MPCST Sponsored One Day National Conference on “Revival, Modernization and Validation of Tribal Medicine to Treat Life Threatening Diseases” on Monday, 16th April, 2018

Organized by:

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ONE DAY NATIONAL CONFERENCE
ON
Revival, Modernization and Validation of Tribal Medicine to Treat Life Threatening Diseases
16th APRIL, 2018

SWAMI VIVEKANAND COLLEGE OF PHARMACY INDORE, M.P.
Vivekanand Knowledge City, Khandwa Road Near Toll Naka, Indore - 452 020 (M.P)
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Abstract Book

MPCST Sponsored

One Day National Conference

On

“Revival, Modernization and Validation of Tribal Medicine to Treat Life Threatening Diseases”

16/April/2018, Monday

Swami Vivekanand College of Pharmacy, Indore, (M.P.) – India
Message

It gives me immense pleasure to know that Swami Vivekanand College of Pharmacy, Indore, is organizing MPCST Sponsored One Day National Conference on Revival, Modernization and Validation of Tribal Medicine to Treat Life Threatening Diseases on 16/April/2018.

India is one of the largest tribal populations in the world and have great culture heritage. The Traditional medicine is one of example worth mentioning as the tribal of our Country has a vast knowledge of herbal therapies and these medicines are passes by them from one generation to another.

Swami Vivekanand College of Pharmacy is always playing a leadership role in academic and research. This conference will provide an excellent platform for the students, academician and researchers engaged in the field of tribal medicine to enrich their knowledge and evolve a mechanism for the betterment of tribal community. The wisdom of tribal people is not yet translated scientifically, though they have vast and experienced based knowledge since the ages.

I would like to congratulate the organizing team and extends my warm welcome to young researchers, budding pharma professionals, speakers, eminent scientists, guests, faculties, and industrialists in this splendid conference and wish the conference a great success

With Best Wishes

Prof. Shailendra Saraf
Dr. V.K. Dixit
Retd. Professor
Dr. H.S. Gaur University, Sagar, (M.P.)

Message

Tribes are as old as human civilization and they are using their own medicine obtained from the nature i.e., considered as tribal medicine. They basically obtained these medicines from forests and have their own concepts about administration.

I am very glad to know that Swami Vivekanand College of Pharmacy, Indore, is organizing MPCST sponsored National Conference on the emerging topic entitled “Revival, Modernization and Validation of Tribal Medicine to treat life threatening diseases” on 16th April 2018.

I would like to congratulate the convener of the conference and his team for organizing a National Conference and wish the Conference a grand success.

Dr. V. K. Dixit
Prof. Swarnlata Saraf  
Dean, Faculty of Technology  
University Institute of Pharmacy  
Pt. Ravi Shankar Shukla University, Raipur (C.G)  

Vice- President  
APTI, National

Message

I am indeed very happy to know that Swami Vivekanand College of Pharmacy, Indore is organizing MPCST Sponsored One Day National Conference on Revival, Modernization and Validation of Tribal Medicine to Treat Life Threatening Diseases dated 16/April/2018.

The knowledge of certain herbs, animals and minerals that have curative and palliative effects were transmitted from one generation to another and it is the outcome of bold experimentation through trial and error method over hundreds of years. Tribal medicine is the mother of all other systems of medicine. The traditional herbalists are part of the community and are often familiar with the details of each family and its environs, so that they are in a better position to deal with their day-to-day problems. In fact the native healers take care of the common ailments of the folk in their home setting.

Organizing an event does not come without an effort. It requires vision, mission and hard work. Conference of such nature provide a great opportunity to Pharma fraternity, not only to update knowledge and keep obsessed with latest developmental scenario in the respective field, but also an occasion for the resource persons, delegates to exchange ideas and interact with each other.

I would like to congratulate the entire team of SVCP for organizing a National Conference on the theme Tribal Medicine and wish the Conference a grand success.

With Best Wishes

Prof. Swarnlata Saraf
Dr. Prakash Shastri  
Dean Agriculture College  
Khandawa (M.P.)

Message

I am happy to know that Swami Vivekanand College of Pharmacy, Indore, (M.P.) is organizing National Conference on the topic Revival, Modernization and Validation of Tribal Medicine to Treat Life Threatening Diseases on 16/April/2018.

Tribes and tribal medicine are as old as human civilization. From past ancient times tribal medicine are very effective to cure the diseases from the root. Tribal medicines are safe, effective and have less or no side adverse effects.

I would like to congratulate the entire team of Swami Vivekanand College of Pharmacy for the efforts they have initiated for such a wonderful theme of Conference.

With Best Wishes for grand success of Conference.

Dr. Prakash Shastri
Mrs. Alka Dubey
Chief Patron

Message

I am glad to know that Swami Vivekanand College of Pharmacy is organizing a MPCST Sponsored National Conference on the topic “Revival, Modernization and Validation of Tribal Medicine to treat life threatening diseases” on 16th April 2018.

This conference will provide a platform to groom scientists from all over the country and to bridge the researchers working in the field of tribal medicine through current technological trends.

I take this opportunity to congratulate the organizing committee and to extend warm welcome to the resource persons and delegates. I thank all the delegates who have come from various parts of the state and across the country and we consider it as our privilege and honor to have you all over here.

I wish you all for the grand success of this wonderful conference

Mrs. Alka Dubey
Mr. Amresh Dubey
Patron

Message

I am very happy to know that Swami Vivekanand College of Pharmacy is organizing a National Conference on the topic “Revival, Modernization and Validation of Tribal Medicine to treat life threatening diseases” on 16th April 2018.

India has a mega diversity of tribes and tribal medicine. Tribes are mainly focused on traditional medicine and uses & practiced the traditional medicines for the cure of diseases. A study about tribal medicine will be incomplete without the background knowledge of traditional medicine.

This National Conference will be useful to the researchers involved in formulation, development and research of tribal medicine. I have full support and wish the organizers for the immeasurable success of the Conference.

Mr. Amresh Dubey
Dr. P.K. Dubey
Director

Message

On behalf of the Swami Vivekanand College of Pharmacy, Indore, I heartily welcome you all the delegates to this MPCST sponsored National Conference on the theme of “Revival, Modernization and Validation of Tribal Medicine to treat life threatening diseases” on 16th April 2018.

From ancient times people of the world have been using plants to cure diseases. Tribal medicines are basically based on plant source. Furthermore, their lifestyle is helpful to keep them healthy.

The conference is aimed to provide interactive forum for expressive exchange of information and to discuss about tribal medicine to treat life threatening diseases. This conference offers an excellent opportunity for the participants to interact with eminent scientists where participant can interact with each other.

I am so honored to be the convener and on behalf of SVCP once again welcomes you all to have a great time. I hope that the interactions amongst you will create opportunities for collaborations in Pharma health professionals.

Dr. P.K. Dubey
### Chief Guest

**Prof. Shailendra Saraf**  
Vice-President, Pharmacy Council of India, New Delhi  
Vice-Chancellor, durg University, Durg (CG)

### Guest of Honour

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Section A

Pharmacognosy and Phytochemistry
Tribal medicines for respiratory disorders among the natives of Central India

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Abstract

Respiratory complaints are very common health problem and increasing alarmingly with the rise of air pollution. Modern allopathic medicines have so far not produced any curative drug for respiratory problems. It only gives symptomatic relief for a short duration. Traditional herbal medicines, however, has some specific herbs which can cure many of the pulmonary complaints from their root. The present paper deals with some of the herbal remedies for respiratory diseases among native of Central India.

Key-words: Respiratory disorders, Tribal, Medicine
Traditional knowledge and conservation of biodiversity for sustainable livelihoods by tribal communities in Madhya Pradesh, India

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Abstract

Human population especially tribal communities have been dependent on plants for millions of years. This has enabled them to evolve a unique system of knowledge on the utilization and conservation of plant resources. Medicinal properties of plants have been recognized and utilized by tribal communities for thousands of years. The tribal possess a great deal of knowledge about medicinal plants and medicines for curing certain life-threatening diseases. The farming practices of tribal people are truly sustainable in many ways. Their subsistence life style, local diet habits and dependence on rainfed irrigation have influenced them to cultivate and conserve the traditional cultivars or land races. During the study in various study sites of Madhya Pradesh it was observed that tribals have their own way of sustainable livelihoods and methods to conserve and use the plants traditionally. The present papers deals with all these aspects of tribal communities.

Key-words: Traditional, Tribal’s, Communities
Need for Revisiting the History for an Integrative Approach for Healing
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Abstract
The biomedical and holistic approaches are two important aspects in this modern era but both of these operate on separate paradigms. The Biomedical approaches are mechanistic and reductionist, both in the diagnosis and treatment of chronic diseases whereas, holistic approaches considers the whole person- body, spirit, mind and emotions in the quest for optimal health and wellness. The notion of holism is embedded at the core of the complementary and alternative medicine (CAM) – herbal therapy, aromatherapy, massage therapy, yoga, meditation, guided imagery and others. Traditional medicine (Herbal therapy) is a very important component of CAM and vouch-safe around 80% of the population of the Asia and Africa to healthcare. The utility of CAM has prompted many developed countries (USA, France, Canada, Australia, and Singapore) to include holistic healing in their healthcare regime. The holistic approach is multi-factorial towards handling wellness and health, and considers the factors responsible for imbalance of the body and analyses the close connection between the factors and the effect on both, the mind and body, which of course are intimately connected.

Key- words: Healing, Integrative approach
An overview of Chinese medicinal herb “Trityrygium wilfordii (thunder god vine)” as an anticancer drug

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Abstract

Trityrygium Wilfordii (Thunder God Vine) is a traditional Chinese medicine that was known to be effective for the treatment of inflammatory and autoimmune diseases, it is now being investigated for its “antitumor properties”. A tumor is a lump or growth of tissue made up from abnormal cells. Cancer is a disease in which abnormal cells divide uncontrollably and destroy body tissue. Triptolide an unusual tri-epoxide and quinone tri-terpene celastrol are two active ingredient purified from the plant Trityrygium Wilfordii hook F has been shown in animal models to be effective against cancer, arthritis and skin graft rejection.

Keywords: autoimmune disease, tumor, antitumor, inflammatory
Traditional medicine according to present scenario

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Abstract

Traditional Medicine according to WHO “the sum total of the knowledge, skills, and practices based on the theories, beliefs, and experiences indigenous to different cultures, whether explicable or not, used in the maintenance of health as well as in the prevention, diagnosis, improvement or treatment of physical and mental illness”. Traditional Medicine can be classified as ayurvedic, Unani, siddha, Homeopathic medicine, and naturopathy and yoga medicine. Traditional medicine plays an important role in health care in both developed and developing countries. The World Health Organisation estimated that 75 percent of the populations in developing countries rely on traditional medicine, mostly plant drugs for their primary health care needs. It is estimated that over one-third of the world's population lacks regular access to affordable essential drugs. Many countries have applied modern medical knowledge and methods on traditional medicine and revived it to suit the modern society. The practice of traditional medicine is widespread in China, India, Japan, Pakistan, Sri Lanka and Thailand. In China about 30 percent of the total medicinal consumption is attributed to traditional tribal medicines. In Japan, herbal medicinal preparations are more in demand than main streams pharmaceutical product. In Europe, some 1500 species of medicinal and aromatic plants are widely used on Albania, Bulgaria, Croatia, France, Germany, Hungary, Poland, Spain, Turkey, and the United Kingdom. The Maltese islands constitute an apt example where medicinal plants are widely used in everyday life as part of folk medicinal remedies.

Keywords: Traditional Medicine, WHO, Remedies, World
Qualitative assessment of different marketed brands of Lohasava
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Abstract
The qualitative estimation of herbal formulation Lohasava, is of principal importance in order to justify their adequacy in present system of medicine. One of the key problems which is faced by the herbal drug industry is the unavailability of rigid quality control profiles for herbal materials and their formulations. Regulatory bodies have such as WHO, AYUSH, ICH etc., had laid down the standardization and specifications parameters for various ayurvedic preparations. The present Investigation evaluated different brands of Lohasava available in the market as per WHO and Indian Pharmacopoeial specifications. Various physicochemical parameters such as Loss on drying, total ash, sugar content, alcohol content and microbial content were determined. The result reveals that all the preparations contain acceptable levels of alcohol (less than 12% v/v).

Key-words: Lohasava, Quantitative, WHO
A Review on Potential Anti-Dengue Medicinal Plants
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Abstract

Dengue fever causes mortality and morbidity around the world, specifically in the Tropics and Subtropics regions, which has been of major concern to governments and the World Health Organization (WHO). The virus group consists of 4 serotypes that manifest with similar symptoms. Dengue causes a spectrum of disease, ranging from a mild febrile illness to a life-threatening dengue hemorrhagic fever. As a consequence, the search for new anti-dengue agents from medicinal plants has assumed more urgency than in the past. The demand for plant-based medicines is growing as they are generally considered to be safer, non-toxic and less harmful than synthetic drugs. This article reviews potential anti-dengue activities from plants distributed around the world. Sixty-nine studies from 1997 to 2012 describe 31 different species from 24 families that are known for their anti-dengue activities. About ten phytochemicals have been isolated from 11 species, among which are compounds with the potential for development of dengue treatment. Crude extracts and essential oils obtained from 31 species showed a broad activity against Flavivirus. Current studies show that natural products represent a rich potential source of new anti-dengue compounds.

