NATIONAL CONFERENCE
RAISING AWARENESS ABOUT GLOBAL SCENARIO OF INTELLECTUAL PROPERTY RIGHTS AND PATENTING ISSUES
14th - 15th SEPTEMBER, 2018
SOUVENIR

Patrons
Shri. Arun Kharia
Shri. Anil Kharia

Convener
Dr. Sapna Malviya

MODERN INSTITUTE OF PHARMACEUTICAL SCIENCES
Alwasa, Behind Rewti Range, Sanwer, Indore (M.P.)
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ABOUT THE INSTITUTE

Modern Institute of Pharmaceutical Sciences has been ranked and certified as Best pharmacy Institute by Big Brand’s Academy. The Institute is affiliated to Rajiv Gandhi Proudyogiki Vishwavidyalaya (RGPV), Bhopal, recognized and approved by AICTE, New Delhi and PCI New Delhi. The Institute receives substantial grants from DST-NIMAT and MPCST as well as promotes and encourages students to undergo industrial training for better exposure in current practices of pharmaceutical production. The motive is to bridge the gap between industry and institute. Modern Group is only group imparting pharmaceutical education which encompasses two leading pharmaceutical industries Modern Laboratories and Nandini Medical Pvt. Ltd. Modern Laboratories was established in 1979 by late Shri PC Kharia. Nandini Laboratories was established in 1998. Both gained prestigious acclamations in the all India ranking of Pharma Industries.

SCOPE OF CONFERENCE

The objective of this conference is to turn the knowledge of innovator into property where this work can be bought and sold which in turn encourages creativity includes Copyright, Patent, Registered Industrial Design and Trademark, legislation and conventions. An intellectual property right imparts protection and incentive to the innovators, whose innovations could otherwise be openly used by others.

OUR PROMOTERS

[Images of Modern Laboratories and Nandini Medical Laboratories Pvt. Ltd.]
Chairman Message ........................

It is heartening to note that Modern Institute of Pharmaceutical Sciences is organizing MPCST sponsored NATIONAL CONFERENCE on “RAISING AWARENESS ABOUT GLOBAL SCENARIO OF INTELLECTUAL PROPERTY RIGHTS AND PATENTING ISSUES” on 14th-15th September, 2018. The conference provides opportunities for sharing knowledge in the area of Patents and allied segments.

The two-day conference will give an opportunity to learn necessary information, need and process of Patent Filling. The conference will focus on need of intellectual property rights to protect the innovations of the researcher’s. The Global prospective of copyright, patent, registered industrial design, patent filling will be covered by eminent guest, speakers and delegates.

I send my greeting and best wishes to all the participants for a grand success for the conference and also the deliberations. I also extend my best wishes for all the academic lectures and the warm scientific session.

I appreciate the endless team spirit exhibited by all the members of the organizing committee for the continuous efforts in putting this conference together.

Anil Kharia
Chairman Modern Institute of Pharmaceutical Sciences, Indore
CONVENER MESSAGE........................................

Dear Delegates,

With the great pleasure, I welcome you on the behalf of Modern Institute of Pharmaceutical Sciences; Indore in MPCST sponsored two-day national conference on “RAISING AWARENESS ABOUT GLOBAL SCENARIO OF INTELLECTUAL PROPERTY RIGHTS AND PATENTING ISSUES”.

Conceptually, intellectual property right or IPR is meant to provide incentives for inventors and innovation. The IPR system pursues two seemingly contradictory objectives, first, to protect inventors from imitations and stimulate inventive activity, second, to disseminate existing information and knowledge as a means to facilitate invention activities and innovation for the benefit of society. Therefore, this conference is held for the purpose of sharing our experiences in designing and implementing suitable IPR regime among our community and brainstorming on how to collaborate on this very important issue. The wheels start rolling many weeks ago. It requires planning and a bird’s eye for details. As a convener of the event, it is my privilege to thank dedicated individuals who have spared countless hours and days from their busy schedule to plan and pull-off this event successfully as well as team of very motivated colleagues and students of our institute who know their job and are result oriented. This Conference will provide a new insight to students, research scholars, scientists and faculty fraternity to promote patent technology and its need. I certainly hope that you will enjoy your participation and get actively involved in the conference to promote and build your intellectual property rights.

Dr. Sapna Malviya
Convener
Prof. Dr. B.P. Nagori  
M.B.A., M. Pharm., Ph.D., LL.B.  
PRINCIPAL OF THE YEAR 2010 Awardee  

Director (Pharmacy Wing)  
Lachoo Memorial College of Science & Technology  
(Autonomous)  
Re-Accredited as 'A' Grade College by NAAC-UGC  
Recognized by UGC under Section 2(f) and 12(B)  
College with Potential for Excellence Status awarded by UGC  
Model College & Knowledge Center Status awarded by Govt. of Rajasthan  
Selected under Star College Scheme by Department of Biotechnology, Govt. of India  

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Former Dean  
Faculty of Pharmacy, Rajasthan University of Health Sciences, Jaipur  

Former Vice President (National)  
Association of Pharmaceutical Teachers of India  

President  
Indian Pharmaceutical Association Rajasthan State Branch  

Former President  
Association of Pharmaceutical Teachers of India Rajasthan State Branch  

September 08, 2018

Message

Dear Dr. Anil Kharia

I am happy to learn that Modern Institute of Pharmaceutical Sciences, Indore is going to organize MPCST Sponsored National Conference on "Raising Awareness on Global Scenario of Intellectual Property Rights and Patenting Issues" on 14-15 September, 2018, and publishing a souvenir on this occasion.

I congratulate the organizers of this conference for selecting a very contemporary theme for this conference. In today’s globally competitive scenario, Intellectual Property Rights plays a significant role in pharmaceutical industry. It helps in maximizing profits for companies, keeping the market competitive and providing effective public health care through innovative medicines.

This conference will bring together academicians, scientists, research scholars, students, healthcare providers, policy makers and investors to exchange their views and research findings. I am sure that the participants would be enlighten and greatly benefitted through the deliberations of this conference.

I wish all the success for this event.

With warm regards,

Yours sincerely

Prof Dr. B.P. Nagori
EMINENT SPEAKER

Dr. Jayant Karajgi
COO,
Rubicon Research Pvt Ltd.

Kudos to the Organizers for hosting this Conference on "RAISING AWARENESS ON GLOBAL SCENARIO OF INTELLECTUAL PROPERTY RIGHTS AND PATENTING ISSUES". I am happy to be a part of this endeavor as a Pharmacist representing the perspective of Indian Pharma Industry.

I believe that the strength of a person is his intellect! However, that intellect has to be "useful": there is no point in having intelligence which has not been put to any meaningful use. We first need to think in an innovative manner and then protect that innovation by patenting it.

Conference's like this will foster the understanding of Intellectual Property among academia and instill the seeds of innovative thinking. I believe that Academia and Industry are like the railway tracks – they may never meet, but always have to run together - the sleepers of mutual interaction keep the two tracks together; so that the journey reaches its destination – the destination of a happy collaboration between academia and industry for the ultimate benefit of the pharmaceutical sciences in our country.

I wish resounding success for this Conference ...
Dear Convener and Organizing Committee,

Since the edge of Aryabhatta, India is the showstopper of the Human Innovation. No doubt the world starts from 0 (zero), unfortunately still we are roaming in zero. On the other side the countries like US, Japan, China are the showstopper and leader of the world. millions of the knowledge drain from India are floating to US and others. they are focusing on the practical education rather than bookish knowledge prevailing in India.

Hence the result of the same we are developing our new generation like “sophisticated Slaves” those are working as Robot under instructions of other developed countries. the result of the present education system, we are creating “Jugad” rather than “Invention” or “Innovation”. as per one of the research in the year 2016, USA has invested USD in billions 514, China 396 USD in billions, Japan 167 USD in billions for Research and Development (R & D) but on the other side India has spent only 71 USD in billions for research programmes in one year, which is peanut against the huge population of India.

