-80, Oral bioavailability, HPMC.

**ENHANCEMENT OF AQUEOUS SOLUBILITY AND ORAL
BIOAVAILABILITY OF OLMESARTAN MEDOXOMIL BY DRY EMULSION**

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Abstract

The aim of the present investigation is to enhance the dissolution characteristics and oral bioavailability of Olmesartan medoxomil by dry emulsion. The Preformulation of Olmesartan medoxomil was carried out in terms of appearance, melting point, solubility, FTIR and DSC. Olmesartan medoxomil is a poorly water soluble drug useful in the treatment of hypertension, absorption window of drug is stomach and upper part of small intestine. The liquid emulsion was prepared by using castor oil in which drug is highly soluble, Poloxamer 188 as water soluble carrier and aerosil 200 as an adsorbent. The stable milky formulation was formed by using surfactant (Tween 80 and Span 80). The liquid emulsion was converted into dry emulsion by Lab spray dryer (LU 222 ADVANCE). Dry emulsion was evaluated for drug content, percentage moisture content, solubility in distilled water and dissolution studies. The solubility of drug was increased with the use of surfactant and polymer at 1:1 ratio. Probable mechanisms of improved solubility were characterized by particle size determination, differential scanning calorimetry (DSC), powder X-ray diffractometry (PXRD) and scanning electron microscopy (SEM) of drug. This study revealed that solid dry emulsion technique was proved to be promising and useful for improvement of solubility of Olmesartan medoxomil.

Keywords: Dry Emulsion, Dissolution, Olmesartan medoxomil, Oral bioavailability, Poloxamer 188.

**FORMULATION AND EVALUATION OF FAST DISSOLVING TABLET AND
FILM OF VARDENAFIL HCL**

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ABSTRACT:

Among the delivery routes, oral route is the most preferred route for the delivery of drugs due to ease of ingestion, pain avoidance and versatility. Also solid oral delivery system do not require sterile conditions and therefore less expensive to manufacture. Oral dosage forms are a mixture of active drug components and excipients. The oral route of drug administration is the most convenient for patients, with tablets emerging as the most popular solid oral dosage form used today. The present study aimed at preparing fast dissolving oral films of Vardenafil HCL which is used to treat erectile dysfunction. Fast dissolving dosage forms have acquired great importance in pharmaceutical industry because of their unique properties. In present research work films were prepared by solvent casting technique using polymers such as Kollicoat IR and PVA. The prepared films were evaluated for film thickness, folding endurance, tensile strength, % elongation, disintegration time, drug content uniformity and drug release. The FTIR studies revealed that there is no physical interaction between drug and polymer.

KEYWORDS: Erectile dysfunction, Fast dissolving dosage form, Kollicoat IR, Vardenafil HCL

PHARMACEUTICAL CHEMISTRY

**NASAL FILTERS: A NOVEL APPROACH TO TACKLING ALLERGIC
RHINITIS**

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ABSTRACT:

Nasofilters is an anti air pollution respiratory mask built for audience from breathing in heavily polluted air in order to lead them towards a healthy and prosperous future.

More than 300 million individuals in industrialized countries suffer from allergic rhinitis. Rhinitis is a disease characterized by stuffy or runny nose, followed by red, itchy watering eyes and repeated sneezing. But more common problems for rhinitis patients are the overlooked social difficulties, with the majority reporting tiredness, feeling miserable or irritable. Often, medication is not able to adequately control symptoms and there is a need for other aids against the disease. Here, we describe the current situation of nasal filters in the remediation of seasonal allergic rhinitis.

KEYWORD: Nasofilters, Allergic rhinitis

**SYNTHESIS AND PHARMACOLOGICAL EVALUATION OF 2, 4-
THIAZOLIDINEDIONES AS ANTIDIABETIC AGENTS**

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ABSTRACT:

Diabetes mellitus is a metabolic disease characterized by hyperglycemia resulting from defects in insulin secretion, insulin action, or both. At least 90% of all cases are accounts for type II diabetes mellitus. All new series of 2, 4 thiazolidinediones derivatives were synthesized by conventional as well as microwave irradiation method. The structures of these compounds were established by IR, H¹ NMR and elemental analysis. All these compounds (3a-3j) were screened for antidiabetic and antihyperlipidemic activity on albino rats. Most of these compounds shown significant activity when compared with standard drug Pioglitazone.

KEYWORDS: Thiazolidinediones, conventional method, microwave irradiation, pioglitazone.

PHARMACOGNOSY

HERBAL TREATMENT FOR PERIODONTAL DISEASES

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ABSTRACT:

Periodontal disease is an infectious disease process that involves inflammation. Periodontal diseases involve the structures of the periodontium. Periodontal disease can cause a breakdown of the periodontium resulting in Loss of tissue attachment Destruction of the alveolar bone. The present study concluded that periodontal disease is infectious disease, found in adults on and in the range of simple gum inflammation to serious disease, damage soft tissue and bones to that teeth, initiate into major disease like diabetes, HIV. All the mentioned herbs are easily available during any season and are not costly thus the product is economically feasible, due to their inflammation and wound healing property dealings with periodontal diseases.