Keywords: Dengue fever, Anti-dengue, Medicinal plants, Phytochemicals
Evaluation of different marketed asava
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The objective is to study and compare the evaluation of different marketed ASAVAS and to draw a conclusion about their purity. The standardisation and evaluation parameters which would be covered include moisture content, extractive value, ash value, loss on drying which were carried out for two different brands i.e. Patanjali and Dabur. This comparison study is made to analyze the better brand product with accurate standards performed within the standards for herbal formulation. The research describes and focus on the difference in the standardisation parameters of same herbal drug i.e. asava by different company, hence raise the topic of introducing standard book which cover all the parameters that are linked with herbal product.

Keywords: Asava, Standardisation, Evaluation
Sepsis treatment by herbal medicine: A review
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Abstract

Sepsis is a severe multi organ dysfunction and the life threatening disease which is difficult to treat. It is not a definitive disease that is defining sepsis is not simple. It is characterized by metabolic and systemic inflammatory response to microbial infection. Conventional therapy have also been failed to change themortality and morbidity rate of septic shock patient. Administration of medicinal plant promotes immune modulatory action through cytokines, receptors, leukocytes, migration and apoptosis of lymphocytes. According to research, only 20% people survive sepsis. This review discusses the treatment of sepsis by various herbal medicines.

Keywords: Sepsis, Septic shock, Herbal medicines
Tribal medicine to treat schizophrenia
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Abstract

Schizophrenia is a subtle disorder of brain development and plasticity it affects
the most basic human processes of perception, emotion, and judgment. In the
traditional medical practitioners of rural and remote areas characterized the
schizophrenia as an insanity or a mental problem due to possession by ghosts
or evil spirits and they have used various plant species’ to treat such
symptoms. The aim of the present study was to conduct an ethnomedicinal
plant survey of different plant parts used by the traditional medical practitioners
for the treatment of schizophrenia like psychosis. It was observed that the
traditional medical practitioners used various plant species to make
formulations, used for treatment of schizophrenia and accompanying
symptoms like hallucination, depression, oversleeping or insomnia,
deterioration of personal hygiene, forgetfulness, and fear due to evil spirits like
genies or ghost. A search of the relevant scientific literatures showed that a
number of plants used by the medicinal practitioners have been scientifically
validated in their uses and traditional medicinal knowledge has been a means
towards the discovery of many modern medicines.

Keywords: Schizophrenia, Ethnomedicinal, Traditional medical practitioner
Reverse pharmacology in Ayurvedic system of medicines: A review

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Abstract

With an increasing global demand of herbal products due to its high efficacy and reduced side effects for treatment of chronic diseases. Ayurveda has been playing a vital role since ancient times. It has been preferred by more than 70% of India’s population. Ayurvedic compounds have high potential to treat chronic disease. Reverse Pharmacology is the science of integrating documented clinical/experiential hits, into leads by trans disciplinary exploratory studies and further developing this into drug candidates by experimental and clinical research. Generally, reverse pharmacology reverse the routine of ‘Laboratories to clinic’ to Clinics to laboratories’. In this process safety remains the major criteria. The study focuses on the advancements of a products and reverse pharmacology approach for ayurvedic medicines used for the treatment of various disease and to integrate effective and safe usage.

Keywords: Reverse Pharmacology, Ayurveda, Experiential hits
A review on herbal drugs used in treatment of osteoporosis
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Abstract
Osteoporosis is also known as "the silent disease" because early symptoms are generally absent, it mainly causes progressive bone loss due to low bone density, which renders the bones susceptible to fractures. Many synthetic drugs are present in market for treatment but have few side effects. So the demands for herbal medicines are increasing day by day. Since Medicinal plant contains numerous phytoconstituents which are helpful in improving BMD and Osteoporosis. Herba Epimedii, Ficus Religosa Labisia pumila and Fructus Ligustri Lucidi Piper sarmentosum are some examples of the popular ethnic herbs, which have been used in treatment of osteoporosis.

Key words: Osteoporosis, Herbal Drugs
**Artocarpus obtusus – Nutraceutical to Medicine**

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**Abstract**

Cancer is characterized by uncontrolled growth of cell lines. *Artocarpus obtusus* (jack fruit) belongs to family *Moraceae* has an impressive nutritional profile, containing magnesium, potassium, copper, manganese and vitamins etc. It is used as food in various parts of India but it also possess some therapeutic potentials such as antimicrobial, antioxidant and boost immunity. Jack fruit contains polyphenols, which are responsible for anticancer activity. Research suggests that polyphenolic constituents and vitamins present in fruit shows activity against cancerous cell lines. In future, jack fruit can be developed as a preventive medicine for life threatening disease cancer.

Key-words: Cancer, Nutraceuticals, Medicine
Advancement in the standardization of herbal drugs:
A Review
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Abstract
Herbal formulations have reached extensive acceptability as therapeutic agents for several diseases. The development of authentic analytical methods which can reliably profile the phytochemical composition, including quantitative analyses of marker/bioactive compounds and other major constituents, is a major challenge to scientists. Standardization is an important step for the establishment of a consistent biological activity, a consistent chemical profile, or simply a quality assurance program for production and manufacturing of herbal drugs. WHO specific guidelines for the assessment of the safety, efficacy and quality of herbal medicines as a prerequisite for global harmonization are of utmost importance. In addition, phytosomes increased bioavailability, bhasma as a metal nanocarrier drug delivery system, potential of metabolomics in the development of improved phytotherapeutic agents, DNA based molecular markers indistinguishing adulterants, and SCAR markers for authentication and discrimination of herbs from their adulterants are reported. The extraction of high-valued herbal compounds using microwave–assisted extraction and supercritical phase extraction technology followed by the standardization utilizing various spectroscopic, chromatographic and thermogravimetric techniques individually and/or in combination has been discussed in relation to herbal drugs. Capillary electrophoresis and polarographic techniques contributions towards standardization of herbal drugs is also reported.

Keywords: Herbal drugs, standardization, nanoherbal drugs, phytosomes, DNA marker, chromatographic and spectroscopic technique.
Present Status of Herbal medicines in India
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Abstract
Interest in herbal drugs is growing due to their efficiency, low toxicity and absence of side effects. The world flora renewable non-exhaustive source of bioactive compound. The Indian government has banned 29 endangered species of medicinal plant from their programmes should be start to aware the Indian public about useful and toxic plants. About 0.75 per cent herbal drug have been studied in clinical trials. Natural habitats and encourage to grow 32 plant drug on the basis of market demand. However, environmental factor in relation to potent phytoconstituents and therapeutic efficiency are neglected in many cases for cultivation of plant drug. The demand of herbal drug in the international trade is less than 0.5 per cent mainly due to presence of toxic component. The therapeutic uses of folklore Indian herbal drug have been evaluated successfully and many new medicinal plant and therapeutic use have been discovered. The Indian phytochemists have studied mainly medicinal and aromatic plant. But isolation techniques for target compound have not been developed for majority of tradition drug due to lack of research facilities, multidisciplinary coordination and market demand of pharmaceutical industries. Many institutions are engaged to develop standardization parameters for the herbal drug. In present review we have discussed some important aspects of herbal medicine in India.

Keywords: Herbal medicine, Ethnobotany, Phytochemistry, Herbal drugs.
Few aspects of toxic contamination in herbal drugs

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Abstract

The World Health Organization survey indicated that about 70-80% of the world populations rely on non-conventional medicines mainly of sources in their primary healthcare. In recent years, we have witnessed the increasing growth in popularity of over-the-counter (OTC) health foods, nutraceuticals, and medicinal products from plants or other natural sources in developed countries. Over the past decades several news-catching episodes in developed communities indicated adverse effects, sometimes life threatening, allegedly arisen consequential to taking of OTC herbal products or traditional medicines from various ethnic groups. These OTC products may be contaminated with excessive or banned pesticides, microbial contaminants, heavy metals and microbial contaminants may be related to the source of these herbal materials if they are grown under contaminated environment related factors can be controlled by implementing standard operating procedures (SOP), leading to Good Agricultural Practice (GAP) and Good Manufacturing Practice (GMP) for producing these medicinal products from herbal or natural sources. The public’s belief that herbal and natural products are safer than synthetic medicines can only be ascertained by imposing regulatory standards on these products that should be manufactured using these Good manufacturing practices. In this review we have discussed how advances in chemical and biomedical analysis would help to detect intentional and unintentional toxic contaminants in herbal substances.

Keywords: Chemical and biomedical analyses, Heavy metals, Herbal medicines, Pesticides, Toxic contaminants
Tribal herbal medicine of Malwa Region of Madhya Pradesh: Need of Conservation

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Abstract

WHO has already recognized the contribution of traditional health care in tribal communities. In the present work authors have collected 35 plant species from different study sites of Malwa region of Madhya pradesh. These species contain valuable chemical substances and are useful to cure various human ailments. During the course of present investigation attempt was made to flourish the status and conservation strategies of the plant species and among 35 plant species it has been found that 05 species are endangered, 10 species are critically endangered, 15 species are vulnerable, and rest are rare and common in occurrence in the study area and the method are mentioned by the ethnic group to conserve these plant species. However, different types of strategies are require to adopted such as in-situ conservation, ex-situ conservation and traditional conservation to conserve the plants which are vulnerable and endangered.

Keywords: Tribal Medicine, Conservation, Malwa region
Traditional herbal medicine used by tribes of Madhya Pradesh in the treatment of Cough

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Abstract

Malwa region (Indore) of Madhya Pradesh sustains a very rich traditional medicinal plant wealth and inherits unique plant and animal communities. The present paper enumerates traditional herbal medicine used in the treatment of cough by tribes of Malwa region of Madhya Pradesh. An exhaustive ethomedicinal survey was made for the collection of the 18 medicinal plants and their data’s were presented in this paper. The herbs viz., Ocimum sanctum, Eugenia carophyllus, Foeniculam vulgare, Piper longum, piper nigrum, Ficus relegiosa etc., were identified, their method of preparation, dose and duration along with parts used has been mentioned in the present paper.

Keywords: Malwa region, Cough, Tribes
Fruits and vegetables that resembles to body organs and have significant role on them

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Abstract

Vegetables and fruits are considered essential for well-balanced diets since they supply vitamins, minerals, dietary fiber, and photochemicals. Each vegetable and fruit contains a unique combination and amount of these phytonutriceuticals, which distinguishes them from other groups and vegetables within their own group. In the daily diet vegetables have been strongly associated with improvement of gastrointestinal health, good vision, and reduced risk of heart disease, stroke, chronic diseases such as diabetes, and some forms of cancer. There’s no question that maintaining a nutritious diet can help keep your body healthy. But when it comes to which foods can specifically benefit which body parts, science remains surprisingly sketchy. But nature gives us a big clue as to what foods help what part of our body. All will actually very surprised as to know this, Have you ever wondered to know that there are some foods that look like body parts. Here is the list of these foods that look like body parts they’re good for and their benefits.

Keywords: Vegetables and fruits, Phytonutriceuticals, Gastrointestinal, Diabetes
Indian herbs and herbal drug used for the treatment of diabetic
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Abstract
Medicines derived from medicinal plants are used by about 60% of the world's population. This review focuses on Indian Herbal drugs and plants used in the treatment of diabetes, especially in India. Diabetes is an important human ailment affecting many from various walks of life in different countries. In India it is proving to be a major health problem, especially in the urban areas. Though there are various approaches to reduce the ill effects of diabetes and its secondary complications, herbal formulations are preferred due to lesser side effects and low cost. A list of medicinal plants with proven antidiabetic and related beneficial effects and of herbal drugs used in treatment of diabetes is compiled. These include, Allium sativum, Azadirachta indica. One of the etiologic factors implicated in the development of diabetes and its complications is the damage induced by free radicals and hence an antidiabetic compound with Traditional antioxidant properties would be more beneficial. Therefore information on antioxidant effects of these medicinal plants is also included.
Keyword: Antidiabetic, Allivum sativum, Azardirachta indica
Preliminary phytochemical screening of ethanolic extracts of leaves of *Cassia absus* Linn.

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**Abstract**

The leaves of *cassia absus* Linn were qualitatively analyzed for various phytochemical screening like alkaloids, tannins, saponins, anthraquinones, anthocyanosides, flavonoids, carbohydrates, proteins, steroids, terpenoids, cardiac glycosides and phlobatannins. The leaf extracts were prepared using various solvents like ethanol, methanol and ethyl acetate to detect the presence of the active components. The phytochemical screening exhibited the presence of alkaloids, tannins, saponins, steroids, anthraquinones and anthocyanosides.