We all are running on behind of the theoretical knowledge with lack of the practical knowledge. during my 20 years of the career, I have never saw any institute who are regularly, nourishing and protecting Intellectual knowledge of the students or new generations.

I really appreciate the efforts made by the Modern Institute of Pharmaceutical Sciences for events beyond Books, which is not only practical but helpful for the future of the new generation. I am associated with several academic institute but the Modern Institute of Pharmaceutical Sciences is trying to provide platform to the students to learn the knowledge weapons like Intellectual Property Rights (Patent and others).
SCIENTIFIC ABSTRACTS
Abstract

Academia-industry collaboration has persistently a matter of debate in academic and industry. Research done in academia and its translation into marketable products certainly is not new. A high-quality academic research can assist industry to produce economical product to the society. Traditionally, academics were professed as a foundation of innovations and industry act as platform provider to convert those innovations to consumer products. The need for sharing knowledge between research institutions and industry has become increasingly evident in recent years. To translate academic ideas into industrial products the collaboration of research academic institutions and the industry is needed and the academic institute should be permissible by the industries for making more reachable to offered resources. Our country has a large resource power in sort of all the materials required for a research work to be carried over successfully. We have a large number of well-educated persons in the field of pharmacy; we have our own traditional knowledge, natural resources, large number of student community etc. We have everything but still we can’t utilize these why? The simple reason is we don’t know the power of each of us and are not utilizing it to the maximum. The major problem in this field is facing is that there is neither a good tie up nor a successful relationship between the companies and the academic institutions in India. There exist only a few relationships in the same in India. Currently, certain research institutions have staffs that actively pursue links with industry, but they lack the interactions amongst themselves and with industries. Though academicians in best institutes engage in research, but maximum of their research is limited to publications or patentability on higher hand, very few are converted into marketed or commercialized products. Therefore if academicians research orientation is as per the need of industry or if academicians work for industrial research it will help to generate more revenue and also help to reduces the time and it will help to reduces the research expenditure of industries. The modern epoch of collaborations between innovative ideas and industrial facilities put forward a new platform to attend the global challenges and for the betterment of society Collaboration between academics and industries is very essential for skills development, modernization, entrepreneurs, start-ups, enhancing research, troubleshooting and innovations.
India possesses rich heritage of valuable fauna and since ancient time indigenous communities are using it as a source of medicine. The Ministry of Environment and Forests, Government of India have identified and documented over 9,500 plant species considering their importance in the pharmaceutical industry. Recent market studies indicate that the global nutraceutical and herbal medicine market is expected to cross $243 billion, with annual growth rates between 5 and 15%. In pursuance, many Indian and multinational pharmaceutical companies strategically planned comprehensive intellectual property (IP) portfolio. Diabetes, Cancer, Inflammatory Disorders, AIDS, Hepatitis, Skin disorders and Gastrointestinal disorders are the major areas for which companies are filing patents in India and abroad.

This has been followed by, acquisition of intellectual property rights over traditional knowledge by the foreign innovators; a well-known case in which the US Patent and Trademark Office granted a patent (later revoked) for the use of turmeric to treat wounds, a property well known to traditional communities in India and documented in ancient Sanskrit texts. In continuance, Traditional Knowledge and natural fauna was exploited without showing any respect or concern for its conservation.

Therefore, with the objective of providing balance between the protection of traditional knowledge and the innovators right, legislator incorporated statutory provisions under the Sec. 3, Indian Patent act 1970. This Act implies that subject matter covering traditional knowledge typically, know-how, skills and practices that are developed, sustained and passed on from generation to generation within a community is not patentable. With this advent, legislators have compiled a searchable database of traditional medicine that can be used as evidence of prior art by patent examiners when assessing patent applications.

In addition, if the invention is patentable as per the Indian Patent Act 1970 but has use of natural fauna then as per the Sec.10 of the Indian Patent Act 1970 applicant has to provide Biological Source and geographical origin while as per the Biological Diversity Act, applicant has to take the prior permission from the Biodiversity Authority.
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FORMULATION, AND IN VITRO EVALUATION OF ORAL DISPERSIBLE TABLETS OF ONDASETRON HCl BY DIRECT COMPRESSION TECHNIQUE

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ABSTRACT

The objective of this investigation was to formulate and develop of oral dispersible tablets of Ondasetron HCl by direct compression technique. Ondasetron HCl is an antagonists of serotonin 5-HT3 receptors are located peripherally on vagal nerve terminals, enteric neurons in the gastrointestinal tract because the 60% bioavailability the rate of dissolution are well-tolerated and have been shown to reduce chemotherapy-induced vomiting. All the formulations were evaluated for disintegration time, weight variation, friability, hardness and in vitro drug release. FTIR studies showed that there is no interaction between drug and polymer. It may be concluded that oral dispersible tablets of Ondasetron HCl showing enhanced dissolution rate with increasing concentration of effervescent agents. The oral dispersible tablets have better patients compliance and its improved in biopharmaceutical properties efficacy and safety to compared with conventional oral dosage form and develop to over come the difficulty in swallowing conventional tablets among pediatric, psychiatric patients with dysphagia.

KEY WORDS - Ondasetron Hcl, Direct compression technique, Oral dispersible tablet, In vitro drug release
FORMULATION AND EVALUATION OF BILAYER TABLETS OF METFORMIN AND ROSUVASTATIN

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ABSTRACT

It was found that with the designing of bilayer tablet of Metformin HCl and Rosuvastatin Ca\(^{2+}\) in which Rosuvastatin Ca\(^{2+}\) in one layer releases instantly due to the presence of Cros Carmelose sodium as superdisintegrating agent and Metformin HCl follow the release slowly by HPMC high molecular weight matrix in the order to match with the innovator product. Finally it was concluded that Bilayer tablet of Metformin HCl and Rosuvastatin Ca\(^{2+}\) can be prepared by using optimized level of high viscosity of HPMC in sustained release layer and cros carmelose sodium in instant release layer. Three main excipients were selected for the purpose of improving desired characterization of granules and tablets such as solvent used, Methocel (K 4M and K 100M), and Lubricant. Eight batches (F1 to F8) were prepared with different excipients in varied concentration along with the The simulation of the drug release profile of developed product with innovator’s product was obtained in batch F8 by manipulating the process in which Methocel K100M was added in the formulation in two parts. F8 good flow property of granules and the desired drug release profile as similar to innovator’s product. The project work was mainly aimed to design the formulation of immediate release tablets of Rosuvastatin. In batch R1 to R3 SSG was used in increased manner shows decrease in the disintegration time and in batch R4 to R6 Crospovidon XL was used in increased manner shows improve in disintegration time and better release profile in R6.

Keyword:

Metformin Tablet, Bilayer Tablet, Met-Ros Bilayer, Antidiabetic Tablet, Met Granule.
FORMULATION AND EVALUATION OF POLYHERBAL HANDWASH CONTAINING HYDRO-ALCOHOLIC EXTRACT OF TRACHYSPERMUM AMMI (AJWAIN), SAPINDUS MUKOROSSI (REETHA) AND CYPERUS ROTUNDUS (NAGARMOtha)

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ABSTRACT

Plants have medicinal, pharmaceuticals and cosmetic potential, using it for novel products which may be useful for humans. Herbs are significant part of healthcare throughout the world. Herbal medicines have been extensively utilized as efficient remedies for the prevention and management of multiple health conditions. Hands are a prime mode of transmission of microbial infections. Hand-washing is extremely essential in healthcare and domestic sector. In present study herbal hand wash was formulated using different plant extract like Trachyspermum ammi (Ajwain), Sapindus mukorossi (Reetha) and Cyperus rotundus (Nagarmotha). The results from the present work support the incorporation and utilization of herbs in the formulations to give a better effect. Herbal hand wash evaluated by various parameters such as color, fragrance, pH, viscosity, foam height, foam retention and skin irritation test. The obtained result is in the acceptable limits with less or no side effects.