**NATURAL DYES AS ACID-BASE INDICATORS FROM BETA VULGARIS &
HIBISCUS ROSA SINENSIS**

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ABSTRACT:

In acid-base titrations, indicator are used to show a sharp color changes at end point which are mostly organic dyes. Due to environmental pollution, availability and cost, the search for natural acid-base indicator was started. In the present study the extract of beta vulgaris was used to replace the synthetic indicators due to the is advantage of less availability and high cost of synthetic dye. Extract of beta vulgaris gives sharp and intense color changes as compared to synthetic indicator. The extracts were evaluated by using strong acid-strong base. It the extract of beta vulgaris and Hibiscus Rosa Sinensis use to check the acidic and basic nature of chemical substance.

KEYWORDS: acid-base titrations, indicator, Natural Dyes, beta vulgaris and Hibiscus Rosa Sinensis.

**HERBAL DRUG MEANT FOR THE TREATMENT OF POLYCYSTIC OVARY
SYNDROME (PCOS) AND ITS COMPLICATIONS**

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ABSTRACT:

The PCOS is an extremely common disorder that occurs in 4%to 7% of women of reproductive age. Although PCOS is known to be associated with reproductive morbidity and increased risk for endometrial cancer, diagnosis is especially important because PCOS is now thought to increase metabolic and cardiovascular risks. Girls and women suffering from PCOS exhibit a range of symptoms such as weight gain, fatigue and unsolicited hair growth, thinning hair, infertility, acne, pelvic pain, headaches, sleep problems. In comparative studies of allopathic, Ayurveda and homeopathy, the allopathic does not cure PCOS, but helps in managing and controlling effects. Ayurveda and homeopathy can be considered as best cure and promising treatment with no side effects. Traditional herbal medicines like aloe, Liquorice, fennel, gymnema, flax seeds and cinnamon are used in treatment of PCOS. These medicines has established promoted, preventive, curative and rehabilitative role .Herbal therapies can be a very effective treatment option for PCOS because they are usually quite tender on the body and have fewer side effects than medication.

KEYWORDS: Infertility, acne, pelvic pain, headaches, PCOS.

**MOSQUITO BORN DISEASES: NEED OF HERBAL MOSQUITO
REPELLENTS**

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ABSTRACT:

A parasite is an organism that lives on or in a host and gets its food from or at the expense of its host. Parasites can cause disease in humans. Some parasitic diseases are easily treated and some are not. The burden of these diseases often rests on communities in the tropics and subtropics, but parasitic infections also affect people in developed countries. Nearly 700 million people get a mosquito borne illness each year resulting in greater than one million deaths. Some important diseases transmitted by mosquito include malaria, dengue and West Nile virus. In 2010 an estimated 219 million cases of malaria occurred worldwide and 660,000 people died, most (91%) in the African Region. The vast majority of cases in the United States are in travellers and immigrants returning from countries where malaria transmission occurs, many from Sub-Saharan Africa and South Asia. The present review focuses on illness due to mosquito bite, its sources and causes, role of various government and non government agencies in the management and control and effect of various mosquito repellents on human health. This work also focuses on use of herbal components in the management and control of mosquito.

KEYWORDS: Mosquito, herbal, repellent, parasite

PREPARATION OF HERBAL TEA

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ABSTRACT:

Herbal tea is essentially an herbal mixture made from leaves, seeds and/ or roots of various plants. As per popular misconception, they are not derived from the usual tea plants, but rather from what are called as 'tisanes'. There are several kinds of tisanes (herbal teas) that have been used for their medicinal properties. Some of them being consumed for its energizing properties to help induce relaxation, to curb stomach or digestive problems and also strengthen the immune system. Some of the popular herbal teas are Black tea, Green tea, Ginger tea, clove tea, Peppermint tea, Cinnamon tea, Citronella tea etc. Some of these herbal teas possess extremely strong medicinal benefits such as, Astragalus tea, a Chinese native herb that is used for its anti-inflammatory and anti-bacterial properties; which in many cases helps people living with HIV and AIDS. Demonstrating very few demerits, researchers continue to examine and vouch for the health benefits of drinking herbal teas.

KEYWORDS: *Camellia sinensis*, tisanes, types, medical benefits, ability to cure various ailments,

**PREPARATION AND EVALUATION OF NUTRITIONAL NUT BREAD
FROM *PSIDIUMGUAJAVA* AS A BASE**

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ABSTRACT

Psidiumguajava (Guava) known as 'poor man's apple' is one of the richest and cheapest sources of the vitamin C. Guava is very high in roughage and very rich in vitamins, proteins and minerals, but has no cholesterol and less digestible carbohydrates. To utilize its nutritional qualities study was conducted to develop the nut bread, the sugar confectionery product from guava fruits. The recipes having different ingredient combinations were subjected to sensory and chemical analysis. The product has the combination of 550 g sugar, 75g butter, 125 g milk powder, 35 g cashew nut and 90 g glucose was adjudged best treatment scoring, highest sensory scores. This treatment was attributed with T.S.S (69.93 0B), acidity (0.064 % C.A), total sugar (74.77 %) and ascorbic acid (160.4 mg/100g).Guava nougat was developed by using cost effective and easily available ingredients

KEYWORDS: Guava, nut bread, nutritional qualities

MEDICINAL PLANTS POTENTIAL IN WOUND HEALING

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ABSTRACT:

Wound is defined simply as the disruption of the cellular and anatomic continuity of a tissue. Wound may be produced by physical, chemical, thermal, microbial or immunological insult to the tissue. The process of wound healing consists of integrated cellular and biochemical events leading to reestablishment of structural and functional integrity with regain of strength of injured tissue.