Key words: *Cassia absus*, solvents, phytochemical constituents
Si Junzi Tang: The Four Gentleman Decoction
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Abstract

Si Junzi Tang, the decoction of four noble drugs is known as four gentlemen decoction. This well known Traditional Chinese Medicine (TCM) has very attractive medicinal properties and it is used to treat various disease and disorders now a days. Si Junzi Tang has four ingredients: ginseng, licorice, atractylodes, and hoelen. These four herbs have a mild nature and support the body functions; they do no harm and their qualities are well suited to the stomach-spleen. It also stimulates hormones secreted by gastrointestinal mucosa cells, for example gastrin, cholecystokinin, and glucagon. It increases the level of Insulin-like growth factor-1, which stimulates growth of the intestinal mucosal barrier, upregulates the digestive enzymes, improves differentiation and maturation of immune cells, & thus improves the immune system.

Key-words: Si Junzi, Decoction, herbs
Preliminary phytochemical screening of ethanolic extracts of flowers of *Cassia fistula* Linn.

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Abstract

The flowers of *Cassia Fistula* Linn. were qualitatively analyzed for various phytochemical screening like alkaloids, tannins, saponanine and flavonoids. The flowers extracts were prepared using ethanol solvent to detect the presence of the active components. The phytochemical screening exhibited the presence of alkaloids, tannins, saponanine and flavonoids.

Key words: *Cassia fistula*, alkaloids, tannins etc.
Herbal Drug Regulation and commercialization an Indian industry- A Review

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Abstract

The recent expansion in use of herbal medicines has led to a sudden increase in herbal manufacturing units. In India, there are about 14 well-recognized and 86 medium scale manufactures of herbal drugs. In addition, thousands of Vaidyas also have their own miniature manufacturing facilities. The assessed current annual production of herbal drugs is around Rs. 3500 crores. This section gives an indication of the rapidly growing Indian herbal industry followed by the legal parameters surrounding the manufacturing of herbal drugs. India has perhaps the world’s oldest as well as largest tradition of systems of medicine. The term Indian Systems of Medicine covers both the systems which originated in India as well as outside but got adopted in India in course of time. These systems are Ayurveda, Siddha, Unani, Homoeopathy, Yoga, and Naturopathy. They have become a part of the culture and traditions of India. India with its strong base in traditional knowledge on herbal medicine and vast plant biodiversity has a great potential in this sector. The collected Indian system of medicine puts to use raw drugs obtained from around 2,400 plant species. The number of raw drugs in trade is still less i.e. 1289 botanicals obtained from 960 plant taxa. Proper implementation of the Drugs and Cosmetics Act of 1940, development of more elaborate guidelines on quality control aspects, and development of marker-based standards are needed to produce safe and effective herbal medicines in India. Because evidence-based studies are becoming progressively essential for establishing the safety and efficacy of herbal products in the domestic and export market, more focus should be placed on scientific and technological advancement in the field of herbal medicine. Regulatory management becomes essential to moderate the delays in commercialization across countries.

Keywords: Herbal, Indian Industry, Regulation
Preliminary phytochemical screening of ethanolic extracts of bark of *Holarrhena antidysenterica* Wall

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**Abstract**

The bark extracts of *Holarrhena Antidysenterica* Wall were qualitatively analysed for phytochemical screening like saponins, carbohydrates, amino acid, protein, carbohydrates, alkaloids, steroids and flavonoids. The bark extract were prepared using ethanol solvent to detect the presence of the active components. The phytochemical screening exhibited the presence of saponins, carbohydrates, amino acid, protein, carbohydrates, alkaloids, flavonoids and steroids.

Key words: *Holarrhena antidysenterica*, Phytochemical Screening.
Preliminary phytochemical screening of ethanolic extracts of roots of *Butea monosperma* Lam.

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**Abstract**

The roots of *Butea monosperma* Lam. were qualitatively analysed for various phytochemical screening like alkaloids, tannins, saponins, glucose, glycoside (aglycone) and an aromatic hydroxyl compound. The roots extracts were prepared using solvents ethanol to detect the presence of the active components. The phytochemical screening exhibited the presence of alkaloids, tannins, glucose, glycoside (aglycone) and an aromatic hydroxyl compound.

Key words: *Butea monosperma*, solvent, phytochemical screening.
A review on ayurvedic medicinal plants for eye disorders from ancient to modern era


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Abstract

The management of eye disorders by chemical drugs without any side effects is still a challenge to the medical system. But the herbal medicines have potential to overcome the limitations associated with conventional drugs. Therefore; many efforts have been made to identify new medicinal plants from different sources because of their effectiveness, fewer side effects and relatively low cost. Approximately 200 plants worldwide have been documented to support treatment of eye disorders and several plant species have been advocated in Traditional Indian Medicine for their ophthalmic effects. In the present review it is proposed to highlight the medicinal plants used from ancient time for the treatment of eye diseases, their merits and demerits and role of Modern medicines over demerits of medicinal plants traditionally used for eye disorders. Review concluded that by using techniques and polymers of modern era, the best Herbal formulations may be developed.

Key-words: Treatment for eye disorders, topical eye ointment
A review on medicinal plant use in cancer treatment  
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Abstract

Globally cancer is a disease which severely effects the human population. There is a constant demand for new therapies to treat and prevent this life-threatening disease. Scientific and research interest is drawing its attention towards naturally-derived compounds as they are considered to have less toxic side effects compared to current treatments such as chemotherapy. The Plant Kingdom produces naturally occurring secondary metabolites which are being investigated for their anticancer activities leading to the development of new clinical drugs. With the success of these compounds that have been developed into staple drugs for cancer treatment new technologies are emerging to develop the area further. New technologies include nanoparticles for nano-medicines their include ginger, citrus limon, azadiracta indica, ipomoea batatas tubers which aim to enhance anticancer activities of plant-derived drugs by controlling the release of the compound and investigating new methods for administration. This review discusses the demand for naturally-derived compounds from medicinal plants and their properties which make them targets for potential anticancer treatments.

Keywords: cancer, nano particle, nano medicines.
Traditional phytotherapy used by tribes of Malwa region of Madhya Pradesh against joint diseases

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Abstract

The present paper deals with herbal plants eg. Adusa, pyaz, neem ,bhangra etc used against joint diseases rheumatism, arthritis and gout by the tribal and rural people of Malwa region of Madhya Pradesh. Their primary treatment of diseases is observation of nature and their understanding of traditional knowledge of medical practices. These plants are arranged alphabetically order with their family, local name(s), part(s) used and method of preparation are given in this paper.

Keywords: Rheumatism, arthritis, gout, tribal, traditional knowledge
Medicinal plants used by traditional healers for the treatment of malaria  

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Abstract  

About 50% of the Indian population is at risk of contracting malaria each year, the majority of people, especially in rural areas, use traditional plant-based medicines to combat malaria. This explorative ethnobotanical survey was undertaken to document how malaria is conceptualized and diagnosed by traditional healers, and to record the medicinal plants used in the prevention and treatment of malaria, their mode of preparation and administration.  

Keywords: Malaria, Traditional healers
A review on Himalayan Yew

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Himalayan yew also know as *Taxus wallichiana* Zucc., belongs to the family Taxaceae. It is a medium-sized, temperate, Himalayan forest tree of medicinal importance. It has been used by the native populations for treating common cold, cough, fever, and pain. Its uses are described in Ayurveda and Unani medicine. It received attention recently as its leaves and bark were found to be the prime source of taxol, a potent anticancer drug which has a unique property of preventing the growth of cancerous cells and is used in the treatment of breast and ovarian cancer. The present paper highlights the

Keywords: Taxus, uses, cancer
Ashwagandha: A potential medicinal herb

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Abstract

Ashwagandha (\textit{Withania somnifera}), generally known as Winter Cherry or Indian Ginseng, is a plant in the \textit{solanaceae} family. Ashwagandha is extensively used in many indigenous systems of medicine for the treatment of various ailments, such as asthma, bronchitis, inflammatory diseases, ulcer & stomach problems. Steroidal lactones have been reported as the key phytoconstituents of this species. Different pharmacological experiments in a number of \textit{in vitro} and \textit{in vivo} models have credibly demonstrated the ability of \textit{Withania somnifera} to exhibit anti-inflammatory, anti-oxidative, antimicrobial, aphrodisiac, immunomodulation, anti-diabetic, anticancer, anti-anxiety, central nervous system depressant and hepatoprotective activities, lending support to the justification behind several of its traditional uses. The species is also used to treat some neurological disorders like Parkinson’s and Alzheimer’s. The molecules such as withaferin A, and withanolide D, withanolide A isolated from this plant are potential bioactive molecules.

Key words: - Indigenous Herb, Aphrodisiac, Harbal, Immunomodulation.
Medicinal uses of Aloe vera
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Abstract

The plant Aloe vera is used in Ayurvedic, Homoeopathic and Allopathic streams of medicine, and not only tribal community but also most of the people for food and medicine. The plant leaves contains numerous vitamins, minerals, enzymes, amino acids, natural sugars and other bioactive compounds with emollient, purgative, anti-microbial, anti-inflammatory, antioxidant, aphrodisiac, anti-helmenthic, antifungal, antiseptic and cosmetic values for health care. This plant has potential to cure sunburns, burns and minor cuts, and even skin cancer. The external use in cosmetic primarily acts as skin healer and prevents injury of epithelial tissues, cures acne and gives a youthful glow to skin, also acts as extremely powerful laxative.

Key words: Aloe vera, uses
Phytochemical and Pharmacological Properties of *Cucumis sativus* Linn

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**Abstract**

Various plants have been used in different parts of the world to treat human diseases and infections. Plants are used medicinally in different countries and are a source of many potential and powerful drugs. India is the largest producer of medicinal herbs and appropriately called as Botanical garden of the world. *Cucumis sativus* Linn commonly known as jeera have tremendous medicinal properties as mentioned in ayurveda and in folk-lore. The present review focuses on phytochemicals and pharmacological activities of the plant.

Keywords: *Cumunis sativa*, uses, phytochemistry
Insight on guideline for setting up of small scale herbal industry
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Abstract

Indian herbal market is one of the fastest growing markets and may attain to 14500 crore by 2017. The herbal industry biz potential has revealed that currently the Indian herbal market size is estimated at Rs. 7000 crore and over Rs. 3600 crore of herbal raw materials and medicines are exported by India. The herbal products become very popular now a days and found more application in medicinal treatment across the world. Health authorities and governments of various nations have taken an active interest in providing standardized botanical medications. Government of India has also plunged into this opportunity and initiated some regulations in this sector. More than 15 lakh practitioners use MPs in preventive, promotive and curative applications. There are over 7,800 manufacturing units of herbal product in India according to Planning Commission, 2000. To ensure and enhance the quality of ASU medicines, the Government of India has notified Good Manufacturing Practices (GMP) under Schedule ‘T’ of the Drugs and Cosmetics Act 1940 which also ensures raw materials used in the manufacture of drugs are authentic, of prescribed quality and are free from contamination. The purpose of this paper deals with the profile of the herbal medicine manufacturing units and the Acts governing them in India. It also provides an insight on regulation of herbal industry in India.
Foeniculum Vulgare: A Hepatoprotective Herb
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Abstract

Foeniculum vulgare Mill. (Umbelliferae) is a perennial biennial and annual aromatic herb. Foeniculum vulgare (fennel) has hepatoprotective activity as well as antioxidant, antitumor, activities. Its essential oil was studied using carbon tetrachloride induced liver injury model in rats. The hepatotoxicity produced by acute carbon tetrachloride administration was found to be inhibited by essential oil with evidence of decreased levels of serum aspartate aminotransferase, alkaline phosphatase, alanine aminotransferase and bilirubin. The most significant and the well studied effects are the antioxidant & antimicrobial effects of essential oil of Foeniculum vulgare in diverse experimental models. The observed health benefits may be due to the presence of the many phytochemicals like flavonoids, volatile compounds, fatty acids, phenolic compounds, and amino acids.

Key words: Foeniculum vulgare, uses
Therapeutic use, benefits and claim of the Tea plant
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Abstract
The medicinal effects of tea have a history dating back almost 5000 years. The chemical components of tea chiefly include polyphenols, caffeine and amino acids. Tea also contains flavonoids, compounds reported to have anti-oxidant properties having many beneficial effects. Tea flavonoids reduce inflammation, have antimicrobial effects and prevent tooth decay. Consumption of tea may have diuretic effects due to the caffeine. A related compound found in tea is theophylline, a licensed medicine for the treatment of respiratory diseases such as asthma. Today’s computer-driven world can generate complicated lifestyle-related disorders and consumption of certain natural product like tea may very well replace the ill-effects of chemical drugs leading to a safer world with happier life. The paper is an overview of revealing all such ethno medicinal research efforts throughout the world over the times.