Key Words: Herbal Hand wash, Trachyspermum ammi, Sapindus mukorossi, Cyperus rotundus
DEVELOPMENT AND CHARACTERIZATION OF VESICULAR CARRIER SYSTEM FOR EFFECTIVE TREATMENT OF LUNG CANCER

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ABSTRACT

Targeted drug delivery or surface functionalization through vesicular carrier system or lectin-carbohydrate is well known example of targeting. Present study was aimed at preparation, characterization, and surface functionalization of etoposide loaded liposomes for their selective penetration into lungs along with decreased frequency of dosing and less side effects. Soya phosphatidyl choline and cholesterol based liposomes were formulated and surface modified by coating them with galactose. Aerosolization of prepared formulation was done for targeting through nasal route. The prepared formulations were characterized in vitro for vesicle size distribution and percent drug entrapment.

Keywords: Vesicular carrier system, galactose, Surface functionalized.
HERBAL DENTAL GEL OF ESSENTIAL OILS FOR TREATMENT OF PERIODONTAL DISEASES

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ABSTRACT

Dental ailments are frequently encountered health problems in human being throughout the world. There are various dental diseases such as pyorrhoea and oral candidiasis which generally occur due to improper cleaning of teeth. Natural remedies are more acceptable in the belief that they are safer with fewer side effects than synthetic ones. Herbal drugs cannot be directly used as in its crude form, rather needs to be formulated in a specific dosage form. The present research work aims to formulate and evaluate the herbal dental gel containing clove oil and eucalyptus oil having bactericidal activity in mouth and preventing gum diseases. The herbal dental gel was formulated using carbopol 934 and gum tragacanth as gelling agents, NaOH as neutralizing agent, menthol and camphor as analgesic and counter irritant. The formulated dental gel was evaluated for physical and anti-microbial activity. The appearance was found to be transparent with good spreadability and no grittiness. In antimicrobial test, number of microbial colonies observed in Plate-A (Blank), Plate-B (Test) and Plate-C (Reference) were 9, 5 and 4 respectively, which confirms that the antimicrobial activity of developed formulation is comparable to marketed product. Thus, has a good scope in future in natural remedies for dental health of public.

KEYWORDS: Clove oil, Eucalyptus oil, Menthol, Carbopol 934, Anti-microbial activity.
EVALUATION OF FORMULATED POLYHERBAL GEL BASED HAND WASH
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ABSTRACT
The main objective of the present research work was to evaluate a formulated polyherbal gel based hand wash by using cinnamon, geranium, Clove, Oregano, anise and peppermint showed better antibacterial, antimicrobial activities. The plant extract was prepared by simple maceration process and the gel base was prepared by using carbopol and triethanolamine. The formulation was evaluated for the parameters like, pH, Viscosity, Foam Height, skin irritation, colour and fragrance. The anti-microbial activity of the formulated herbal hand wash gel was tested against Escherichia coli, pseudomonas aeruginosa and Staphylococcus aureus by pour plate techniques and the results obtained were compared with commercial antibacterial standards. All the evaluation parameters were found to be in limit.

Keywords: Polyherbal; Hand wash; Cinnamon, Herbal gel
NANOCAPSULES – AN EXCELLENT EXPLOITING TECHNIQUE IN DRUG DELIVERY SYSTEM

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ABSTRACT

This review is an attempt to provide summarized information on the various approaches for fabrication of drug loaded nanocapsules. Polymeric nanocapsules can be formed by specific sizes, shapes, and in reasonable quantities. Polymeric capsules, unlike liposomes and similar capsules are held together by strong covalent (chemical) bonds, which make them particularly robust. Nanocapsules have great significant, because of the protective coating, which are usually pyrophoric and easily oxidized and delay the release of active ingredients. Many nanocapsules are stable in both liquid and dry form.
A REVIEW ON NOVEL CARRIERS MEDIATED DELIVERY SYSTEM OF ANTISENSE OLIGONUCLEOTIDE IN CANCER TREATMENT

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ABSTRACT
According to the World health organization (WHO) cancer is the top 10 cause of death in world population. Over 30 year various researchers investigated antisense oligonucleotides (ASONDs) used in the treatment of cancer. ASONDs are small molecules of DNA or RNA for curing tumors or genetic disorders. Novel carrier system like carbon nanotubes, liposomes etc. not only utilized to deliver the drugs at the site of action but also used as a carrier system in gene therapy as well as ASONDs in cancer therapy. This review article explores the delivery of ASONDs and their effect in the treatment of cancer via CNTs and Liposome’s as carrier.
A CONSOLIDATED REVIEW ON NOVEL LIQUISOLID TECHNIQUE TO ENHANCE AQUEOUS SOLUBILITY OF POORLY WATER SOLUBLE DRUGS

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ABSTRACT

Liquid technique is a novel capable method that can change the dissolution rate of water insoluble drugs. Liquid preparations such as solutions or suspensions of water unsolvable drugs in suitable non-volatile liquid vehicles can be transformed into suitable flowing as well as compressible powders by blending with selected powder excipients. It has been speculated that such systems exhibit improved release profiles. In this case, even though the drug is in a solid dosage form, it is held within the powder substrate in a solution or, in a solubilized, almost molecularly dispersed state, which contributes to the better drug dissolution properties.

Keywords: Liquisolid technique, Dissolution, carrier, coating, poorly water soluble drug
A REVIEW ARTICLE ON NANO SUSPENSION ITS APPLICATION IN DRUG DELIVERY

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ABSTRACT

Nanosuspension contains submicron colloidal spreading out of drug-based active ingredient particle in liquid phase which is (strong) by surfactant. Poorly water (ability to be dissolved in something) is a major problem for the manufacturing of creation. The reduction in drug particle leads to improve the bioavailability as well increase the surface area. Nanosuspension prepared by different methods. Ways of doing things such as media milling, high-pressure homogenization have been used commercially for producing Nanosuspension. The (like nothing else in the world) feature of Nanosuspension has enabled their use in different dosage form and delivered by different routes such as oral, lung-related, eye-related, topical and mucoadhesive hydrogel.

Keywords: Nanosuspension, Solubility Enhancement, Stabilizer, Co-Surfactant
A REVIEW ON: INCREASE SOLUBILITY BY USING MIXED SOLVENT
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ABSTRACT

Solubility is one of the prime features to accomplish desired pharmacological response. Various techniques are employed to enhance the aqueous solubility of poorly water-soluble drugs and Mixed Solvency is one of them. Currently hydrotropic solutions possess high industrial demand due to their unique features such as easy availability, good recovery, absence of fire hazards, higher separation factors without any solutes emulsification problem and eco-friendly nature. Hydrotopy is one of the solubility enhancement techniques it enhance solubility to many folds with use of solvents like sodium benzoate, sodium citrate, urea, niacinamide etc.In mixed hydrotopy method does not require chemical modification of hydrophobic drugs.

Key Words:-Hydrotopy, Solubility, Solubility Enhancer, Hydrotopes
FORMULATION, DEVELOPMENT AND EVALUATION OF NANOMIEMGEL FOR THE TREATMENT OF SKIN DISEASE: A REVIEW

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ABSTRACT

In developing countries occurs many types of health issue or various types of disease due to environment, incompatible diet and faulty foods. Among of disease one of the Skin disease are numerous and a frequently occurring health problem affecting all ages from neonates to elderly and cause harm in number of ways. There are number of skin diseases occur such as rashes, viral bacterial, fungal infections, cancer etc. In present methodology is to formulate, develop and evaluate of nanomiemgel for the treatment of skin disease. Nanomiemgel (NMG) is consist of two matrices A & B where matrix A is nanoemulsion (NEM) while matrix B is nanomicelle (NMI) Novel Drug Delivery System is better than conventional drug delivery system. Nanomiemgel is to develop a combination therapy as well as topical drug delivery system. The absorption of the combined system would be better than either of the individual drug delivery systems due to maximum possible paths of absorption available for that particular drug. Purpose of this study minimising toxic effect, reducing dosing frequency, better therapeutic effect, increase bioavailability, etc. Nano particulate systems to expect would be better skin permeation.