The aim of treating a wound is to either shorten the time required for healing or to minimize the undesired consequences. Attention should be directed towards discovering an agent, which will accelerate wound healing either when it is progressing normally, or when it is suppressed by various agents like corticosteroids, anti-neoplastics, or non-steroidal anti-inflammatory agents. Wound healing promoters like *aloe vera* extract, honey, comfrey, *chamomilia* extract are necessary for the initiation and promotion of wound healing.

Various herbals have been used in management and treatment of wounds over the years. A few plants like *Aloe vera*, *Azadirachta indica*, *Lantana camara*, *Tridax procumbens*, *Chromolaena odorata*, *Helianthus annuus*, *Jasminum auriculatum*, *Ginkgo biloba*, *Curcuma longa*, *Centella asiatica*, *Cedrus deodara* are scientifically proved to have shown promising wound healing activity and are discussed in this paper. Plants and their extracts for wound healing are not only cheap and affordable but are also safe as hyper sensitive reactions are rarely encountered with the use of these agents. These natural agents induce healing and regeneration of the lost tissue by multiple mechanisms.

KEYWORDS: wound healing, medicinal plants, injured tissue

OVERVIEW ON (NARCOTIC DRUGS & PSYCHOTROPIC SUBSTANCES)

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ABSTRACT:

The system of control of Narcotic Drugs in India has been put in place considering the requirement of narcotic drugs and psychotropic substances for medical use and the country's obligations towards the UN conventions. India is a signatory to The UN Single Convention on Narcotics Drugs 1961, The Convention on Psychotropic Substances, 1971 and The Convention on Illicit Traffic in Narcotic Drugs and Psychotropic Substances, 1988 which prescribe various forms of control aimed to achieve the dual objective of limiting the use of narcotics drugs and psychotropic substances for medical and scientific purposes as well as preventing the abuse of the same.

The administrative and legislative setup in the field of Narcotics has been put in place in the country in accordance with the aforesaid spirit of the UN Conventions. The basic legislative instrument of the Government of India in the regard is the Narcotics Drugs and Psychotropic Substances (NDPS) Act, 1985. Various Ministries and Departments under the Government of India as well as the State Governments exercise various functions pertaining to drug demand and supply reduction. The aspect of drug supply reduction is looked after by various enforcement agencies under the Ministry of Finance, Ministry of Home Affairs and State Governments. The aspect of drug demand reduction is handled by the Ministry of Social Justice & Empowerment and that of treatment of drug addicts and their rehabilitation falls under the domain of the Ministry of Health.

KEYWORDS: Narcotic drugs and psychotropic substances, Illicit traffic in NDPS, NDPS Act.

HERBAL TREATMENT FOR PERIODONTAL DISEASES

Dhawale A A., Shinde S. B, Tarkasband Y. S. and Bhalsing M.

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Tal.Shevgaon Dist. Ahemadnagar

ABSTRACT:

Periodontal disease is an infectious disease process that involves inflammation. Periodontal diseases involve the structures of the periodontium. Periodontal disease can cause a breakdown of the periodontium resulting in Loss of tissue attachment Destruction of the alveolar bone. The present study concluded that periodontal disease is infectious disease, found in adults on and in the range of simple gum inflammation to serious disease, damage soft tissue and bones to that teeth, initiate into major disease like diabetes, HIV. All the mentioned herbs are easily available during any season and are not costly thus the product is economically feasible, due to their inflammation and wound healing property dealings with periodontal diseases.

**REGULATORY ASPECTS OF AYURVEDIC, SIDDHA AND UNANI
MEDICINES**

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ABSTRACT:

The Indian traditional medicine (TM) has a rich heritage of science healing humans and animals. While so much attention is being paid to regulation of biomedicine (BM) practice and research, the same is desirable for TM too. The existing guidelines and regulations related to natural products/herbal formulations should be implemented to integrate BM and TM in a meaningful way for patient-centric treatment, as this would add to the Government's endeavour to improve public health. Registration of practitioners, setting up of statutory bodies controlling education, including prescription of standard texts and syllabus, pharmacopoeia, research, and related guidelines and Acts would serve as standards for evaluating the status of these systems in modern times.

KEYWORDS: Herbal formulations, human experimentation, natural products, public health, traditional medicine.

FORMULATION AND EVALUATION OF HERBAL SHAMPOO

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ABSTRACT:

Present investigation used the physico-chemical approach to preservation and by formulating a self preserving shampoo, have avoided this risk posed by chemical preservatives. However, the aesthetic attributes, such as lather and clarity, of the laboratory shampoo are not comparable with the marketed shampoos. Although the retail products were not fare so well in the tests conducted by us, they enjoy market popularity, especially if they foam well. This is mainly due to the false notion among consumers that ‘a shampoo that foams well, works well’, and no real effort on the part of manufacturers to counter this fallacy. Herbal shampoo was evaluated for physical appearance, ph, cleansing action, wetting time, dirt dispersion, foamv volume and stability etc.