Keyword: caffeine, flavonoid, antioxidant, amino acid.
Quantitative estimation of gallic acid and tannic acid in herbal tablet
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Abstract

The current study describes development and validation of new, rapid, simple, sensitive, accurate, robust and precise HPTLC method for quantitative determination of gallic acid and tannic acid in herbal tablet containing *Terminalia chebula* fruit with densitometric detection. The chromatographic separation was carried out on Silica gel layer on HPTLC pre-coated plates using toluene: ethyl acetate: formic acid: methanol (3:3:0.8:0.2 v/v) as mobile phase and silica gel layer is stationary phase run on the plates and Rf value of 0.62-0.70 for tannic acid.

Key-words: *Terminalia chebula*, TLC, gallic acid, tannic acid
Phytochemical studies of Custard Apple: An overview
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Abstract

Annona squamosa L. belongs to the Annonaceae family. The fruits of this tree are consumed mainly in natural or as ingredients in juices and desserts. In general, the pulp of A. squamosa L. is considered rich in calorie content, with high levels of total sugars, vitamin C and vitamin B complex, and some minerals. The chemical compositions of different types of A. squamosa have been shown to be variable. This indicates that the concentration of the chemical components of this species may be influenced by factors that vary across regions, such as edaphoclimatic conditions and genotypic differences. The present review focuses on the phytochemical variation of the species.

Keywords: Annona squamosa; Nutritional composition; Pulp
Traditional herbal medicine for bone disease
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Abstract
Fracture is defined as complete or incomplete separation in the continuity of bone. Fracture healing is a complex physiological process that involves the coordinated participation of hematopoietic and immune cells within bone marrow. Herbal plants used to treat various bone diseases and bone fracture, Herbs can effective in reducing swelling pain and soreness of the fracture and asl so speedy recovery of function. In last few decades there has been growing In alternative forms of therapy globally. Herbal medicines are currently in demand and their popularity is increasing because of their negligible side effect.

Key-words: Bone disease, fracture, herbal treatment, medicinal plant
Traditional uses of *Capparis decidua*

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**Abstract**

*Capparis decidua* (Forsk) Edgew commonly known as Kair, is an important nutritional and medicinal plant. It belongs to family Capparidaceae. The flower buds and immature green fruits are pickled, cooked and consumed as vegetables. The mature fruits, meanwhile, are consumed fresh. The fruits are rich in protein (8.6%) and vitamin C (7.8 mg/100 g of pulp by weight). The amount of sugar varies from 1.7 percent to 3.0 percent. The seeds contain 20.3 percent oil. Aside from economic uses, kair also have medicinal qualities. The immature fruits are used to cure the stomach problems especially constipation. The bark is used to cure coughs, asthma, ulcers, boils, vomiting, piles and all types of inflammations. Stem bark is also used for rheumatism and toothaches, including pyorrhea. Simultaneously, it will be valuable to evaluate utility potential of flower/fruits in cancer patients due to high content of spermidin containing alkaloids, which are implicated in tumorogenesis. The young shoots and leaves are used as antidote against poison and as a cure for joint problems. The oil from the seeds contain nitrogen and sulphur which is used to cure skin diseases. The present paper highlights nutritional and medicinal importance of the kair and unnoticed threatened status in their respective riches for sustainable.
A study on current trends, marketing strategies and challenges for Tribal Medicines

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Abstract:
Tribal medicines are being used for ages for safety, efficacy and cultural acceptability by the people living in remote areas and forests. Plant and plant products have saved lives by curing and preventing diseases throughout history. Because of side effects of allopathic drugs, herbal products are becoming popular in market. In spite of rich traditional usage herbal and natural medicines and availability of a large number of medicinal plants, India is not showing its presence in international market. This article is an effort to look into the measures to be applied for promotion of Indian herbal and tribal medicines. The current scenario and perceptions of tribal medicine are discussed the article explores the opportunities and ways to tap the huge potential our rich knowledge of wild medicines holds.

In remote and tribal areas plants play an important role in medicine as there is lack of proper medical facilities. Through observation and experimentation, people have learnt that plants can cure the illness and promote health. These natural remedies are cost effective and safe, without any serious side effect.

The article through light on current trade patterns of tribal medicines, Role of NMPB in promotion of tribal medicines, marketing strategies to increase popularity of tribal medicinal plants as well as making it a profitable business in future. Authors have also tried to learn the export and import scenario and ways to improve the sustainable development of Indian medicinal plant business worldwide.

Key words: Medicinal plants, Market potential, tribal medicines, Strategies, trade, export, import, challenges.
Recent research on Use of Tribal Medicine in Birth of Child: An overview
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Abstract

The people of the hamlet take active part. They never go to hospital for delivery. The people generally possess the knowledge about delivery. During the process the birth attendant massages the abdomen and navel region using castor oil or root paste of Achyranthes aspera Linn. Herbal decoction made of ginger, coriander, fennel, black pepper and mustard seeds mixed in equal proportion are given to mother to hasten the pain. The tribes have many post-natal therapies. For the newborn baby the Yanadis administer the paste made from dried stomach of porcupine. The dried stomach that looks like a stone is rubbed with mother’s milk and given to baby to lick. This medicine is continued up to one year with gradual increase in dosage.

Key-words: Tribal, Child birth
Section B
Pharmacology & Toxicology
Antibacterial activity of the ethanolic extracts of *Hibiscus syriacus* Linn. flowers against bacteria

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Abstract

Crude preparations of the different parts of *Hibiscus syriacus* Linn. have been traditionally used in folk medicine for various purposes. In the present study, we have evaluated the antibacterial activity of the extracts of *Hibiscus syriacus linn* flowers against some clinical isolates of bacteria by simple agar-well diffusion and bacteriological enumeration method. In the preliminary screening experiment, all of the bacterial isolates showed varying degrees of sensitivity to the flower extracts excluding *Klebsiella pneumoniae*. We found *Staphylococcus aureus*, a Gram-positive bacterium as the most sensitive to the extracts of flowers at the applied doses of 100 and 200 mg/well. In bacteriological enumeration study, all of the bacterial isolates showed substantial extent of sensitivity to the different extracts used. Our findings clearly demonstrate that the flower extracts of *Hibiscus syriacus linn* had stronger antibacterial effects and Possibility of using the extracts as antibacterial agents in treating pathological conditions caused by *S. aureus* and *S. typhimurium* infection. Although the effect of the *Hibiscus syriacus linn* flowers and against some pathogenic bacteria *in vitro* is promising, further microbiological and pharmacological studies will be required before starting clinical trials.

Key words: *Hibiscus syriacus* Linn, Antibacterial activity, Infections
Antipyreic activity of hydro-alcoholic extract of *Nardostachys Jatamansi*

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**Abstract**

Hydro alcohlic extract of *Nardostachys Jatamansi* was evaluatd for its antipyretic activity. The activity was evaluated using Brewer’s Yeast Model. In this method basal rectal temperature of the rats was measured by digital thermometer in rectum then pyrexia was induced by 20% suspension of brewer’s yeast at a dose of 10 ml/kg body weight (i.p.). After 18 hrs of yeast injection, animals which showed a raise in temperature of at least 1°C were considered for the study. The result revealed that hydroalcoholic extract of *Nardostachys Jatamansi* significantly reduces pyrexia induced by brewer’s yeast method. The standard drug aspirin also found to conceal the yeast-induced fever in rats by inhibiting the synthesis of prostaglandin E2. The results of study reveal that hydro alcoholic extract possesses strong antipyretic activities which may be mediated by the central and peripheral mechanisms.

Keywords: *Nardostachys Jatamansi*, Brewer yeast method
Flavonoids Impact on Multiple Targets of Metabolic Syndrome
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Abstract

Metabolic syndrome, the most prevailing health concern worldwide and their incidences are increasing at a very high rate, resulting in enormous social costs. Obesity causes the development of metabolic disorders such as DM, hypertension, cardiovascular diseases, and inflammation-based diseases. Therapeutic strategies for managing this syndrome include synthetic drugs and surgery, which entail high costs and serious complications. Plant-based medicinal agents offer an alternative approach to these costly strategies. Flavonoids are the secondary metabolites of plants and have 15-carbon skeleton structures containing two phenyl rings and a heterocyclic ring. More than 5000 naturally occurring flavonoids have been reported from various plants and have been found to possess many beneficial effects with advantages over chemical treatments. In human and animal health the biological and pharmacological activities of flavonoids have been investigated in great depth and have shown a wide range of anti-inflammatory activity, anti-oxidant, anti-microbial and anti-cancer properties. In this paper we have to demonstrate the potential health benefits of natural flavonoids in treating obesity and Diabetic Mellitus and summarize the current progress in our understanding of the anti-obesity and anti-diabetic potential of natural flavonoids and their mechanisms on multiple molecular targets for preventing the cluster of diseases related to metabolic syndrome.

Keywords: Metabolic syndrome, Flavonoids, Inflammation, Obesity and Diabetic Mellitus
Recent research on Ebola: An overview
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Abstract

Ebola virus disease (EVD), formerly known as Ebola hemorrhagic fever, is a severe, often fatal illness in humans. Ebola virus (EBOV) is transmitted through contact with blood or body fluids of a person who contracted or died from EVD, contaminated objects like needles and infected animals or bush meat. EVD has an incubation period of 2 to 21 days, and the infection has an acute onset without any carrier status. Currently, there is no standard treatment for EVD, so it is important to avoid infection or further spreading of the virus. Although historically the mortality of this infection exceeded 80%, modern medicine and public health measures have been able to lower this figure and reduce the impact of EBOV on individuals and communities. Its treatment involves early, aggressive supportive care with rehydration. Clinicians should consider the possibility of EVD in persons with travel or exposure history with the incubation period presenting constitutional symptoms in order to promptly identify diseased patients and prevent further spreading of the disease.

Key-words: Confusing Symptoms and Infectiousness will not always Disrupt Forecasting and Control of Ebola Outbreaks
Knowledge and Attitude of First Aid Skills among Health Science
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Abstract
The first step toward change is awareness. The second step is acceptance. First-aid (FA) is the providing of initial care for an illness or injury, by a non-expert but trained person, till medical treatment can be accessed. Aim of the study is to impart knowledge in first aid among students to build a safe and healthier community. The objectives of the study were to assess the basic knowledge and understanding to find out their attitude and to provide appropriate education regarding first aid. A pretested oral questionnaire was used to assess their knowledge and attitude about first aid. Knowledge, attitude and practices (KAP) about the first aid for common medical emergencies were assessed. Many pharmacists find themselves having to recall their first aid knowledge when customers consult them so preventing a potentially unnecessary visit to their doctor. Pharmacists seem so much more easily accessible — no appointment is needed, and they are available to dispense medicines and advice throughout the day. Add to that the fact that many pharmacies are open for long hours, and it is easy to see why the public takes advantage of such convenient access to health advice.
Keywords: Fist aid, Pharmacist, Injury, Healthy, Doctor
A Review on Natural Products with Antileprotic Activity
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Abstract

Leprosy is a chronic infectious disease caused by Mycobacterium leprae bacillus. It was considered to be an incurable disease for ages. Nowadays leprosy is a vanishing disease although we can meet it principally in the tropical zone countries. Brazil has the second greatest number of leprosy cases around the world with almost 30,000 new cases diagnosed in 2005. The present work constitutes a literature review on plant extracts and chemically defined molecules of natural origin showing antileprotic activity. The review refers to 11 plants, their families, and geographical distribution, the utilized parts, the type of extract and the tested organism. It also includes 17 compounds isolated from higher plants and microorganisms, classified into appropriate chemical groups. Some aspects of recent antileprotic-activity-directed research on natural products are discussed. For this purpose 63 references were consulted.

Keywords: Mycobacterium leprae, leprosy, Hansen’s disease, Natural products, Medicinal plants,
In vitro α-glucosidase and aldolase reductase inhibitory activity of Pterocarpus marsupium

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Abstract

Inhibition of a α-glucosidase and aldose reductase inhibitors plays a major role in hyperglycemia induced vascular damage. It has also been implicated as a major process affecting the glucose uptake mechanism. Reported study was done for a comparative evaluation of α-glycosidase and aldose reductase inhibitory activity of pterocarpus marsupium is well-known Ayurvedic Rasayana herbs. The percentage yield of different fractions of selected plant material is depicted in the phytoconstituents were identified by chemical tests, which showed the presence of various phytoconstituents in chloroform, 50% ethanol and distilled water extract of P. marsupium. The basis of the assay was to detect the concentration of maltose generated during the starch α-amylase reaction by measuring absorbances at 540 nm. Once all of the absorbance measurements were assimilated it seemed most appropriate to calculate the inhibitory effects by firstly correcting the test absorbences for absorbance due to the presence of the extracts.