Keywords: Nanomiemgel, Nanoemulsion, Nanomicelle, Combination therapy.
DEVELOPMENT OF NANOSTRUCTURED LIPID CARRIER BASED ANTIACNE GEL

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ABSTRACT

Background:
Azithromycin dihydrate is a powerful anti-bacterial agent, widely used in the treatment of acne and also has a substantial potency against both gram-positive and gram-negative organisms. Due to bulky nature of the drug, it has limitations in the porin pathway and a very low bioavailability. (BCS class II).

Objective:
The purpose of the present investigation was to formulate & evaluate azithromycin dehydrate loaded nanostructured lipid carrier (NLC) based gel.

Method:
The NLC preparation adopted was through micro emulsion. This was based on glycerylmonostearate (2, 3-Dihydroxypropyl octadecanoate) and gelucire 44/14 (Lauroyl macrogol-32glyceride) as solid lipids, Oleic acid ((9Z)-Octadec-9-enoic acid) as liquid lipid and Kolliphor RH40 (Polyoxyl 40) as surfactant.

Result:
NLC were characterized for particle size, polydispersity index (PDI), zeta potential, entrapment efficiency and in-vitro drug release. Shape and surface morphology were determined by SEM. The dispersion containing NLC was converted into dermal gel employing Carbopol. It was characterized for pH, viscosity, spreadability, drug content, skin permeation and antimicrobial potential against S. aureus. Drug release studies demonstrated that the formulations were capable to produce controlled release over a period of 24 hrs. NLC based gel formulation was subjected to stability study over a period of 30 days. There was no significant change in quality & performance during storage indicating the developed gel was fairly stable.

Conclusion:
A novel topical version of azithromycin could be suggested.

Keywords: Nanostructured lipid carrier, microemulsion, gel, antiacne, topical, Azithromycin dehydrate.
REVIEW ON "MEDICATED JELLY AS A PROMISING DRUG DELIVERY SYSTEM FOR PEDIATRIC PREPARATION ".

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ABSTRACT
The old medicinal system is not acceptable for pediatric patients. Pediatric population includes the neonates, children (2-11yrs), adolescents (12-16/18 years). In the 20th century, developed the oral medicate jellies. The recent development of oral medicated jelly is one of the novel approaches, aims to improve safety and efficacy. Children are easy to accept medicated jellies with full enjoy the taste and chewing property. It’s very popular with the consumer so it has continued commercial manufacture. The advantage of oral medicated jellies provided as pharmaceutical formulations. Jellies incorporated multiple drugs for chronic illness treatment such as anti-diabetics, anesthetics, erectile dysfunction, arthritis, antihypertensive, sore throat. Available of jellies in various flavors and colors like mango, orange, pineapple, strawberry and red, pink, orange, green, yellow etc, respectively. The jelly was manufacture under the identical conditions of cooking time, temperature, and sugar contents with ordinary jellies, except the addition of medicament. It increases the patient compliance. Medicated jelly today is gaining consideration as a “vehicle” or a “delivery system” to administer active principles that can improve health and nutrition. The medicated jelly is mainly used for oral diseases as well as systemic diseases. It is useful for the pediatric patients because it’s like candy and they can easily take this medication as having attractive color and sweet taste and they love chewing the jelly having different shapes and size. Jellies are formed by intensification of polymers like gelatin, guar gum, gellan gum, pectin is widely used.

Keywords: Oral drug delivery system, pediatric drug delivery, patient compliance, chronic illness.
REVIEW ON MEDICATED CHEWING GUM AS A NOVEL DRUG DELIVERY SYSTEM

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ABSTRACT

Chewing gums are mobile drug delivery systems. Unlike chewable tablets medicated gums was not supposed to be swallowed and may be removed from the site of application without resort to invasive means and medicated chewing gum is solid, single dose preparation. As for the patient convenience is concerned, it is discrete and easy administration without water promotes higher compliance. Since it can be taken anywhere, chewing gum formulation is an excellent choice for the acute medication. The advantages for patients and for children who find swallowing tablets difficult are obvious. The medicated chewing gums was single dose, solid preparations with a base consisting mainly of gums that are intended to be chewed, but not swallowed. They contain one or more active ingredients, which are released by chewing and are intended to be used for local treatment of mouth diseases or systemic delivery after absorption by the buccal mucosa. This concept was supported by statements that sugar-free chewing gum can help reduce the risk of dental caries (cavities). The objective of this study is to appraise existing evidence concerning a possible therapeutic effect of sugar-free chewing gum for patients. MCG represents the newest system with potential uses in pharmaceuticals, over the counter medicines and nutraceuticals.

Keywords: Chewing gum, Mouth diseases, Saliva, Mobile drug delivery system, Dental caries.
FORMULATION AND EVALUATION OF FAST DISSOLVING TABLET OF PARACETAMOL AND CHLORPHENIRAMINE MALEATE

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ABSTRACT

Paracetamol and Chlorpheniramine Maleate are used as antipyretic and analgesic drugs to pain and fever in cold and flu condition. The aim of present work was to formulate a combined oral dosage form of Paracetamol and Chlorpheniramine Maleate into fast dissolving tablet using three super disintegrating agents such as Crosscarmellose sodium, sodium starch glycollate and microcrystalline cellulose at different concentration to enhance the disintegration to improve bioavailability of drugs. The tablets were prepared by using direct compression method and evaluated for Weight variation, Hardness, Friability, Wetting time, Disintegration time. The formulation F2 with Crosscarmellose 27% concentration found to be best formulation. The results showed that Crosscarmellose Sodium as the superdisintegrants was ideal. Among all formulations, promising formulation F2 showed good wetting time (26 sec), fastest disintegration time (20 sec). UV spectrophotometric method has been developed for simultaneous estimation of Paracetamol and Chlorpheniramine Maleate in dosage form. The two wavelengths 248.7 nm (λmax for Paracetamol) and 261.9 nm (λmax for Chlorpheniramine Maleate) were selected for the formation of simultaneous equation.

KEYWORDS: Fast Dissolving Tablets, Paracetamol, Chlorpheniramine Maleate, Superdisintegrants, Cross Carmellose Sodium, Direct Compression Method.
FORMULATION DEVELOPMENT AND EVALUATION OF
ORODISPERSIBLE TABLET OF PARACETAMOL

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ABSTRACT

Oral route of drug administration is oldest and safest mode of drug administration. The design of proper dosage form is an important element to accomplish this goal. The present study was undertaken with an aim to formulate Paracetamol orodispersible tablets using two different superdisintegrants in different ratio. IR spectra studies revealed that the drug and polymers used were compatible. Paracetamol is antipyretic and analgesic, they undergo to first pass metabolism and this drug having also bitter in taste. Preliminary study of superdisintegrants showed that crospovidone has more swelling capacity and hydration capacity than sodium starch glycolate. Various formulations of orodispersible tablets of paracetamol developed in different proportions and combinations of both superdisintegrants by direct compression technique. Results of in vitro release profile indicated that formulation (F9) was the optimized formulation as it had faster in-vitro drug release as compared to other formulations. Formulation F9 released 13.22% drug release within 2 minutes and 98.72% drug within 20 minutes. It concluded that the F9 had faster release than other formulation. Less wetting time, in-vitro dispersion time, disintegration time, more percentage drug content, and good tensile strength of formulation F9 as compared to all formulations. It was concluded that orodispersible tablet of Paracetamol could be prepared using crospovidone (3.5%) and sodium starch glycolate (3.5%) as superdisintegrants by direct compression.