KEYWORDS: Herbal shampoo, Evaluation of shampoo

**FORMULATION AND EVALUATION OF TOPICAL ANTIINFLAMATORY
HERBAL GEL**

**Gargi V. Kirloskar, Nikita K. Jagtap, Rohan R. Bhutada, Mahendra A. Giri,
Rasika D. Bhalke**

ABSTRACT:

Herbal medicines are the oldest form of health care known to mankind. Gel formulations was prepared by using active fraction from *Emblica officinalis* and *Curcuma longa*. The gel was prepared by using Carbopol 934, propylene glycol 400, methyl paraben, propyl paraben, EDTA, Triethanolamine and distilled water. The prepared gel was evaluated for physical appearance, pH, spreadability, skin irritation and invitro anti-inflammatory activity. Results reveal that prepared gel showed good appearance, homogeneity and spreadability. All formulations have studied for skin irritation on animal model (Rabbit) and result showed that there was no skin irritation to animals. Formulation showed significant anti-inflammatory activity.

PHARMACOLOGY

**A REVIEW ON GESTATIONAL DIABETIS MELLITUS & RECENT
UPDATES IN DIABETIS MELLITUS**

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ABSTRACT:

“Gestational diabetes mellitus” (GDM) is defined as carbohydrate intolerance with onset or recognition during pregnancy. Woman diagnosed to have GDM are at increased risk of future diabetes predominantly type2 diabetes mellitus (DM) as are there children. Much need to be done to deal with epidemic of GDM and type2 diabetes in India. There is need for study outcome as well as cost effectiveness of different diagnostic criteria while simultaneously creating social awareness training manpower and sensitizing policy makers to make GDM testing and management Mandatory during pregnancy.

RESISTANCE TO ANTIBIOTICS: A REVIEW

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ABSTRACT:

Antibiotics have a well-documented efficacy in the treatment of established infections and as prophylactic agents in medically compromised patients. Antibiotic therapy enhances the growth of existing drug-resistant bacteria and the exchange of resistance mechanisms between bacteria and selects for resistance mutations. Antibiotic resistance, a well-known phenomenon in nature .It assumes significant public health importance when it gets amplified many folds due to human misuse and neglect. In the present age the threat has become global due to rapid spread of organisms from one part of the world to another. Antibiotic resistance was only caused by the failure of prescribed drug regimens and human errors also contribute to the development of antibiotic resistant bacteria. Antibiotic resistance is an important healthcare problem that can demonstrate marked variability locally, regionally, nationally and globally. Prudent use of antibacterial drugs-using the appropriate drug at the appropriate dosage and for the appropriate duration- is one important means of reducing the selective pressure that helps resistant organisms emerge. All the alternatives strategies to overcome resistance require expanded knowledge of the molecular mechanisms of antibiotic resistance, their origins and evolution, and their distribution throughout bacterial populations and genomes.

KEYWORDS: - prophylactic agents , antibiotic resistant

**MONTELUKAST AND CETRIZINE MAY AMELIORATE PROGRESSION OF
RHEUMATOID ARTHRITIS**

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Pandurang M Gaikwad**

P.D.V.V.P.F'S College of Pharmacy, Vilad Ghat, Ahmednagar (MS) India.414111.

ABSTRACT:

Rheumatoid arthritis is an autoimmune disorder. It is a chronic progressive disease resulting in inflammation of joints and painful deformity and immobility of various joints. Being an autoimmune disease, there's lacuna in proper management of the disease. Current options like steroids and DMARD'S (disease modifying anti-rheumatic drugs) are the cornerstone in therapy of the disease, but have their own limitation. New drugs and better methods for management of rheumatoid arthritis are still evolving. The present review highlights the possible involvement of Montelukast, an antagonist of leukotriene receptors and Cetrizine, an antihistaminic drug in amelioration of the progression of the disease.

KEYWORDS: Montelukast, cetirizine, rheumatoid arthritis, leukotriene, histamine.

**FORMULATION, PREPARATION AND EVALUATION OF SHILAJIT EYE
DROP FOR THE TREATMENT OF CATARACT**

Pravin Adsul, SunilPandit, Prof. H. J. Pagar and Prof. V. V. Nimbalkar

ABSTRACT:

Cataract - opacification of the lens - is closely related to Diabetes, Unhealthy diet, aging as one of its major late complications. This work deals with the study of anticataract activity of Shilajit. In these study goat lenes were used. The goat lenses were incubated in artificial aqueous humor containing 55 mM glucose with Shilajit separately at different dose levels (20µg /ml, 40µg/ml and 80µg/ml) at room temperature for 72 hrs. In these study Ascorbic Acid 40 µg /ml used As a Positive Control. Evaluation was done by using biochemical parameters like Estimation of Total Protein Content.