Keywords: α-glucosidase inhibition, aldolase reductase, pterocarpus marsupium
Principle targets for hepatocellular degeneration and death
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Abstract
Many hepatotoxicants are capable of injuring liver cells directly, leading to cellular degeneration and death. A variety of organelles and structures within the liver cell can be affected by chemicals. Principle targets for hepatocellular degeneration and death includes Mitochondria, Plasma membrane, Nucleus, Endoplasmic reticulum, Lipid peroxidation etc. Further metabolism of some drugs like acetaminophen, thioacetamide etc. generates metabolites which is catalyzed by cytochrome P450 enzymes that can generate more toxic or more reactive metabolites capable of reacting with nucleophiles, covalently bind to macromolecules or initiating radical-chain reactions within cells. Alteration the mitochondrial membrane permeability, then ROS production increases and translocate in the nucleus which causes cleavage of DNA, that lead to necrosis and finally cell death.
Preclinical Perspectives on Cancer Disease: A Review

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Abstract

Cancer, a group of diseases of unregulated cell proliferation, is a leading cause of death worldwide. More than 80% of compounds which have shown promising effects in preclinical studies could not get through Phase II of clinical trials. The various preclinical screening methods available such as in vitro human cancer cell lines, cell viability assay, western blot method and in vivo tumor xenograft model, betaine treatment, CPC treatment. The pharmacological targeting of Cancer stem cells (CSCs) is considered an ineludible therapeutic goal. The antidiabetic drug metformin was reported to suppress in vitro and in vivo CSC survival in different tumors and, in particular, in breast cancer preclinical models. MTT assay and morphological characteristics showed that chrysin exerted a cytotoxic effect on CT26 cells in a dose dependent manner. The biological assays have indicated that chrysin administrated cytotoxicity on colon cancer cells through recruitment of the apoptosis. Caspase-3 and caspase-9 colorimetric assays, in addition to Bax expression analysis, have indicated the involvement of intrinsic apoptotic pathway in the cytotoxic effect of the chrysin. This article provides an insight into the various preclinical methods used in anticancer studies.

Keywords: Cancer, xenograft model, betaine treatment, Apoptosis, preclinical studies.
Etiology and pathogenesis of Ankylosing spondylitis

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Abstract

As first affects the spine and adjacent structures and commonly progresses to eventual fusion (ankylosis) of the involved joints. In extreme cases the patient develops a forward flexion of the spine, called a "bamboo spine". The disease affects primarily males under 30 years of age and generally burns itself out after a course of 20 years. In addition to spine, joints of hips & shoulders, the neck, ribs and jaw are often involved. Patient may have difficulty expanding the rib cage to breathe. Environmental and hereditary tendencies may be factors in this disease. X-ray must confirm diagnosis. The earliest abnormalities occur in the sacroiliac joints and include pseudo-widening or narrowing from subchondral erosions sclerosis. Early changes in the spine are diffuse vertebral squaring and demineralization, spotty ligamentous calcification, and one or two evolving syndesmyphytes. The E.S.R. is mildly elevated in most patients with active disease, as are other acute phase reactants such as serum IgA levels. Notably negative are tests for both IgM rheumatoid factor and anti nuclear anti-bodies. A positive test for HLA-B27 is usual, but not specific. A negative test is more useful in excluding AS than a positive test is, in diagnosing it. The tendency to develop ankylosing spondylitis is believed to be genetically inherited, and a majority (nearly 90%) of people with ankylosing spondylitis is born with a gene known as the HLA-B27 gene. Blood tests have been developed to detect the HLA-B27 gene marker and helped in understanding relationship between HLA-B27 and ankylosing spondylitis. To reduce pain and inflammation in the involved joints, usually with non-steroidal anti-inflammatory drugs. Physical therapy aids in keeping the spine as erect as possible to prevent flexion contracture. In advanced cases surgery may be performed to straighten a badly deformed spine. Radiotherapy to the spine, while effective, is recommended only as a last resort, as the result of subsequent acute myelogenous leukemia is increased 10 fold.

Keywords: Ankylosis spondylitis, HLA B-27, NSAIDs
Review on Diagnosis and management Ankylosing spondylitis

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Abstract

Ankylosing spondylitis (also called Bechterew's disease) is a spondyloarthritis of the spine and pelvis. That affects the axial skeleton, causing characteristic inflammatory back pain, which can lead to structural and functional impairments and a decrease in quality of life. Ankylosis is a devitalising condition that leads to decreased movement of the spine and loss of spinal mobility thus adversely impacting the health. Ankylosing spondylitis can spread to other joints in the body (like hips, knees, or shoulders) as it is a systemic rheumatoid disease. Sacroiliitis is its hallmark, accompanied by inflammation of the entheses (points of union between tendon, ligament, or capsule and bone) and formation of syndesmophytes, leading to spinal ankylosis in later stages. Prevalence estimates vary between 0.1% and 2% in different populations. The treatment of ankylosing spondylitis typically involves the use of medications to reduce inflammation, suppress immunity to stop progression of the disease, physical therapy, and exercise. Medications decrease inflammation in the spine and other joints. Physical therapy and exercise help to improve posture, spine mobility, and lung capacity. The main mechanisms involved in treating the conditions such as fever, back pain, swelling at various joints, stiffness in neck and back bone was explained. A different medicine used for the treatment of symptoms and their mechanism of action was explained properly. Strict diet restrictions along with life style modification are essential parts of the therapy. Following the diet as advised not only helps in recovering fast but also in prevents further worsening of the condition. The importance of diet in treating the condition was also explained.

Keywords: Ankylosis spondylitis, HLA B-27, NSAIDs, corticosteroids, DMARDs
Thalassemia: symptoms, types and treatment
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Abstract
Thalassemia is an inherited blood disorder in which the body makes an abnormal form of hemoglobin. Thalassemia is inherited meaning at least one of your parents must be carrier of the disease. It's caused by either a genetic mutation or a dilation of a certain key gene fragment. The symptoms of thalassemia is very same of the most common include delay growth & development, yellow or pale skin bone deformation especially in the face. There are 3 types and 4 sub type. Drugs use for the - (Iron chilation, Deferasirox, deferiprone, anusara) Treatment depend on the type of and severity of disease some of the treatment is blood transfusion, bone marrow transplant iron chelation possible surgery to remove the spleen or gallbladder.
Phytochemical and Pharmacological Properties of *Gymnema sylvestre*

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**Abstract**

Gymnema sylvestre (Asclepiadaceae), popularly known as “gurmar” for its distinct property as sugar destroyer, is a reputed herb in the Ayurvedic system of medicine. The phytoconstituents responsible for sweet suppression activity includes triterpene saponins known as gymnemic acids, gymnemasaponins, and a polypeptide, gurmarin. The herb exhibits a broad range of therapeutic effects as an effective natural remedy for diabetes, besides being used for arthritis, diuretic, anemia, osteoporosis, hypercholesterolemia, cardiopathy, asthma, constipation, microbial infections, indigestion, and anti-inflammatory. G. sylvestre has good prospects in the treatment of diabetes as it shows positive effects on blood sugar homeostasis, controls sugar cravings, and promotes regeneration of pancreas. The herbal extract is used in dietary supplements since it reduces body weight, blood cholesterol, and triglyceride levels and holds great prospects in dietary as well as pharmacological applications. This review explores the transition of a traditional therapeutic to a modern contemporary medication with an overview of phytochemistry and pharmacological activities of the herb and its phytoconstituents.

Keywords: triterpene saponins, cardiopathy cravings.
Medicinal plants with Asthmatic potential
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Abstract

Asthma is a common disease that is rising in prevalence worldwide with the highest prevalence in industrialized countries. Asthma affects about 300 million people worldwide and it has been estimated that a further 100 million will be affected by 2025. Unlike many diseases, which can be attributed to the lifestyle of modern man, asthma is an ancient illness. Mast cells play an important role in some type of allergic reaction because the antibody that causes the allergic reaction that is Ig E have the mast cells which contains about a thousand tiny granules. These granules are loaded with dozens of potent chemicals or mediators, the most powerful in which are histamine and a newly discovered group called leukotrienes. There are number of medicinal plants have been reported for antihistaminic/anti-asthmatic activities. Some of them are Achyranthes aspera, Tephrosia purpurea, Dolichos lablab, Eclipta alba, Jasminum sambac, Balanites aegyptiaca, Viscum album, Tridex procumbens, Glycyrrhiza glabra and Cassia fistula. It is suggested that formulation and patent of the reported medicinal plants is mandatory for further use against asthma.

Keywords: Asthma, Mast cells, Antihistaminic
Sepsis treatment by herbal medicine: A review
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Abstract
Sepsis is a severe multiorgan dysfunction and the life threatening disease which is difficult to treat. It is not a definitive disease that is defining sepsis is not simple. It is characterized by metabolic and systemic inflammatory response to microbial infection. Conventional therapy have also been failed to change themortality and morbidity rate of septic shock patient. Administration of medicinal plant promote immune modulatory action through cytokines, receptors, leukocytes, migration and apoptosis of lymphocytes. According to research, only 20% people survive sepsis. This review discusses the treatment of sepsis by various herbal medicines.

Keywords: Sepsis, Septic shock, Herbal medicines
A rare disease: Severe combined immunodeficiency

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Abstract

Severe combined immunodeficiency (SCIDs) are a group of inherited disorders responsible for severe dysfunctions of the immune system. These diseases are life-threatening when the diagnosis is made too late; they are the most severe forms of primary immunodeficiency. SCID patients often die during the first two years of life if appropriate treatments to reconstitute their immune system are not undertaken. Conventionally, SCIDs are classified according either to the main pathway affected by the molecular defect or on the basis of the specific immunologic phenotype that reflects the stage where the blockage occurs during the differentiation process. However, during the last few years many new causative gene alterations have been associated with unusual clinical and immunological phenotypes. Many of these novel forms of SCID also show extra-hematopoietic alterations, leading to complex phenotypes characterized by a functional impairment of several organs, which may lead to a considerable delay in the diagnosis. Here we review the biological and clinical features of SCIDs paying particular attention to the most recently identified forms and to their unusual or extra-immunological clinical features.

Keywords: Severe combined immunodeficiency (SCIDS), dysfunction, immunological phenotypes, impairments organs.
A Review on the OECD Principles of GLP
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Abstract

The intent of GLP is to regulate the practices of scientists working on the safety testing of prospective drugs (and other chemical or biochemical entities). With the obvious potential impact on patients taking medicines and on people recruited for clinical trials, the safety of drugs is a key issue and GLP is seen as a means of ensuring that scientists do not invent or manipulate safety data, and as a means of ensuring that studies are properly managed and conducted, thereby considerably increasing the chances of producing valid experimental data. GLP compliance is a guarantee that safety data are being honestly reported to the registration authorities. The results of these studies form the basis for the decision to proceed with clinical trials, prior to allowing a new drug onto the market. GLP was imposed on industry by regulatory authorities in the same manner as Good Manufacturing Practice (GMP) had been before, and Good Clinical Practice (GCP) would be later. The OECD has established a GLP Group made up of senior members of the respective member states’ GLP monitoring authorities. This group oversees the GLP activities of the OECD. The activities include the organization of training courses for GLP inspectors from all over the world and the organization of joint inspections. Together, these help to harmonize the approach of the various member states to GLP inspections.

Keywords: GLP, OECD, GCP
Comparative evaluation of aldose reductase inhibitory activity of extracts of Ficus religiosa Linn.

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Abstract

A comparative evaluation of aldose reductase inhibitory activity of different extracts of Ficus Religiosa Linn was carried out in-vitro. The leaves of Ficus religiosa Linn. were subjected to successive soxhlet extraction to obtain hydroalcoholic and aqueous extract. The dried hydroalcoholic extract was further solvent extracted with water saturated n-butanol. The layers were separated and n-butanol layer was acidified with 1 N KOH to obtain the raw saponin extract. All the extracts were screened for invitro aldose reductase inhibitory activity in purified goat lens using Hayman and Kinoshita method in which decrease in NADPH concentration was estimated at 340nm using UV Visible spectrophotometer. All the three extracts were found to inhibit AR activity, but at different extent. From dose response curve it was found that saponin extract (SE) is more effective AR inhibitor followed by methanolic extract (ME) and aqueous extract (AE). The IC50 values of SE, ME and AE is observed to be 38.47 ±0.78 µg/ml ,72.35 ± 1.72 µg/ml and 139.34± 2.52 µg/ml respectively. It was observed that saponin extract of Ficus Religiosa Linn is potently inhibiting the aldose reductase enzyme which contribute major role in the diabetes and its complication.
Anti-Anemic Activity of Hydro-Alcoholic Extract of Fruit of *Allium tricoccum* in Phenylhydrazine Induced Anemic Rats

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**Abstract**

This current research was done to bring out the anti-anemic activity in hydro-alcoholic extract of fruit of *Allium tricoccum* in phenylhydrazine induced anemic rats. The anemia was induced by the administration of phenylhydrazine (60mg/kg) intraperitoneally in rats for two days. The animal were divided into 5 groups containing 6 animal each. 1st group was served as normal control group, 2nd group was served as anemic control, 3rd group was served as standard reference control administered with Vit. B$_{12}$ complex, 4th group was served as test control-I administered with 100mg/kg of hydro-alcoholic extract of fruit of *Allium tricoccum* and 5th group was served as test control-II administered with 200mg/kg of hydro-alcoholic extract of fruit of *Allium tricoccum*. All the test drugs were given for 28 days daily through oral route. On 29th day blood was withdrawn, through tail puncture and subjected to the estimation of RBC, Hb and percentage Haematocrit. Both the hydro-alcoholic fruit extract of *Allium tricoccum* and Vit. B$_{12}$ significantly increase the Haemoglobin, Red Blood Cells & percentage Haematocrit level which conclude that *Allium tricoccum* fruit exhibits’ the anti-anemic activity.