Keywords: Orodispersible Tablet, Paracetamol, Superdisintegrants, Sodium Starch Glycolate, Crospovidone, IR Spectra
FORMULATION AND EVALUATION OF SOLID DISPERSION OF ALBENDAZOLE

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ABSTRACT
In the current research, solid dispersion of Albendazole was prepared. Albendazole is used for the treatment of a variety of parasitic worm infestations. It is a poorly water soluble drug and Solubility is a significant physiochemical factor which affects the absorption of drug and therapeutic effectiveness. So solubility of ABZ was enhanced by preparing solid dispersion using solvent evaporation method. The prepared solid dispersion was evaluated for Solubility studies, Dissolution and kinetic drug release models and it was found that solubility of formulation has a maximum solubility & Dissolution has a maximum value 249.38(µg/ml) and it follows First order kinetic drug release models.

Key Words- Albendazole (ABZ), solubility enhancement, solid dispersion.
FORMULATION AND EVALUATION OF ANTI ACNE FACE PACK

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ABSTRACT

The objective of this work is to formulate and evaluate a polyhedral face pack for cosmetic purpose from herbal ingredients. Neem, Aloe-vera, Turmeric, Sandal wood, Green gram and Yellow gram were procured from the local market and were dried, powdered, then passed through sieve no 100, mixed geometrically and evaluated for its organoleptic and physico-chemical, general powder, microscopical characters and chemical evaluation. The dried powders are combined and possess passable flow property which is suitable for a face pack. The microscopical characters of combined dried powder form were noted. Herbal face packs and masks are used to stimulate blood circulation, rejuvenates the muscles and help to maintain the elasticity of the skin and remove dirt from skin pores. The advantages of herbal cosmetics are because of their non toxic nature, reduce the allergic reactions and time tested usefulness of many ingredients. Thus in the present study, we found good properties for the face packs and further optimization studies are required on this to find the useful benefits of face packs on human use as cosmetic product.
A REVIEW ON FLOATING DRUG DELIVERY SYSTEM TO INCREASE BIOAVAILABILITY OF ANTI ULCER DRUGS

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ABSTRACT

Floating drug delivery systems have the property to retain the dosage form in the stomach for controlled period of time. These are useful for drugs which act’s locally in the gastro intestinal tract (GIT) and those drugs which are unstable and insoluble in intestinal fluids. Now a days various efforts are being made to design systems such as Floating Drug delivery systems (FDDS) Bio adhesive system, Swelling & Expanding System, Modified shape system, High density system etc. These systems have a specific site absorption limitation that’s why it has advantage in improving GIT absorption of drug with modified release. The main objective of these systems is to increase the safety of a product and improve its duration of action and lowers the side effects of drugs. These systems have more advantages than conventional dosage form. Recently several approaches have been developed to extend GIT transit time by modifying residence time of drug delivery system in the GIT. Gastro-retentive drug delivery system (GRDDS) has achieved great popularity in the field gastric-retention, plug type swelling system, muco-adhesion technique, floating system with or without effervescence is being applied to formulate GRDDS. GRDF system can be defined as a system which retains in the stomach for a controlled time interval against the entire physiological barrier and releases the active material in a controlled manner. It is easily metabolized inside the body. Physiological barriers like and gastric retention time (GRT), gastric motility act as obstacles in developing an efficient GRDF. This article highlights the oral drug delivery systems which are used recently. Different ingenious approaches like magnetic field assisted the in vivo works of GRDDS used in the recent past, with their limitations and challenges which are important to be overcome in the near future.

Keywords: Anti ulcer, Floating drug delivery system, GRT, GRDDS.
ABSTRACT
Aging is a natural phenomenon that leads to various changes in the physiology of the skin. The changes occurring in the physiology of the skin makes the candidate to appear old. Application of antiaging creams is the best choice even though various treatment methods are available because it nourishes skin and prevents or repairs fine lines and wrinkles thus giving young looking appearance. In the study of creams were formulated based on the anti-oxidant potential of herbal extracts and its evaluation. Free radicals are nothing but they are reactive oxygen species. Exercise in high amount can cause over production of free radicals. Free radicals can come into body in anyway like smoking, pollution, poor diet, radiation or pesticides. In recent time antioxidant extracted from natural herbal source and also have wide applications in preparation of anti-wrinkle cream because of their easy availability and non-toxicity. There are few creams that have been developed for the purpose of treating the aging face, yet UV damage and secondary signs of aging on the face make them one of the most obvious indicators of age outside the face. The formulation of polyhedral anti-wrinkle cream is monitored under accelerated stability studies over a periodot 30 days while maintaining the product at 4, 20 and 40 °C.

Keyword:- Aging, Antioxidant, formulation, signs of aging.
A REVIEW: NEWER TRENDS IN SOLID DISPERSION TECHNIQUES

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ABSTRACT
Solubility plays an important role in formulation development to achieve drug dissolution and bioavailability. Drug entities of BCS Class II and IV, due to their poor solubility behavior requires solubility enhancement as its poor solubility restricts from achieving the full potential of drug candidate and important products from reaching the market. Solid dispersion is an easier technique to enhance the solubility in which the drug is dispersed in an inert carrier at solid state. Various techniques are available to prepare solid dispersion but recent methods such as microwave irradiation, hydrotropic solid dispersion, surface solid dispersion provides ecofriendly, solvent free alternatives to formulate solid dispersion. This article reviews the newer methods of solid dispersion preparation and their future application in pharmaceutical industries.

Keywords: Solubility Enhancement, Solid Dispersion, Microwave Irradiation, Hydrotropic Solid Dispersion, Surface Solid Dispersion
A BRIEF REVIEW ON POLYHERBAL HAIR OIL FOR ALOPECIA

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Alopecia, which is defined as the loss of hair from the body, encompasses a large range of hair loss disorders, including Alopecia areata. There is growing use of botanical sources in dermatology. Accordingly the interest of the use of botanical and natural products for the treatment of alopecia is growing. Here we present a review which has been found very systematic for natural and botanical products that have been examined as potential treatment options for alopecia. Studies pertaining to androgenetic alopecia and Alopecia areata have been found. These investigations are highly promising as they signal increased usage of natural and botanical products for the treatment of alopecia. The concept of beauty and cosmetics is very primitive and may be considered as old as our mankind and civilization. So, we use a various of beauty products that have herbs to look young and charming. Herbal cosmetics are now widely used by the common people because of the concept of fewer side effects with a security profile and better safety. The present work is aimed to formulate herbal oil for general purpose (application in hairs) using various herbs. The formulated herbal oil will be evaluated for various parameters such as viscosity, pH, saponification value etc.

Key words: Cosmetics, Herbs, Herbal hair oil, Evaluation, Alopecia, baldness.
INTELLECTUAL PROPERTY RIGHTS: AN OVERVIEW AND IMPLICATIONS IN PHARMACEUTICAL INDUSTRY

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ABSTRACT

Intellectual property rights (IPR) have been defined as ideas, inventions, and creative expressions based on which there is a public willingness to bestow the status of property. IPR provide certain exclusive rights to the inventors or creators of that property, in order to enable them to reap commercial benefits from their creative efforts or reputation. There are several types of intellectual property protection like patent, copyright, trademark, etc. Patent is a recognition for an invention, which satisfies the criteria of global novelty, non-obviousness, and industrial application. IPR is prerequisite for better identification, planning, commercialization, rendering, and thereby protection of invention or creativity. Each industry should evolve its own IPR policies, management style, strategies, and so on depending on its area of specialty. Pharmaceutical industry currently has an evolving IPR strategy requiring a better focus and approach in the coming era.

Keywords: Drug, intellectual property, license, patent, pharmaceutical
DEVELOPMENT OF SKIN WHITENING CREAM

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ABSTRACT
Skin whitening is a term used for lightening the complexion of the skin through artificial means like creams, lotions, soaps and injections. The production of abnormal melanin causes hyperpigmentation can be a serious aesthetic problem. The available synthetic formulations contain Hydroquinone which is a most widely used depigmenting agent at present, but is considered to be highly cytotoxic to melanocytes and potentially mutagenic to mammalian cells. The cosmetic industry is looking for novel, effective, possibly “Natural” ingredients of low or absent side effects with hydroquinone, the previous benchmark in this field, fast and effective results to whiten skin were obtained. Herbal medicines are currently in demand and their popularity is increasing day by day. In the healthcare sector, WHO recommends and encourages the use of traditional herbs or remedies because huge amount of raw material is easily available.