Positive control and 80 µg/ml Shilajit were show Zero degree of opacity And 20µg /ml, 40µg/ml Shilajit were show slight degree of opacity. The glucose induced opacification of goat lens was also studied as a part of visual evaluation. The data suggest that 80 µg/ml Shilajit are able to significantly retard experimental glucose induced cataractogenesis.

KEYWORDS: Shilajit, Anticataract, Ascorbic acid, Goat lenses.

A REVIEW ON GESTATIONAL DIABETIS MELLITUS & RECENT UPDATES IN DIABETIS MELLITUS

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Tal.Shevgaon Dist. Ahemadnagar

ABSTRACT:

“Gestational diabetes mellitus” (GDM) is defined as carbohydrate intolerance with onset or recognition during pregnancy. Woman diagnosed to have GDM are at increased risk of future diabetes predominantly type2 diabetes mellitus (DM) as are there children. Much need to be done to deal with epidemic of GDM and type2 diabetes in India. There is need for study outcome as well as cost effectiveness of different diagnostic criteria while simultaneously creating social awareness training manpower and sensitizing policy makers to make GDM testing and management Mandatory during pregnancy.

**FORMULATION AND EVALUATION OF TOPICAL ANTIINFLAMATORY
HERBAL GEL**

**Anjali C. Abhale , Manjusha R. Ahire, Pooja R. Chavan, Mahendra A. Giri,
Rasika D. Bhalke**

ABSTRACT:

Herbal medicines are the oldest form of health care known to mankind. Gel formulations was prepared by using active fraction from *Emblica officinalis* and *Piper longum* and *capsicum annum* in varied concentrations. The gel was prepared by using Carbopol 934, propylene glycol 400, methyl paraben, propyl paraben, EDTA, Triethanolamine and distilled water. The prepared gel was evaluated for physical appearance, pH, spreadability, skin irritation and invitro anti-inflammatory activity. Results reveal that gel formulation showed good appearance, homogeneity and spreadability. All formulations have studied for skin irritation on animal model (Rabbit) and result showed that there was no skin irritation to animals. Formulation F3 showed significant anti-inflammatory activity

**FORMULATION AND EVALUATION OF TOPICAL ANTIINFLAMATORY
HERBAL GEL**

**Akshay R. Bharud, Akshay A. Jathar, Vishal R. Chavan, Mahendra A. Giri,
Rasika D. Bhalke**

Sanjivani College of Pharmaceutical Education and Research, Kopergaon

ABSTRACT:

Herbs and herbal chemical constituents are having huge potentials for producing pharmacological effects. Hence, Gel formulation was prepared by using active fraction from *Emblica officinalis* and *Azardirachta indica* and *Aegle marmelosin* varied concentrations. The gel was prepared by using Carbopol 940, propylene glycol 400, methyl paraben, propyl paraben, EDTA, Triethanolamine and distilled water. The prepared gel evaluated for physical appearance, pH, spreadability, skin irritation and invitro anti-inflammatory activity. Results reveal that F3 formulation showed good appearance, homogeneity and spreadability. All formulations have studied for skin irritation on animal model (Rabbit) and result showed that there was no skin irritation to animals. Formulation F3 showed significant anti-inflammatory activity.

**A COMPREHENSIVE REVIEW ON MEDICINAL PLANTS WITH
ANTICANCER ACTIVITY**

**Krushna P. Dhorde, Pratikha D. Bomare, Priyanka V. Funde, Mahendra A. Giri,
Rasika D. Bhalke**

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ABSTRACT:

Cancer is a major public health burden in both developed and developing countries. Cancer after cardiovascular disease is the second leading cause of death. Anticancer activity is the effect of natural and synthetic or biological and chemical agents to reverse, suppress or prevent carcinogenic progression. Several synthetic agents are used to cure the disease but they have their toxicity and hence the research is going on to investigate the plant derived chemotherapeutic agents. Plant-derived compounds have been an important source of several clinically useful anti-cancer agents including taxol, vinblastine, vincristine, the camptothecin derivatives, topotecan and irinotecan, and etoposide derived from epipodophyllotoxin are in clinical use all over the world. About 30 plant derived compounds have been isolated so far and are currently under clinical trials. Cancer chemopreventive agents, many of which are natural products, are capable of preventing or inhibiting the process of carcinogenesis. An attempt has been made to review some medicinal plants having anticancer properties. All these plants are potential candidates for advanced studies since they are showing good anticancer activity. It will be helpful to explore the medicinal value of the plants against the cancer and for the new drug discovery from them for the researchers and scientists around the world.

KEYWORDS: Anticancer properties, Medicinal plants, Literature sources

A REVIEW ON MEDICINAL PLANTS WITH ANTIDIABETIC ACTIVITY

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ABSTRACT:

In the last few years, there has been an exponential growth in the field of herbal medicine and gaining popularity both in developing and developed countries because of their natural origin and less side effects. A comprehensive review was conducted to pile up information about medicinal plants used for the treatment of diabetes mellitus. It is a metabolic disorder of the endocrine system and affecting nearly 10% of the population all over the world also the number of those affected is increasing day by day. It is reported as 422 million adults suffer from diabetes and 1.6 million deaths are directly attributed to diabetes each year. The large number of plants described in this review clearly demonstrated the importance of herbal plants in the treatment of diabetes. This work stimulates the researchers for further research on the potential use of medicinal plants having antidiabetic potential.