Keywords: Anemia, anti-anemic activity, hydro-alcoholic extract, *Allium tricoccum*, Vit. B$_{12}$. 
Abstract

The main objective of this research was to evaluate the anti-anemic activity in hydro-alcoholic extract of seeds of *Foeniculum vulgare* in phenylhydrazine induced anemic rats. Phenylhydrazine (60mg/kg) was given intraperitoneally in rats for two days to induce anemia. The animal were divided into 5 groups of 6 animal each. Group 1 was known as normal control group, Group 2 was known as anemic control group, Group 3 was known as standard reference control group given with Vit. B\textsubscript{12}, Group 4 was known as test control-I given with 100mg/kg of hydro-alcoholic extract of seeds of *Foeniculum vulgare*, Group 5 was known as test control-II given with 200mg/kg of hydro-alcoholic extract of seeds of *Foeniculum vulgare*. All the test drugs were given for 28 days through oral route once in a day. On 29\textsuperscript{th} day blood was taken out through tail puncture and was subjected to the determination of RBC, Hb and percentage Haematocrit. Both the hydro-alcoholic seeds extract of *Foeniculum vulgare* and Vit. B\textsubscript{12} significantly increase the HB, RBC & percentage Haematocrit level which shows that Foeniculum vulgare seeds exhibits the anti-anemic activity.

Keywords: Anemia, anti-anemic activity, hydro-alcoholic extract, *Foeniculum vulgare* Vit. B\textsubscript{12}.
Neuroprotective effect of *Capsicum annuum* leaves on amnesic rats

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**Abstract**

The present study was to evaluate the effect of *Capsicum annuum* extract on biochemical markers of brain in amnesic rats (scopolamine induced amnesia). The extract of *Capsicum annuum* extract was administered in two doses (100 and 200 mg/kg) for 7 days. Piracetam (120 mg/kg) was used as a standard nootropic agent. Brain biomarker like superoxide dismutase (SOD), catalase (CAT), contents of thiobarbituric acid reactive substances (TBARS) and reduced glutathione (GSH) in whole-brain homogenates and Acetylcholinesterase (AChE) activity was determined. Orally supplementation of *Capsicum annuum* extract showed significant elevated brain antioxidant enzymes and inhibited AChE activity.

Keywords: *Capsicum annuum* extract, Superoxide dismutase (SOD), catalase (CAT), contents of thiobarbituric acid reactive substances (TBARS) and reduced glutathione (GSH)
Wound healing activity of *Buchanania lanzan* in Alloxan induced diabetic Rats

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Abstract

The hydroalcoholic extract of *Buchanania lanzan* seed was evaluated for its wound healing activity in alloxan induced diabetic rats using excision and dead space wound models. Extract treated animals exhibited 72 % reduction in the wound area when compared to diabetic controls which was 30 %. The extract treated wounds were found to epithelize faster as compare to diabetic control. The wet tissue weight content was increased significantly from 75.17mg to 103.7 mg when compared to diabetic control whereas dry tissue weight content was increased significantly from 33.83 mg to 40.5 mg when compared to diabetic control. *Buchanania lanzan* promotes significant wound healing in diabetic rats.

Keywords: *Buchanania lanzan*, alloxan, excision wound model and dead space wound model.
Section C
Pharmaceutical and Medicinal Chemistry
Necessity of Triazole heterocyclic nucleus in new drug development and therapy

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Abstract

Triazoles have occupied a distinctive position in heterocyclic chemistry, and its derivatives have attracted extensive interests in current age for their useful properties in chemistry and pharmacology. Triazole-containing drugs have a broader scope in curing various characters in clinical medicine. Triazole is nitrogen-containing heterocyclic ring which possesses biological and pharmaceutical importance. Triazole is a unique scaffold in the field of new drug investigation. Triazole is present in the structure of many synthetic drug molecules, that is, alprazolam, triazolam, estazolam (hypnotic, sedative, tranquilizer), trazodone (antidepressant, anxiolytic), trapidil (hypotensive), terconazole (antifungal), hexaconazole (antifungal), etizolam (amnesic, anxiolytic, anticonvulsant, hypnotic, sedative and skeletal muscle relaxant), rilmazafon (hypnotic, anxiolytic) and rizatriptan (antimigrane agent). There are several methods used for the synthesis of triazole-containing compounds, and also their various structure reactions offer enormous scope in the field of medicinal chemistry.

Keywords: Triazole, drug development, antibacterial, antifungal
Molecular docking approach on 3’-halo-5’-norcarbocyclic nucleoside phosphonates as potent anti-HIV agents

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Abstract

HIV is a virus that attacks immune cells called CD-4 cells, which are a subset of T cells. AIDS is a condition in humans in which progressive failure of the immune system allows life-threatening opportunistic infections and cancers to thrive. AIDS is the syndrome, which may or may not appear in the advanced stage of HIV infection. An estimated 1.8 million individuals worldwide became newly infected with HIV in 2016 – about 5,000 new infections per day. The 3’-halo-5’-norcarbocyclic nucleoside phosphonate derivatives are potent inhibitors of the replication of HIV-1. Molecular docking was performed on the 3’-halo-5’-norcarbocyclic nucleoside phosphonate as potent anti-HIV agents. The docking was done on the PDB code: 3VRI, 38; 3’-halo-5’-norcarbocyclic nucleoside phosphonate derivatives were used in the docking. The Molecular docking study was performed on Molegro Virtual Docker 6.0, and the study showed that the compound 8 has highest activity. It showed active binding with the amino acids Asp114 & Ile124. The mol dock score was found to be -202.048. This study revealed that compound 8 can be further used for in vitro and in vivo studies.

Keywords: Docking, Anti-HIV.
Molecular Docking approach on Glycyrrhizic Acid Derivatives as an Antimicrobial Agent

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Abstract

An antimicrobial is an agent that kills micro-organisms or stops their growth. With the time they have developed a resistance against the conventional medicine treatment. Molecular docking was performed on Glycyrrhizic Acid the derivatives, for their anti-microbial properties.

The docking was done on the PDB code: 5C71, 30 Glycyrrhizic acid Derivatives were used in the docking. The Molecular Docking study was performed on Molegro Virtual Docker 6.0, and the study showed that the compound 18, has the highest activity as an anti-microbial. This study reviled that compound 18 can be further used for in vitro and in vivo studies.

Keywords: Docking, Antimicrobial
Aromatase inhibitors for treatment of postmenopausal breast cancer in women

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Abstract

Aromatase inhibitors are a category of drugs used to treat postmenopausal women with breast cancer. The work by interfering with the enzyme aromatase, which produces estrogen from androgens in the body through a process called aromatization. Lower estrogen levels result in slowed growth of cancers that requires estrogen to grow including breast cancer. This is effective in postmenopausal women because most of their estrogen is produced in fatty tissues, such as in the breast, and in some areas of the brain. In this case, the estrogen levels are lowered specifically at the site of the cancer for the most significant effect. Aromatase inhibitors fall into two groups. Steroidal inhibitors bond permanently to aromatase, preventing it from converting androgens to estrogen. The non-steroidal inhibitors, which instead form temporary bonds with aromatase and compete with androgens for the aromatase needed for conversion to estrogen. The current review deals with recent advances in understanding of aromatase, its mechanism and research in the development of various novel chemo types as aromatase inhibitor.

Keywords: Aromatase inhibitors, breast cancer, estrogen,
Molecular docking studies of derivatives of 4-substituted2-(1h-pyrrolo [3,2-c]pyridin-2-yl)propan-2-ols

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Abstract

American trypanosomiasis, is a chronic infectious disease caused by the protozoan parasite Trypanosoma cruzi, which is transmitted to humans by blood-sucking triatomine insect vectors. An estimated 11,000 people are currently infected with 2,800 new infections it caused around 3,500 deaths every year. Molecular docking study was done by using 20 derivatives of 4-substituted2-(1h-pyrrolo [3,2-c]pyridin-2-yl)propan-2-ols. molecular docking was performed on molegro virtual docker version 6.0 , PDB Code: 1mxf was used for docking . the molecular docking study showed that compound number- 6 has the highest binding affinity. It showed active binding with the amino acids Asn101, Arg 21, Arg 43. The moldock score was found to be - 157.746. This study unveil that compound 6 can be further used for in vitro and in vivo studies.

Key words: protozoan, triatomine, trypanosomiasis.
Pharmacophore mapping and molecular docking of flavones as Raf inhibitors; an anti-cancer approach

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Abstract

Cancer is one of the leading causes of deaths around a globe, every year millions of patients die due to this disease. RAF The receptor tyrosine kinase effector, named for Rapidly Accelerated Fibrosarcoma, There are three known mammalian Raf isoforms: A, B and C-Raf, we took 200 flavones derivatives from pubChem and virtual screening was done for the identification of the compounds. Molecular Docking was performed on Molegro Virtual Docker 6.0 on the PDB: 5C9C. The docking results revealed that compound FL-119 showed active inhibition of the RAF isoforms, further pharmacophore mapping was done for the identification of the compound for the detection of H-donors, H-acceptors and Steric interactions. Lipinski rule was applied for top 10 compounds. The mol dock score was found to be -159.483 the rerank score was found to be -123.502 and the H-bond score was found to be -12.1337. The study showed that the most active compound FL-119 bind to the active site of the protein with amino acids Lys-482. This study suggests that these compounds can be further used for the designing of novel drug in treatment of cancer.

Keywords: RAF isoforms, cancer, docking
Boron neutron capture therapy for treatment of cancer: An Overview
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Abstract
Cancer is the uncontrolled growth of abnormal cells in the body. Cancer develops when the body’s normal control mechanism stops working. Old cells do not die and instead grow out of control, forming new, abnormal cells. These extra cells may form a mass of tissue, called a tumor. Tumours are divided into two types: benign and malignant. Boron Neutron Capture Therapy (BNCT) is a radiation science which is emerging as a hopeful tool in treating cancer, by selectively concentrating boron compounds in tumour cells and then subjecting the tumour cells to epithermal neutron beam radiation. A substance that contains boron is injected into a blood vessel. The boron collects in tumor cells. The patient then receives radiation therapy with atomic particles called neutrons. The neutrons react with the boron to kill the tumor cells without harming normal cells. Boron neutron capture therapy is being studied as a treatment for glioblastoma multiforme and recurrent head and neck cancer also called BNCT. BNCT bestows upon the nuclear reaction that occurs when Boron-10, a stable isotope, is irradiated with low-energy thermal neutrons to yield α particles (Helium-4) and recoiling lithium-7 nuclei. The most exclusive property of BNCT is that it can deposit an immense dose gradient between the tumour cells and normal cells. BNCT integrates the fundamental focusing perception of chemotherapy and the gross anatomical localization proposition of traditional radiotherapy. Chemical properties Boron is not soluble in water. It normally does not react with acids but react with oxygen in the air. Uses Boron is proved to be useful in cancer treatment, BNCT represents a joining together of nuclear technology, chemistry, biology and medicine to treat malignant and recurrent head and neck cancers. Neutron capture therapy (NCT) is a noninvasive therapeutic modality for treating locally invasive malignant tumors such as primary brain tumors.

Key words: BNCT, glioblastoma multiforme, chemotherapy, malignant, Epithermal neutron.
Comparative study of nitrination of aromatic compounds by green synthetic approach over conventional procedure

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Abstract

Aromatic nitration is one of the most important unit processes in synthetic organic chemistry and in the chemical industry. Aromatic nitrates such as nitrophenols are important precursors for the production of dyestuffs, pharmaceuticals, agrochemicals, explosives, plastics, and other industrially important products. Conventional processes are commonly lead to mixtures of regioisomers and are not environment friendly. Recent advances in the synthesis of nitro-aromates by green chemistry approaches have been minimized the production of chemical waste, practical yield of an aromatic nitrated product increased by using green procedure over conventional procedure. Practical yield was found to be 55% in case of green synthetic approach where as in case of conventional process it was found to be 40%. Likewise green chemistry approach is superior over conventional procedure.