The objective of this research is to formulate skin whitening formulation, which have ability to give whitening effect without any side effects.
FORMULATION AND EVALUATION OF HERBAL ANTI-FUNGAL CREAM

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ABSTRACT

Objective: The objective of this study was to develop a topical formulation (cream) of Indigenous herbs for the treatment of fungal infection. Many literatures claim that herbs exhibit anti-fungal and wound healing properties.

Methods: For this purpose creams were prepared by using extracts of (i.e., licorice, Cinnamon) and oils of (peppermint and lavender). The evaluation of creams was done and anti-fungal activity was checked by agar well diffusion method.

Results: All prepared formulations were followed by the evaluation parameters of cream. All formulations showed zones of microbial inhibition: Formulation 4 showed similar zone of microbial inhibition and Formulation 5 showed better zone of inhibition compared to marketed herbal formulation.

Conclusion: On the basis of various literature surveys, it was concluded that herbs are used in various pathological conditions. The prepared new formulations were found to very effective against fungal infection. Among this formulation 5 is selected as the best formulation because it shows the more zone of inhibition as compared to marketed preparation.

Keywords: Fungal infection, Candida albicans, herb, Cream.
FORMULATION AND EVALUATION OF SUSTAINED RELEASE MATRIX TABLET OF METOPROLOL SUCCINATE BY HOT MELT EXTRUSION TECHNIQUE

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ABSTRACT

Sustained release matrix tablets of Metoprolol Succinate were fabricated using hot melt extrusion techniques. Precompression study was performed on various parameters like angle of repose, bulk density and compressibility index. On the basis of solubility studies; phosphate buffer 6.8 was selected as drug solvent for in-vitro dissolution studies. Based on the literature studies, various excipients like povidone and ethyl cellulose were chosen and tablets were prepared by Hot Melt Extrusion technique to improve the dissolution property of highly soluble drug Metoprolol Succinate. The compatibility between the selected drug and the carrier was tested by physical compatibility method and it was found to be compatible without any interactions. The formulated tablets were tested for hardness, weight variation, friability, drug content and drug release pattern. In the present study nine different batches were prepared and evaluated for dissolution study. It was observed that F7 showed 96% of the drug release within 10 hours compared to innovator product. Hence F7 was selected as optimized formulation and evaluated for stability as per ICH Guidelines for three months. From the study it was concluded that proper combination of matrix forming material can make sustained release tablets more effectively.

Keywords: Sustained Release, Matrix Tablet, Metoprolol Succinate, Hot Melt Extrusion Technique, Povidone, Ethyl Cellulose.
DESIGN AND EVALUATION OF CHITOSAN FILM FOR TRANSDERMAL DELIVERY OF GLIBENCLAMIDE

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Abstract:- Transdermal drug delivery system drug may be directly reaches to the systemic circulation and it is self contained discrete dosage form when they applied the drug deliver drug in to systemic circulation. Glibenclamide use as modal drug to develop transdermal patch. Glibenclamide is a third generation oral antidiabetic sulphonyl urea frequently prescribed to patient of type 2 diabetes. Orally Glibenclamide shows poor bioavailability problem due to its poor solubility, dizziness gastric disturbances. Chitosan is good film former ability, and permeation enhancer and Absorption enhancing properties. Chitosan and HPMC are better formulation for control release of drug up to 8 hr of time and evaluation study shows the good film thickness. The mechanism of the present study encourage that the glibenclamide transdermal patch using chitosan can be used as controlled drug delivery system and good film former and good permeation of drug.

Key Word: - Chitosan, Transdermal Drug Delivery, Glibenclamide
HERBAL TOOTHPASTE- A PRODUCT OF CONSUMER CHOICE
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ABSTRACT

Toothpaste is a gel or paste formulation product and is used to wipe and keep oral hygiene with the aid of toothbrush. It is a common product used by the community for dental care and plaque removal. Toothpastes available in the market may have use harmful chemicals in toothpaste can affect health of your teeth and gums. WHO suggest and motivate the use of traditional herbs or remedies because huge amount is easily available. The main objective of the present work is focused on advantages, Limitations, Components, method of preparation and evaluation parameters of Herbal toothpaste.

Keywords: WHO, Herbs, paste,
A GENERAL REVIEW ON HERBAL ANTI ACNE CREAM
FOR SKIN IMPROVEMENT

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ABSTRACT

Acne, which is an inflammatory disease of sebaceous follicles of skin, is very common amongst teenagers and adolescents. Acne vulgaris is a common skin disorder affecting more than 80% population of the world, specifically teenagers and adolescents. Acne, by definition, is a multifactorial chronic inflammatory disease of pilosebaceous units. Staphylococcus epidermidis and Propionibacterium acnes are considered as major skin bacteria that cause the formation of acne. Although acne does not pose serious threat to general health, it is one of the most socially distressing conditions especially for adolescents. Acne vulgaris, (commonly called acne), is an common skin condition caused by changes in the pilosebaceous units, skin structures consisting of a hair follicle and its associated sebaceous gland via androgen stimulation. The objective of this study was to design a product to treat Acne with purely herbal actives as an effective and safe alternative to harmful antibiotics. For this purpose three essential oils and two herbal extracts having anti-microbial properties were selected.

Key words: inflammatory, adolescents, teenagers, skin, follicles, Acne vulgaris.
A REVIEW ON - POLYHERBAL HAIR OIL

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ABSTRACT

Cosmetics are used from ancient time for improving the appearance and also for beautification. Cosmetics are applied on skin as well as hairs. Herbal cosmetics used on hairs include Hair oil, herbal shampoo etc. Hair oils are used for increasing shine, protection of hair from humid environment, mask the hair from dust and debris. Various herbal hair oil formulations are used for preventing hair fall, increasing hair growth, providing nutrients and vitamins to the hair. Herbal extracts used in hair oils are shikhakai (Acacia concinna), Amla (Phyllanthus emblica), bhringraj (Eclipta prostrate), fenugreek (Trigonella foenum-graecum). Different herbal constituents are mixed for formulation of Polyherbal oil which serves for many purposes.
ABSTRACT:

The importance of mouth and teeth cleanliness has been recognized. Patients and oral health practitioners are faced with a multitude of mouthwash products containing many different active and inactive ingredients. Although many popular herbal products have helped to control dental plaque and gingivitis and other dental disorder. They have been used for a short time and only as an adjunct to other oral hygiene measures such as brushing and flossing. Various herbal products and their extracts such as Guava, Pomegranate, Neem, Propolis, Tulsi, Green Tea, Cranberry, Grapefruit aloevera, Echinacea, tea,etc, have shown significant advantages over the chemical ones. Natural mouthwashes may offer significant advantages over the chemical ones. If such mouthwashes can be formulated which can be easily prepared and used safely by people at home using natural products, it may lead to improvement in the general dental health of the population. This review is an attempt to outline such natural substances, which may be used as effective mouthwashes and natural substances also cost effectives preparations.

KEYWORDS: herbal, mouthwash, plaque, gingivatus
A REVIEW ON FORMULATION AND EVALUATION OF HERBAL ANTIDANDRUFF SHAMPOO

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ABSTRACT

The objective of the study is to describe the anti-dandruff and antifungal activity of ethanolic extracts of fenugreek seeds, shikakai and musa leaves. Dandruff is a common disorder affecting the scalp condition caused by the yeast Malassezia M. globosa. Dandruff cannot be completely eliminated but can only be managed and effectively controlled. The symptoms of dandruff are itching of the scalp, presence of fragments and redness on the scalp. Several herbal shampoos are available in the market which have plant extract incorporated. Synthetic shampoos lead to various side effects such as toxicity to eye, over drying of hair and deposition of salt on hair shaft. Treating the dandruff condition by herbal shampoo is definitely considered better than the chemical based anti-dandruff shampoo. Most of the herbs will be chosen and used in several combinations for formulation of shampoo with better antidandruff activity. Fenugreek seeds, shika kai and musa leaves possess both, anti fungal and anti-dandruff activity. We can use this shampoo on daily basis because this herbal shampoo has no side effects and also have excellent anti dandruff property.