KEYWORDS: Comprehensive review, medicinal plant, antidiabetic potential

HERBAL SPRAY FOR PAIN AND INFLAMMATION

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ABSTRACT:

Herbs have been used in ayurvedic medicine for thousands of years. However, it is only in recent times that we have been able to employ scientific methods to prove the efficacy of many of these herbs and to give us a better understanding of their mechanisms of action. The topical herbal spray consisting of natural ingredients that have been clinically proved for its analgesic and anti-inflammatory activity. Formulation is applied on knee and wrist joints, back of neck and shoulder, forearms and lower back exhibited significant efficacy. Spray consisting of Ambahalad, rangatoda, Gaultheria oil, Eucalyptus oil, linseed oil Turpentine oil, Clove Oil, Menthol and Camphor. All the active materials are cited that these have analgesic activity in myalgia and neuralgia. The study design was prospective and opens as pilot study followed the inclusion and exclusion criteria. All the sign and symptoms were noted at baseline and at the end of 14 days treatment performance was evaluated.. It is concluded that herbal spray has shown efficacy in mild to moderate cases on applying locally to the affected parts to relieve pain from different ailments. So our main focus is to avail such formulation and its application.

**ALCOHOL FREE HERBAL HAND SANITIZER- FORMULATION AND
EVALUATION**

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ABSTRACT:

The main aim of preparation of non alcohol herbal hand sanitizer is to prevent unwanted entrance of alcohol. Herbal hand sanitizer provides health hygiene through clean hand. It is a vital principle in prevention, control, removal of any acquired infection. Mainly hand sanitizer stops the chain of transmission of micro-organisms and other bacteria from hand to various part of our body. Hand hygiene is important and one of the most important steps in food production, food services and day care preparation. Hand sanitizer avoids adverse effect like itching, irritation, dermatitis etc. So maintain hands hygiene as a prime criteria-instead of some synthetic formulation, an attempt has been made to formulate non alcoholic herbal sanitizer by using Neem, Kalmegh, and Lemon extract. The formulation was evaluated for its physical parameter.

KEYWORDS: Herbal extract, hand hygiene, antimicrobial agent.

**DEVELOPMENT AND EVALUATION OF NATURAL FORMULATION FOR
THE TREATMENT OF FMD**

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ABSTRACT:

The prevalence of fibro muscular dyspenia (FMD) in cattle increases day by day without effective treatment it is a major threat for the farmers whose economy based on this occupation. In the view of above facts a marine origin formulation has been developed for the treatment of fibro muscular dyspenia which is cost effective and provide immediate relief to cattles from the FMD.

**EVALUATION OF THE DIURETIC AND URINARY ELECTROLYTE
EFFECTS OF *CLITOREA TERNATEA* LINN. (FABACEAE) ETHANOL LEAF
EXTRACT IN WISTAR ALBINO RATS**

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ABSTRACT:

The use of traditional medicines as a diuretic agent has been increasing in recent years. The diuretic activity of a number of plant extracts used as diuretic agents in ethno medicine has been confirmed in experimental animals. However, despite the widespread use of *Clitorea ternatea* in traditional medicine, there is a paucity of data supporting its use as a diuretic agent. Therefore, the present study aimed to envisage the true effect and magnitude of diuresis of *Clitorea ternatea* Linn. ethanol leaf extract (CTE) in comparison with a well-known diuretic drug furosemide using Wistar albino rats. CTE was administered orally in three different doses (100,200 and 400 mg/kg) to experimentally dehydrated rats. Furosemide (10 mg/kg orally) was used as a reference drug. The diuretic effect of the CTE was evaluated by measuring urine volume, urine pH, urinary electrolyte levels, natriuretic and saliuretic effects. The urine volume (in mL) and electrolyte excretion (Na^+K^+ and Cl^-) at 24 h duration were measured. The urine output and urinary electrolyte excretion were found to be significantly higher in rats treated with CTE as compared to normal rats in a dose dependent manner ($P < 0.05$). The results of our study were comparable to furosemide drug. Based on observed results, we can recommend that *Clitorea ternatea* Linn. may be an effective diuretic, however, toxicity studies should be conducted before administration.

KEYWORDS: *Clitorea ternatea* Linn; Diuretic; Furosemide; Carbonic anhydrase

**ANTI-UROLITHIATIC POTENTIAL OF *BRYOPHYLLUM PINNATUM*
AGAINST SODIUM OXALATE (NAOX) INDUCED UROLITHIASIS IN RATS**

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ABSTRACT:

Objective: The present study was intended to investigate anti-urolithiatic effect of *Bryophyllumpinnatum* hydroalcoholic extract (BPHE) against sodium oxalate (NaOx) induced urolithiasis in rats.