Keywords: Environment friendly, nitrophenols, chemical waste,
Molecular Docking approach on Eugenol Derivatives as an Antioxidant

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Abstract

Peroxidation of cell membrane lipid results in membrane destabilization and change of transport characteristics, which eventually leads to cell death.

Molecular docking was performed on the Eugenol Derivatives, for their antioxidant properties. The docking was done on the PDB code: 2QX7, 45 Eugenol Derivatives were used in the docking. The Molecular Docking study was performed on Molegro Virtual Docker 6.0, and the study showed that the compound 15, has the highest activity as antioxidant. It showed active binding with the amino acids Try18A, Lys132A,Phe 134A. The Mol Dock score was found to be -136.018 and the Rerank score was found to be -120.06. This study reviled that compound 15 can be further used for in vitro and in vivo studies.

Keywords: Docking, Antioxidant
Synthesis evaluation and SAR analysis of furan-2-yl methylene ethylidene substituted hydrazides as antimicrobial agents

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Abstract

Hydrazide and their hetrocyclised product exhibit miscellaneous biological activity, as well as antibacterial, antifungicidal, analgesic, anti-inflammatory activity. The pyridine nucleus is an important heteroaromatic class of compounds with a wide range of activities and it is present in many products such as drug, vitamins, food, flavorings, plants, dyes, rubber product, adhesives insecticides and herbicides. In these contexts, Isonicotinic acid [pyridi-4-carboxylic acid] has vital roles in such biological processes as production of energy, signal transduction. Regulation of gene expression and synthesis of fatty acid, cholesterol and steroids.

Keywords: antimicrobial, isonicotinohydrazide, SAR.
Cleaning validation of oxytertracycline in sterile area

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Abstract

Cleaning validation of sterile area is one of the most important and tedious work in pharmaceutical industry. The present study was carried out for cleaning validation of sterile area in which cleaning validation as well as analytical method validation with respect to oxytertracycline was performed. The validation was conducted according to written protocols i.e. validation protocol. The results of this validation study were complied in validation report. Analytical method was developed based on certain parameters. The parameters studied were Linearity, Accuracy, Precision and Recovery. These parameters were established using UV spectrophotometer. The two methods used for sampling were rinse sampling and swab sampling. Cleaning validation parameters were identified which include worst case identification and MAR and MRTD calculations. For this study, three equipments were chosen to explain in detail viz. manufacturing tank (400lit), syringe and tube and pipe. The results obtained were studied to identify that the residues were present at acceptable level or not. On the basis of developed method, cleaning validation on selected equipments were performed for Oxytetracycline and the equipment were found to be cleaned visually as well as chemically.

Keywords: Cleaning, validation, Oxytertracycline, analytical method, UV spectrophotometer.
Investigation of Protein Polymorphism by SDS PAGE & DNA polymorphism RAPD-PCR of *Pterospermum acerifolium*

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**Abstract**

The aim of present study to find out level of genetic diversity between the plants collected from different ecological region (Bhopal, Delhi, Orissa, and Bangalore) of India. Climatic and ecological variation may causes genetic variation which further confirmed using protein polymorphism and PCR-RAPD pattern of different plants. This genetic variation may also lead variation in chemical constituent of plant. Phytochemical screening, total flavanoids content, total phenolic content will confirm about the chemical composition of plant extract.

Key-words: *Pterospermum acerifolium*, PCR
Section D

Pharmaceutics
Formulation and evaluation of topical analgesic herbal gel containing extract of *Plumeria pudica* Linn.

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Abstract

Analgesic herbs are natural pain reliever that reduce or eliminate pain. These pain relief herbs are available in the market in analgesic topical forms like essential oil and analgesic cream- that can be directly applied at the pain sites- as well as in form of capsules, tea and tinctures for pain relief. The present paper deals with the formulation and evaluation of topical analgesic gel containing hydroalcoholic extract of *Plumeria pudica* (Leaves). The topical gel was prepared and was further investigated for its analgesic activity using standard diclofenac gel.

Key-Words: Analgesic activity, Topical gel, *Plumeria pudica*
Design and evaluation of enteric coated egg albumin microspheres loaded with mesalamine for colon specific drug delivery

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Abstract
In the present study, Eudragit coated egg albumin microspheres loaded with Meselamine were prepared by w/o emulsion cross-linking method. The objective of the present investigation was to design a multi particulate delivery system for site specific delivery of Meselamine using egg albumin and pH-sensitive polymer (Eudragit S100). The effect of formulation variables on physicochemical properties of microspheres was investigated. Various formulation variables i.e. polymer concentration, emulsifier concentration and cross linking concentration were optimized to get small uniform and spherical discrete microspheres. Then optimized microspheres with different core coat ratio were prepared. On evaluating we found that particle size, encapsulation efficiency, percentage yield and drug release of the microspheres was largely dependent on formulation variables Higher drug release was observed for the microspheres prepared at lower drug polymer ratio. The drug release was also reduced with higher cross-linking conditions. On the other hand, more controlled drug release was observed with the microspheres containing higher core: coat ratios Overall, formulation variables have significantly affected the physicochemical properties of the prepared microspheres.
Formulation of herbal capsule containing *Terminalia chebula* fruits powder for the treatment of gastric disorders

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Abstract

*Terminalia chebula* (harad) fruit are reported to contain multiple constituents for the treatment of gastric disorders. The present investigation was aimed to formulate capsule formulations containing crude powder of *Terminalia chebula* in order to obtain gastric treatment less side effects, increased patient compliance thereby providing multifaceted benefits. Capsule formulations were prepared by encapsulation of granules prepared from the *Terminalia chebula* with various concentrations of herbal crude drugs. Finished capsule formulations were evaluated for weight variation, disintegration time, drug content, in vitro-drug release.

Key word : *Terminalia chebula*, capsule, gastric disorder
Formulation and evaluation of herbal tablet for digestive disorders
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Abstract

The present paper deals with formulation and evaluation of digestive activity of tablets prepared from powder extract of the plants. A solid pharmaceutical dosage formulation using a dry plant powder extract using various excipients viz., amla, myrobalan, bahera, talc, methyl paraben, mg stearate, by direct compression was reported to be significant as digestive activity. The present communication also deals with the evaluation of formulated tablets (weight variation, friability, and hardness and disintegration time)

Key-words: Digestive, Tablet, herbs
Formulation and evaluation of polyherbal cream for the treatment of rheumatoid arthritis

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Abstract

Rheumatoid arthritis affects about 1% of the world's population, no population is immune but women are affected two to three times as often as men. The age on onset is between 30 and 55. RA is a chronic inflammatory disease of the lining of the joint results in pain, stiffness, swelling, joint damage and loss of function of the joints. Inflammation most often affects the hands and feet. It tends to occur equally on both sides of the body. Medications have revolutionized modern-day treatment of RA, but many people also look to herbs and botanicals, substances from plants to help manage their RA symptoms. The purpose of the present research work to Formulated and evaluated of Polyherbal cream for the treatment of RA. Polyherbal cream formulation based on o/w base by using aqueous extract of Taraxacum (Dandelion), Curcuma longa (Tumeric), Zingiber officinale (Ginger) with other effective ingredients cod liver oil and camphor. The prepared formulations (F$_1$ to F$_5$) were subjected to different evaluation physicochemical parameters like appearance, spreadability, pH, Grittines, Skin irritation test, Homogeneity. We got best result in appearance and evaluation parameters in F$_2$ formulation.

Keywords: Poly herbal cream, Rheumatoid arthritis, Taraxacum, Curcuma longa, Cod liver oil, Camphor.
Formulation development of an aqueous injection of poorly water soluble drug metronidazole using mixed solvency concept and its evaluation

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Abstract

The research done in the field of pharmaceuticals is to serve the society needs by developing a highly efficient and most effective formulation. Injection of poorly soluble drugs by the application of mixed solvency concept and to reduce concentration of solubilizer to minimize the toxic effect of solubilizer. In most of the methods of solubilization, to produce an appreciable increase in solubility of a poorly soluble drug high concentration of additives is require. In this case, the solubilizing agent employed to give a desirable solubility for the poorly soluble drug may produce its own toxicity. However, if the same enhancement in solubility. In the present work poorly soluble drug Metronidazole are selected as model drugs and were tried to formulate their injectable formulation an aqueous injection of Metronidazole. Metronidazole is an Antiamoebic, antiprotozoal, antibacterial drug tried to formulate the aqueous injection by the use of various physiologically compatible solubilizing agent.

Keywords: Co solvents, poorly water soluble, solubilization.
Biopharmaceutical Classification System: A Review

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Abstract

The Biopharmaceutical Classification System is not only a tool for obtaining waivers for in vivo bioequivalence studies but also for decision making in the discovery and early development of new drugs and formulations. The Biopharmaceutical Classification System provides a regulatory tool for replacing certain bioequivalence studies with accurate in vitro dissolution tests during the process of generic drug development. The data obtained through solubility and permeability in the discovery/development can be utilized for preliminary classification of pipeline compounds. Considering the uncertainties associated with in vitro dissolution tests, the BCS proposed biowaivers for rapidly dissolving drug products, non-narrow therapeutic index drugs, and other application commitments should be met during drug development. As our knowledge of GI compounds becomes more sophisticated, we will be able to design in vitro tests that would better simulate the in vivo conditions of GI tract. Poor solubility and poor permeability account for many pharmacokinetic failures and about thirty percent of drug molecules are rejected due to pharmacokinetic failures. Although BCS has brought a revolution in drug approval and development process. Efforts should be constantly done to utilize the concepts of BCS beyond the immediate release solid oral dosage forms.

Keywords: Biopharmaceutical, Waivers, Bioequivalence, Permeability, Preliminary, Biowaiver
Isolation of mucilage from Dioscorea species and its application in sustained drug delivery system - A review

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Abstract

The present review discussed plant mucilage and its versatile excipient property as tablet binders, disintegrating, emulsifying, suspending, gelling, stabilizing, thickening and film forming agents of mucilage obtained from certain plants. The aim of this study was to isolate the mucilage from Dioscorea species *e.g.* *D. alata, D. rotundata, D. esculenta*. The Dioscorea species mucilage used as binding agent, disintegrating agent, chelating agent, pasting properties. The mucilage of dioscorea species was isolated from the tuber via maceration followed by precipitation method using acetone. The isolated mucilage was dried at 60°C for 25 minute and stored. The mucilage of dioscorea species was used in sustained drug delivery system as binding agent.

Keywords: Mucilage, Dioscorea Species, Isolation, SDDS, Binding Agent
A Review: Enhancement of Insulin Delivery by Nanogel carrier
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Abstract

Nanogels are innovative drug delivery system that can play an integral part in pointing out many issues related to old and modern courses of treatment such as nonspecific effects and poor stability. Nanogels based materials have high drug loading capacity, biocompatibility, and biodegradability which are the key points to design a drug delivery system effectively. The formulation like solid lipid nanoparticles has been developed to improve drug absorption through nasal mucosa. The nasal drug delivery route is non-invasive because it avoids degradation of drugs in GI tract and also helps in the sufficient transport across the epithelial cells of clinical trial in future will confirm nanogel as a suitable carrier for drug delivery. In oral drug delivery of insulin major problem is first pass metabolism and hence a higher dose of drug is needed to get desired action of drug. In intra nasal drug delivery system insulin gets directly absorbed into the systemic circulation hence drug passes the first pass metabolism due to which low dose is sufficient to get desired effect as compared to oral dose. So, intranasal insulin delivery through nanogel carrier is emerging as an effective alternative for insulin therapy.

Keywords: Insulin delivery, nanogel carrier, oral insulin delivery, barriers, intranasal delivery
Preparation and Evaluation of Herbal Shampoo Powder

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Powdered herbal shampoo was formulated using some common traditional drugs used by folk and traditional people of Bundelkhand region (M.P) India, for hair care. The preparations were formulated using Bahera, Amla, Neem, Tulsi, Shikakai, Henna & Brahmi evaluated for organoleptic, powder characteristics, foam test and physical evaluation. As the selected drugs being used since long time as single drug or in combination, present investigations will further help to establish a standard formulation and evaluation parameters, which will certainly help in the standardization for quality and purity of such type of herbal powder shampoos.

Key words: Herbal Shampoo, Evaluation, Standardization
Mucilages as Release modifier in sustain Drug Delivery
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Abstract

With the increasing interest in polymers of natural origin, the pharmaceutical world has compliance to use most of them in their formulations. Moreover, the tremendous orientation of pharma world toward these naturally derived polymers has become a subject of increasing interest to discover, extract and purify such compounds from the reported origin. In the present review we have discussed mucilage, as a potent candidate to be used in various pharmaceutical formulations. We have also compiled the various sources which may lead to significant mucilage production and also the extraction procedure. The various properties have been dealt in detail, which makes it a potential candidate to be used as pharmaceutical excipient.