Key words: Dandruff, herbal anti-dandruff shampoo, Pityrosporum ovale.
A REVIEW ON RECENT ADVANCEMENTS IN TRANSDERMAL DRUG DELIVERY SYSTEM

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ABSTRACT

A major bottleneck in the administration of drugs by oral route is the first pass metabolism, so the transdermal drug delivery system proved to be very effective in avoidance of drug degradation. Under the category of controlled drug delivery, transdermal drug delivery system (TDDS) is one of the systems, in which the aim is to deliver the drug through the skin in a predetermined and controlled rate. This route of administration of drugs has various advantages, like prolonged therapeutic effect, reduced side-effects, improved bioavailability, better patient compliance and easy termination of drug therapy. Appendageal, transcellular and intercellular are the three main routes of drug penetration, which include the Skin age, condition, physicochemical factors and environmental factors are some factors that are to be considered while delivering drug through this route. Polymer matrix, membrane, drug, penetration enhancers, pressure sensitive adhesives, backing laminates, release liner, etc are the basic components of TDDS. In the recent years there have been so much advancement in drug delivery by TDDS such as transdermal patches, microneedles etc. The aim of this review is give detailed knowledge about recent advances in the TDDS by focusing on method of preparation, mechanism of action, evaluation parameters and applications of transdermal drug delivery for curing various diseases in a controlled manner.

Keyword: TDDS, Transdermal Patches, Microneedles, Mechanism of action, Evaluation parameters.
NANO TECHNOLOGY --- AN EMERGING PLATFORM FOR CANCEROUS CELL

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ABSTRACT

Nanotechnology is the potential to revolutionize for the cancer diagnosis and therapy. Advances in for the protein engineering and materials of science have the contributed to the novel nanoscale targeting approaches that may bring new hope to for the cancer patients. Research on nanotechnology of cancer therapy extends beyond of the drug delivery into the creation of the new therapeutics available only through the use of nanomaterial properties. Several therapeutic nanocarriers have been approved for the clinical use. However, to date, there are only a few clinically approved nano carriers that incorporate of the molecules to selectively bind and to the target cancer cells. At the same time, the relatively large surface area of nanoparticle can be functionalized with ligands, including it small molecules, DNA or RNA strands, peptides, aptamers or antibodies. In these particular, the Nucleic Acid-Based Nanoconstructs for the Treatment of Cancer Center at Northwestern University is focused on the design and characterization of the spherical nucleic acids for the delivery of RNA therapeutics to treat brain and prostate cancers. This review examines some of the approved formulations and discusses the challenges in translating basic research to the clinical. We detail the arsenal of the nanocarriers and molecules available for the selective tumour targeting, and emphasize of the challenges in the cancer treatment.

KEYWORDS

Nanotechnology, DNA or RNA strands, peptides, aptamers or antibodies.
VITAMIN AND MINERAL SUPPLEMENTS: IS IT REALLY BENEFICIAL AND REQUIRED FOR US?

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ABSTRACT

In India, 40–50% of men and women 50 years of age or older regularly use multivitamin/mineral (MVM) supplements, making the annual sales of these supplements over 70%. However, the question remains whether using MVM supplements is beneficial to health. This article reviews the results of randomized studies of multivitamin and multimineral supplements and individual vitamins/mineral supplements. The results of large-scale randomized trials show that, for the majority of the population, there is an overall benefit from taking multivitamin and multimineral supplements. Indeed, some studies have shown increased risk of cancers in relation to using certain vitamins regularly, but these vitamins taken with the combination of minerals may increase the benefit of both vitamins and minerals and give synergistic effect. These supplements are used for pregnant women, people with allergies to particular foods, people with malabsorption problems.

Keywords: vitamins, minerals, vitamin and mineral supplement
REVIEW ON BOTULINUM NEUROTOXIN INJECTION FOR THE TREATMENT OF EPIPHORA IN NASOLACRIMAL DUCT OBSTRUCTION AND EPIPHORA WITH PATENT LACRIMAL DUCT

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ABSTRACT

Retrospective long-term study to evaluate the efficacy of botulinum neurotoxin A (BoNT/A) therapy for epiphora due to non-surgical nasolacrimal duct obstruction. Authors reviewed the qualitative and quantitative degree of improvement of epiphora after botulinum neurotoxin injections in the palpebral lobe of the lacrimal gland, carried out in an ophthalmic centre between 2009 and 2016. Epiphora was graded using a questionnaire, Munk scores and Schirmer tests before and after injections. Severity of side effects was recorded. They reviewed qualitative and quantitative criteria to evaluate the degree of improvement of epiphora after BoNT/A injections in the palpebral lobe of the lacrimal gland in patients referred for epiphora despite patent lacrimal ducts between 2009 and 2016. Epiphora was graded using a functional questionnaire, Munk score and Schirmer test performed before and after the injections. Side effects were recorded. Twenty-seven palpebral lacrimal glands of twenty patients with epiphora, mean age 65 ± 13, were treated with BoNT/A (Botox® or Xeomin®) from April 2009 to April 2016. The epiphora was induced by persistent nasolacrimal duct stenosis after surgical treatment. No conventional medical nor surgical treatment was effective at this time. The technique of injection, dilution and dosage were specific. The Schirmer test measured a decrease of lacrimal secretion in 24/27 (89%) lacrimal glands after neurotoxin injection. Side effects were ptosis in 4 cases and transient esotropia in 2 cases. The authors describe the injection techniques, the dosage, the volume and concentration of BoNT/A.

The Schirmer’s test measured a decrease of lacrimal secretion in 51/65 glands (78%) after the first botulinum neurotoxin injection. Side effects were limited to ptosis in 2 cases (3%) and six patients (9%) with rapidly regressing diplopia. Two patients experienced immediate lacrimal gland hematoma (3%) with no sequelae. The authors describe the injection techniques, the dosage, the volume and concentration of BoNT/A.

Keywords:-BoNT/A, Epipora, Duct, Lacrimal Gland
ORODISPERSIBLE LIQUISOLID COMPACTS

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ABSTRACT

Orodispersible liquisolid system is the combination of liquisolid technique and orodispersible system. The poor dissolution rate of water insoluble drug is a major drawback for the development of pharmaceutical dosage forms. The oral absorption of drug is most often controlled by dissolution in the gastrointestinal tract. Liquisolid system has been used to enhance dissolution rate of poorly water-soluble drugs. Orodispersible tablets are given in order to provide fast action by disperse in the mouth, without the need of water and make them compliance for paediatric and geriatric patients and to bypass the liver metabolism.

Keywords :- Liquisolid systems, orodispersible tablets, dissolution rate, solubility
ABSTRACT

The patent system was first introduced in India in 1856 through the Exclusive Privileges Act, 1856. Later on, the Indian Patents and Designs Act, 1911, replaced the previous act and thereafter to encourage indigenous research in the Indian Pharmaceutical industry, the government introduced a new system of patents through the Patent Act, 1970. This act regulates for products processed or manufactures in India. Patent play an important role in the cost of drugs developed after around 1980.

Drugs that are patented are protected from competition, as other companies cannot use the same mixture of ingredients to create competing drugs.

Patent is a monopoly right Out of seven areas of intellectual properties, patent is the most important and controversial issue because of its wideranging implications to the drugs and pharmaceutical industries of the developing countries.

It is important, that the ministry responsible for intellectual property and the patent office apply rigorous patentability standards on pharmaceutical patent applications, with the aim of avoiding secondary patents and patent evergreening.