Materials and Methods: Animals were grouped as Vehicle Group (received vehicle gum acacia 2% w/v 1 ml/kg/p.o.), Control Group (Sodium oxalate 70 mg/kg,i.p.), Positive control Group (500 mg/kg, p.o. Cystone suspended in gum acacia 2% + Sodium oxalate 70 mg/kg). BPHE lower Group (100 mg/kg, p.o. suspended in gum acacia 2% + Sodium oxalate 70 mg/kg), BPHE higher Group (200 mg/kg, p.o. suspended in gum acacia 2% + Sodium oxalate 70 mg/kg),

Result: Repeated administration of hydro alcoholic extracts of leaves of *Bryophyllumpinnatum* at the doses of 100 and 200 mg/kg significantly ($P < 0.01$) reduced serum creatinine, urea, uric acid, and electrolytes such as serum sodium, potassium, chloride and calcium levels in comparison with the sodium oxalate treated animals when compared with standard drug cystone.

Conclusion: From the above findings study shows that the extracts of leaves of *Bryophyllumpinnatum* could be beneficial against sodium oxalate induced urolithiasis.

KEYWORDS: *Bryophyllumpinnatum*, urolithiasis, sodium oxalate.

**PHARMACOLOGICAL AND PHARMACOGNOSTICAL REVIEW ON
CALOTROPIS GIGANTEA AND *CALOTROPIS PROCERA***

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ABSTRACT

Introduction: Since ancient times, people have used medicinal plants to treat varied diseases. Medicinal plants are the important source of drugs, and many of them that are currently available in the pharmaceutical market are obtained from plant sources. *Calotropis gigantea* and *Calotropis procera* are small shrub, which are used conventionally to treat many diseases such as cancer, diabetes and intestinal disease in African and Asian countries. There have been always an increased focus on primary health care: basic health care which is effective and affordable by developing countries.

Objective: To provide useful information of *Calotropis* species, it could benefit the upcoming needs of the growing population looking for different pharmacological aspects, in the future.

Method: Brief review on recent literature carried out using Scopus, Google scholar.

Result and Discussion: Several studies provide evidence of their antioxidant, analgesic, anti-inflammatory, anti-diarrheal, anticonvulsant, anti-malarial, hepatoprotective, antitumor, antimicrobial and anti-nociceptive properties. This paper aims to review the pharmacological and pharmacognostical features of *Calotropis gigantea* and *Calotropis procera*.

Conclusion: *Calotropis* species not widely perceived. They showed different pharmacological actions, due to the presence of effective secondary metabolites.

KEYWORDS: *Calotropis gigantea*, *Calotropis Procera*, Pharmacognosy, Pharmacology.

BIXA AS A HERBAL HAIR DYE

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ABSTRACT:

The increase in environmental and health hazards in the manufacture of dyes and its use throughout world is a major concern. This work was made possible while investigating the alternative to the synthetic and semi synthetic dyes. The present study is concerned with the formulation of hair dye using color pigments of *Bixa Orellana* seeds. Further, this study is directed to a method for coloring hair, by applying an effective amount of the herbal hair dye composition with distilled water as an acceptable carrier. The herbal hair dye shows dyeing to the applied regions of human hair without causing any hair damage or hair loss when compared to the synthetic and semi synthetic dyes. The active constituent also prevents the hair from damage caused by photoreaction and pollution. This formulation proves to be a vital alternative for the synthetic and semi synthetic dyes.

KEYWORDS: *Bixa Orellana*, hair dye.

**FORMULATION AND EVALUATION OF NOVEL PRNIOosomal
ORGANOgel FOR THE TREATMENT OF BURN**

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ABSTRACT:

A severe burn injury is the most devastating and common emergencies admitted to any hospital. Conventional topical burn formulations are required to be applied 3 to 4 times a day and previous application is needed to be removed prior to application of each new dose. This in itself interferes with healing process and also painful to burn patient. In this research an attempt was made to increase the patient compliance by reducing the dosing frequency through sustained release vesicular drug delivery system like proniosomes. Proniosomes were formulated using different non ionic surfactants like span60, tween60, sodium deoxycholate, sodium cholate by coacervation phase separation method. These formulated proniosomes were evaluated for entrapment efficiency, zeta potential, polydispersibility, particle size and photomicroscopy. Optimized proniosomal batch was incorporated in novel organogel and evaluated for pH, viscosity, miscibility, drug content, spreadability and *in-vitro* diffusion. Proniosomes manufactured using sodium cholate showed highest entrapment. Sustained release was obtained with proniosomal organogel in comparison with conventional formulation.

MEDICINAL PLANTS POTENTIAL IN WOUND HEALING

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ABSTRACT:

Wound is defined simply as the disruption of the cellular and anatomic continuity of a tissue. Wound may be produced by physical, chemical, thermal, microbial or immunological insult to the tissue. The process of wound healing consists of integrated cellular and biochemical events leading to reestablishment of structural and functional integrity with regain of strength of injured tissue.

The aim of treating a wound is to either shorten the time required for healing or to minimize the undesired consequences. Attention should be directed towards discovering an agent, which will accelerate wound healing either when it is progressing normally, or when it is suppressed by various agents like corticosteroids, anti-neoplastics, or non-steroidal anti-inflammatory agents. Wound healing promoters like *aloe vera* extract, honey, comfrey, *chamomilia* extract are necessary for the initiation and promotion of wound healing.