Keyword: Mucilage, Natural polymer, Pharmaceutical application, Pharmaceutical excipient
Novel Herbal Drug Formulations - A Review
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Abstract
Recently the use of herbal medicines has been improved all over the world due to their astounding therapeutic effects and fewer adverse effects as compared to the modern medicines. However, delivery of herbal drugs also requires modifications with the purpose to attain sustained release, to increase patient compliance etc. The basic thought behind it is treatment of each disease is hidden in nature. Previously herbal drugs could not attract scientists towards the development of novel drug delivery systems due to processing, standardizing, extracting and identification difficulties. But now days with the advancement in the technology, novel drug delivery systems (NDDS) opens the door towards the development of herbal drug delivery systems. Great advancement has been made in the uses of plant therapeutics, on development of novel herbal formulations like polymeric nanoparticles, nanocapsules, liposomes, phytosomes, nanoemulsions, microsphere, transferosomes and ethosomes. These formulations have reported to have several advantages over the traditional preparations such as improved solubility & bioavailability, reduced toxicity, controlled drug delivery, protections of plant actives from degradation. The present review highlights the current status of the development of novel herbal formulations and summarizes their method of preparation, type of active ingredients, size, and entrapment competence, route of administration, biological activity and uses of novel formulations.
Formulation of herbal shampoo containing Lawsonia inermis for the treatment of hair fall and dandruff

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Abstract

Shampooing is the most common form of hair treatment. The primary function of shampoo is cleansing of the hair. The present investigation was aimed to formulate herbal shampoo containing crude powder of *Lawsonia inermis* (henna). *Lawsonia inermis* cures dandruff and prevents it from coming back it is antifungal and antimicrobial properties that cool and soothe scalp. This controls scalp itching. The formulation and evaluated and was found to be clear and good foam formation.

Key-words: Heena, Herbal Shamopoo, formulation
Formulation and evaluation of herbal sindoor

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Abstract

Sindoor is one of the key cosmetics used by the married women of our countries. In present days the use of such product has increased and choice of shades of color and texture have been changed and become wider. The present investigation was done to formulate herbal sindoor using different natural ingredients, as these preparations are one of the key cosmetics to be used by the married women of our country. The sindoor was formulated using five different natural coloring agents namely: turmeric, calcium carbonate, beet root, red ochre, sandal wood, catechu and distilled water. It was found out that this herbal formulation has good results as compared to other formulated herbal sindoor.

Key-words: Sindoor, Herbal, Cosmetics
Formulation and evaluation of herbal face pack

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Abstract

The face packs were formulated with the naturally available ingredients like Neem, Turmeric, Aloe Vera, Rose Water, Olive oil, lavender extract, and Peppermint we found good properties for the face packs and further optimization studies are required on this study to find the useful benefits of Face Packs on human use as Cosmetic Product. Face packs used in ayurveda helps to reduce wrinkles, pimples, and acne and dark circles. They also increase the fairness and smoothness of the skin.

Keywords: Herbs, Face pack, Cosmetics
Studies on *In-vitro* biodegradation of polymers in the presence of nanoparticles enrich microorganism soil

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**Abstract**

Bioremediation is the use of living organisms, principally microorganisms, to disgrace the environmental contaminants into less toxic forms. Microbial and enzymatic deprivation of synthetic plastics have been studied and resulted in positive outcomes. Through this investigation a more effective and efficient way of biodegradation with the help of nanoparticles such as Cobalt ferrite, Silicon Ferrite, Silver Nanoparticles, Barium titanate has been look forward, as in many of the recent studies they have been proved to influence and alter the growth profile of various bacteria in a positive manner, including those responsible for LDPE, HDPE and plastics ravage deprivation. Achieve economic-friendly nanoparticles to make the alternative to suit best at the commercial level to diminish white pollution.

Key words: Bioremediation, Microorganisms, Nanoparticles, LDPE, HDPE.
Advances in Pharmaceutical Packaging: A Review
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Abstract
Packaging is described as the set of diverse components which enveloped the pharmaceutical product from the time of manufacture until its use. Packaging is a key for sale, safety & success. Pharmaceuticals packaging need to be in such a manner that it will provide speedy packaging, identification, product quality, protection, patient comfort, display & needs of security. Advancement in research of pharmaceuticals development had always being reliant on the packaging technology. Packaging played a major role in the pharmaceutical field as it maintains the integrity of product by many ways, like providing presentation, identification, protection, information. Containment, convenience and compliance for a product during storage, carriage, display and until the product are consumed.

Key words: Packaging, Strip Packages, Aerosol Containers, Blister, Glass, Plastic, Container and Closures Quality Control.
Optimization of Packaging Materials: A Review
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Abstract
The food processing and packaging industry is becoming a multi-trillion dollar global business. The reason is that the recent increase in incomes in traditionally less economically developed countries has led to a rise in standards of living that includes a significantly higher consumption of packaged foods. As a result, food safety guidelines have been more stringent than ever. At the same time, the number of research and educational institutions that is, the number of potential researchers and stake holders has increased in the recent past. This paper reviews optimization of packaging materials and recent developments in food processing and packaging (FPP) keeping in view the aforementioned advancements and bearing in mind that FPP is an interdisciplinary area in that materials, safety, systems, regulation, and supply chains play vital roles. Recent advances such as smart packaging, non-destructive inspection methods, printing techniques, application of robotics and machineries, automation architecture, software systems and interfaces are reviewed in the article.

Keywords: Optimization, packaging, FPP.
**ABSTRACT**

Co-crystallization alters the molecular interactions and composition of pharmaceutical materials, and is considered better alternative to optimize drug properties. Crystal form is crucial to the performance of dosage form. The use of co-crystal technology in active pharmaceutical ingredient (API) crystallizations is as an enabling technology to bring improved pharmaceutical products to the marketplace as well as for improved drug delivery. Pharmaceutical co-crystals represent a hopeful class of pharmaceutical materials offering the prospect of better alternatives to optimize drug physical properties and biopharmaceutical issues such as bioavailability in pharmaceutical development without changing the chemical composition of the API, thereby, giving new patentable solid forms. Various applications of pharmaceutical co-crystals also include chiral resolution, bioavailability enhancement, drug permeability enhancement, stability improvement etc. Due to enhanced bioavailability co-crystal may play a crucial role in formulating new dosage form with greater absorption and pharmacological action.

Keyword: Co crystal, Bioavailability Aspects, Drug Solubility.
Review: Enhancement of Bioavailability Through Ethosomes

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Abstract

Bioavailability is the major parameter which can affect the drug action. Every dosage form is designed in manner to enhance the bioavailability of the drug. Most of the dosage forms have the problem of bioavailability and to overcome this problem special formulations are designed. Likewise, if we look in transdermal drug delivery system, the main disadvantage of transdermal drug delivery is the poor penetration of most compounds into the human skin. The main barrier of the skin is located within its uppermost layer, the stratum corneum (SC). Several approaches have been developed to weaken this skin barrier. One of the approaches for increasing the skin penetration of drugs and many cosmetic chemicals is the use of vesicular systems, such as, liposomes and ethosomes. This review focuses on role of Ethosomes in increasing bioavailability of the dosage form by various Ethosomal formulations as novel drug delivery system. Also we will go through how Ethosomes increase the skin permeability by having high content of ethanol. Various formulations have been cited here with the enhancement of bioavailability through ethosomal preparations.

Keywords: Ethosomes, liposomes, novel drug delivery, penetration enhancer, percutaneous absorption.
Review: Bioavailability Enhancement through Co-amorphous System

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Abstract

Solubility is one of the major problems associated with most of the new chemical entities that can be reasonably addressed by drug amorphization. However, being a high-energy form, it usually tends to re-crystallize, necessitating new formulation strategies to stabilize amorphous drugs. CAMs are multi-component single-phase amorphous solid systems made up of two or more small molecules that may be a combination of drugs or drug and excipients. Advantages offered by CAM include improved aqueous solubility and physical stability of amorphous drug, with a potential to improve therapeutic efficacy. Co-amorphous drug delivery systems have recently gained considerable interest in the pharmaceutical field because of their potential to improve oral bioavailability of poorly water-soluble drugs through drug dissolution enhancement as a result of the amorphous nature of the material. There are many drugs which on converting into co-amorphous form became stable and their pharmacokinetic parameters also improved. Some examples of those drugs are explained in this article i.e., Carbamazepine, Loratadin, and Atorvastatin calcium. All these drugs have poor solubility as well as poor bioavailability, while on forming their co-amorphous form, their bioavailability increased with increased solubility.

Keywords: Co-amorphous, bioavailability, solubility.
A Review on Pharmaceutical Regulatory Agencies and Organizations around the World

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Abstract

Regulatory agencies and organizations play a vital role to meet the requirements of legal procedures related to drug development process in a country. The major challenges of these regulatory agencies and organizations around the world are to ensure the safety, quality and efficacy of medicines and medical devices, harmonization of legal procedures related to drug development, monitoring and ensuring compliance with statutory obligations. They also play a vital role to ensure and increase regulatory implementation in non-regulated parts of the world for safety of people residing there. The present study describes a brief review of various regulatory bodies of major developed and developing countries and the scope and challenges of such regulatory organizations in drug development and delivery of safe and effective healthcare products to individuals around the world.

Keywords: Regulatory agencies, Harmonization.
Formulation and evaluation of herbal cream for the treatment of vaginal infection

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Abstract

Vaginal infection is an infection caused by yeast (a type of fungus). It is also referred to as vaginitis, Candidal vaginitis, or Candidal vulvovaginitis. Over 90% of vaginal yeast infections are caused by the species known as Candida albicans. Vaginal infections are very common gynecological disorders. The present study was aimed to formulate and evaluate herbal cream formulation of Ipomea mauriantiana leaf extract for the local treatment of vulvovaginal candidiasis. Herbal cream formulation was prepared using hydro-alcoholic extract using different polymers as gelling agent in varying concentrations. The formulated creams were evaluated for physical appearance, pH, viscosity, extrudability, spreadability, antifungal activity and in-vitro drug release study. Stability studies were carried out as per ICH guidelines for 3 months at different temperatures and humidity. It is observed that the cream formulation (F5) shows good antifungal activity and it was found to be best and stable among the prepared batches. It was inferred from the results that all the performed experiments confirm the applicability of herbal intravaginal cream for the local treatment of vulvovaginal candidiasis.

Key-words: Herbal cream, Ipomea mauriantiana, Vaginal infection
Ayurvedic herbal formulations for eye disorders: An overview

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Abstract

The management of eye disorders by chemical drugs without any side effects is still a challenge to the medical system. But the herbal medicines have potential to overcome the limitations associated with conventional drugs. Therefore; many efforts have been made to identify new medicinal plants from different sources because of their effectiveness, fewer side effects and relatively low cost. Approximately 200 plants worldwide have been documented to support treatment of eye disorders and several plant species have been advocated in Traditional Indian Medicine for their ophthalmic effects. In the present review it is proposed to highlight the medicinal plants used from ancient time for the treatment of eye diseases, their merits and demerits and role of Modern medicines over demerits of medicinal plants traditionally used for eye disorders. Review concluded that by using techniques and polymers of modern era, the best Herbal formulations may be developed.

Key-words: Treatment for eye disorders, topical eye ointment
Anti-diabetic Activity of Polyherbal Formulation Containing Tribal Herbs

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Abstract

The present research work revealed that the tribal medicines are used in polyherbal formulations for the treatment of diabetes mellitus. The selected polyherbal tablet comprises of medicinally important plants, *Enicostama littorale* Blume. (whole plant), *Phyllanthus niruri* Linn. (fruits), *Eugenia jamboloma* Linn. (leaves), *Eugenia jamboloma* Linn. (seeds), *Azadirachta indica* A. Juss. (leaves), *Terminalia arjuna* (bark), *Aegle marmelos* L. Correa (leaves) and Asphaltum, processed in the aqueous extract of Bilva (*Aegle marmelos*) and Karavellaka (*Momordica charantia*). The anti-diabetic screening of selected laboratory batch GT-I & marketed formulation GTM were screened for acute toxicity study by OECD guideline no. 423 for determination of LD₅₀. Both formulation GT-I & GTM at the dose of 500 mg/kg body weight i.p. showed significant increase in body weight. The standard drug Glibenclamide also reduced hemoglobin level. The results are comparable to diabetic control group as the hemoglobin level in said group was reduced. The formulated herbal formulation GT-I & GTM at the dose of 500 mg/kg body wt. have shown significant reduction in serum glucose levels at 21 day in diabetic rats. The standard drug Glibenclamide also produced potent anti-diabetic property as compared to diabetic control group. Histopathological findings of pancreas treated with GT-I, GTM and Glibenclamide showed minimal necrosis, mild to moderate atrophy and fibrotic changes as compare to the diabetic group which showed necrosis, atrophy and fibrotic changes. Hence, it was concluded from the present work that the herbal formulation has promising anti-diabetic effect and serve as a potential drug in the treatment of diabetes mellitus.
An institute is As Good As the People Behind it
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