Various herbals have been used in management and treatment of wounds over the years. A few plants like *Aloe vera*, *Azardirachta indica*, *Lantana camara*, *Tridax procumbens*, *Chromolaena odorata*, *Helianthus annus*, *Jasminum auriculatum*, *Ginkgo biloba*, *Curcuma longa*, *Centella asiatica*, *Cedrus deodara* are scientifically proved has to shown promising wound healing activity and are discussed in this paper. Plants and their extracts for wound healing are not only cheap and affordable but are also safe as hyper sensitive reactions are rarely encountered with the use of these agents. These natural agents induce healing and regeneration of the lost tissue by multiple mechanisms.

KEYWORDS : wound healing, medicinal plants, injured tissue

**FORMULATION AND EVALUATION OF POLYHERBAL TOOTHPASTE
FOR ORAL CARE**

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ABSTRACT

The demand for herbal based product such as toothpaste is high these days. Consumers believed by using herbal based toothpaste are safe, effective and less toxicity because less and only safe chemical used as compared to the synthetically produced toothpaste. Therefore, this study was aimed to formulate and evaluate new polyherbal toothpaste which containing herbal extracts that used to treat periodontal problem. The polyherbal toothpaste was formulated using polyherbal extracts namely Neem, Pudina, Clove, Tulsi, Myrrh, Elachi, Sunthi. The formulations were subjected to various evaluation tests like pH, spreadability, abrasiveness, foaming ability, cleaning ability, fineness, moisture and volatile content, tube inertness, test for F-, Pb, As and stability studies. The formulation showed very good anti microbial profile during microbial assay. The formulated toothpaste showed potent inhibition against gram positive bacteria but not against gram negative bacteria. Thereby, it opens a window for future study to enhance the ability of the toothpaste and to prove the efficacy and safety of the formulated toothpaste.

KEYWORDS: Polyherbal toothpaste, antibacterial activity

**ANTIDIARRHOEAL POTENTIAL OF *ADENANTHERA PAVONINA* LINN.
SEED AQUEOUS EXTRACT IN EXPERIMENTAL ANIMALS**

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ABSTRACT:

Objective: To investigate antidiarrhoeal potential of *Adenantha pavonina* seed aqueous extract (APSAE) in experimental animals.

Materials and Methods: The APSAE was administered orally to four groups of animals (six per group) in order to investigate activity against castor oil and magnesium sulfate-induced diarrhea in rats. Loperamide 3mg/kg was used as reference standard.

Results: Oral administration of APSAE at doses 100 and 200 mg/kg exhibited dose-dependent significant ($P<0.05$) antidiarrhoeal potential against castor oil and magnesium sulfate-induced diarrhea in rats when compared with reference standard loperamide.

Conclusion: These findings demonstrate that *Adenantha pavonina* seed aqueous extract shows significant potential, thus justifying its traditional use in diarrhea.

KEYWORDS: *Adenantha pavonina*, Diarrhoea, Castor oil, MgSo₄, Loperamide.

**THE IN VIVO AND IN VITRO DIABETIC WOUND HEALING EFFECTS OF
*ECLIPTA ALBA AND CALOTROPIS GIGANTEA***

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ABSTRACT:

The herbs *Eclipta Alba* and *Calotropis Gigantea* have long been used in traditional Medicine and serve as the principal herbs in treating diabetic foot ulcer. Diabetic complications, such as foot ulcer, impose major public health burdens worldwide. A chemically induced diabetic foot ulcer rat model was used for studying the wound healing effect. This major increase in morbidity and mortality of diabetes is due to the development of both macro- and micro-vascular complications including failure of the wound healing process. Currently, the approved growth factor and cell therapies for diabetic foot ulcers are not routinely used during treatment. Improper wound healing control may result in diabetic foot ulcer or even amputation. Wound healing is a very orderly and highly controlled process characterized by four distinct but overlapping phases: hemostasis, inflammation, proliferation and remodeling.

Our study presents for the first time scientific evidence towards the efficacy of the two herbs in enhancing diabetic wound healing through the actions of tissue regeneration, angiogenesis and anti-inflammation.

KEYWORDS: Eclipta Alba, Calotropis Gigantea, diabetes, wound healing.

A NOVEL HERBAL SKIN CARE DETERGENT SOAP

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ABSTRACT:

Plants have medicinal, pharmaceuticals and cosmetic potential, using it many innovative products can be prepared useful for humans. Nowadays the synthetic soaps capture the market drastically, the source of these soaps are synthetic so they are causing much more adverse effects including skin irritation, endocrine disturbance, risk for children, allergic, vitiligo, non biodegradable, increase the water pollution. The *Balanites aegyptiaca* also known as 'Desert date' in English, "Hinganbet" in Marathi. Traditionally the plant was used for the anthelmintic, antibacterial, anticancer, anti-inflammatory, woundhealing, antidiabetic and hepatoprotective activity. In present study the herbal detergent soap of ripe fruits of *Balanites aegyptiaca* was formulated. Our study presents for the first time scientific evidence towards the efficacy of the *Balanites aegyptiaca* in formulation of skin care detergent soap.

KEYWORDS: *Balanites aegyptiaca*, skin care, Soap.