This growth in pharmaceutical patents is a problem in developed and developing countries.

In South Africa, a study found 92 secondary patents were granted for 24 cancer medicines, with 74 likely to block competition from generic versions. there are lessons to be learned from other countries.

“The opposition system will help patent examiners to conduct more rigorous examination of patent applications and have better examination practices.Before a patent is granted, anyone who has an interest to file an opposition, such as generic drug companies or patient groups, could file an opposition before the patent office, showing why the patent should not be granted.A similar administrative procedure would apply after the granting of the patent in the form of a post-grant opposition system.Though the pharmaceutical patent was granted to productas well as process after the 2005 amendment, the issues and oppositions are coming from the developed economies regarding the conflicts on low cost generic drugs and compulsory licensing, which is the practice of allowing third parties by the authorities to use the patented inventions without patentee permission. The government is also framing policies often to recognize the need to ensure abundant availability of essential quality medicines at reasonable price.

Right to health and medical care is one of the basic and well recognized human rights.
A REVIEW ON CARBON NANOTUBES AS DRUG DELIVERY SYSTEM
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ABSTRACT
Carbon Nanotubes has a unique needle-like shape which enable them to be functionalized in order to adsorb or covalently link to a wide variety of therapeutic materials and internalize them into the targeted cell. The needle-like carriers act as potential nanocarriers for the delivery of drugs, genes, and proteins for both small drug molecules as well as macromolecules such as genes and proteins. Further, Carbon nanotubes exhibit many other unique physical and chemical properties that have been intensively explored for various biomedical applications in the past few years. The main aim of developing nanocarrier drug delivery systems is to enhance the therapeutic effect resulting in reduce toxicity of therapeutically active materials. Most of the research on CNTs has focused on their potential for delivery of anticancer agents. In vitro and in vivo toxicity studies reveal that highly water soluble and serum stable nanotubes are biocompatible, nontoxic, and potentially useful for medical applications. Carbon nanotube-based drug delivery is indeed a major breakthrough and plenty of applications of CNTs will be explored in future.

KEYWORDS - Carbon nanotubes, Nanocarriers, Targeted cell, biomedical applications, Drug delivery, anticancer agents.
ABSTRACT
The aim of this study was to formulate and evaluate Dexlansoprazole floating micro-balloons for controlled drug release. Initially, the drug-loaded low-density granular pellets were prepared with Hydroxypropyl Methylcellulose E5 grade and by using isopropyl alcohol as a granulating fluid. Further, the low-density granular pellets were subjected to microencapsulation by an emulsion evaporation technique using ethyl cellulose 7 cps and Eudragit S 100 as coating polymers and 1% w/v polyethylene glycol 400 as aqueous phase. The prepared Microballoons were characterized for their angle of repose, particle size analysis and compressibility index. The in vitro release studies were performed in 0.1 N HCl as medium. The prepared Microballoons were spherical in shape and are free-flowing. From all the formulations, F5E and F5F can be considered as promising controlled release floating Microballoons of Dexlansoprazole providing first-order release over a period of 12 hours, with a minimum floating lag time of 1 minute. It was found that the ratio of the drug & polymer, stirring speed, and concentration of surfactant were the most significant variables which influenced the size of the Dexlansoprazole Microballoons under the applied experimental conditions.

Keywords: Dexlansoprazole, Floating Microballoons, HPMC E5, Controlled Release, Eudragit RS 100
FORMULATION, DEVELOPMENT AND EVALUATION OF HERBAL
HAIR CREAM ON WISTAR RATS

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ABSTRACT
The study aimed to formulate a pure herbal hair cream and to evaluate and compare its physicochemical properties with the marketed synthetic and herbal hair cream. The herbal hair cream was formulated by adding the extracts of Azadirachta Indica and Bacopa monnieri in different proportions to a 10% aqueous gelatin solution. Small amount of methyl paraben was added as a preservative and pH was adjusted with citric acid. Several tests such as visual inspection, pH, wetting time, % of solid contents, and stability, surface tension, detergency, were performed to determine the physicochemical properties of both prepared and marketed hair cream. The formulated herbal hair cream was also evaluated for conditioning performance by administering a blind test to 18 wistar rats in three different groups. The formulated herbal hair cream was clear and appealing. The prepared hair cream and commercial hair cream showed comparable results for % solid contents also. The results indicated the formulated cream is having excellent conditioning performance, at par with commercially available cream.

Keywords: Azadirachta Indica, Bacopa monnieri, Herbal hair cream, Methyl paraben, Physicochemical properties
A GENERAL REVIEW ON HERBAL HAIR CREAMS FOR IMPROVE HAIR CARE

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ABSTRACT

Now a days, hair care and hair style play a very important role in people’s physical aspect and self-perception. Hair cosmetics will be distinguished into two main categories: cosmetics with temporary effect on hairs, for example shampoos, conditioners, sprays, hair creams and temporary colors; and cosmetics with permanent effect on hair, like permanent waves, relaxers, permanent colors and bleaches. These cosmetic procedures may induce hair abnormalities. The concept of cosmetics and beauty is an ancient as mankind and civilization. So, the use different beauty products that have herbs to look young and charming. Herbal cosmetics are now days widely used by the common people because of concept of fewer side effects and with a better safety and security profile. The review work was aimed to formulate herbal hair cream for general purpose (application in hairs) using various herbs.

Keywords: hair; hair care; hair care cosmetics; hair care products; cosmetic ingredient; healthy hair
A BRIEF REVIEW ON POLYHERBAL ANTI-AGING CREAM

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ABSTRACT:
Skin aging is a complex process induced by constant exposure to damages human skin. A delicious tropical fruit that grow widely in most Southeast Asian countries. These is strong antioxidants properties due to the presence of ellagic acid, corilagin, geraniin, β-carotene and vitamin C. Telomeres which are the part of chromosome play an important role in terms of aging as they are having repetitive DNA sequences. Resveratrol, an important antioxidant polyphenol extracted from red wine, has been the subjected to an interest as they are having a range of unique anti-aging properties. An important study is the quality control of the anti-aging cream determining the physico-chemical characteristics and appropriate pharmacotechnical characteristics, both initially and over time. A study has main objective the development and formulation of a anti-aging cosmetic product which are incorporates effective and innovative ingredients, used in the developed formulation to support the cosmetic claimed of the product.
A REVIEW ON OIL CLEAN FACE WASH BY MULTANI MITTI, MANJISTHA, HARIDRA, RAKTA CHANDAN AND LODHRA

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ABSTRACT

The objective this work is to formulated and evaluated a polyherbal facewash for cosmetic purpose from herbal ingredients. Multani mitti, Manjistha, Haridra, Rakta chandan and lodhra were procure from the local market and were dried, powdered, then pass through sieve no 100, mixed geometrically and evaluate for its organoleptic and physico-chemical, general powder, microscopical characters and chemical evaluation.. The dried powder of combine form had passable flow properties which is suitable for a face wash. Particle size of the powder was found to be 20 -25μm. The microscopical characters of dried powder of combined form were noted. Herbal facewash or mask are used to stimulated blood circulation, rejuvenates the muscles and helps to maintain the elasticity of the skin and remove dirt from skin pores. The advantages of herbal cosmetics is their non toxic nature, reduce the allergic reactions and time tested usefulness of many ingredients. Thus in the present work, we found good properties for the facewash and further optimization studied are required on this study to find the useful benefi

KEYWORD: Multani mitti, Manjistha, Haridra, Rakta chandan and lodhra face
HERBAL POWDER SHAMPOO – DESIRED & DEMANDING COSMETIC PRODUCT
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ABSTRACT

Shampoos are of various kinds, like powder shampoo, clear liquid shampoo, liquid shampoo, lotion shampoo, solid gel shampoo, medicated shampoo, liquid herbal shampoo etc. Herbal shampoos are disturbed in stability criteria. According to the nature of the ingredients they may be simple shampoo, antiseptic or antidandruff shampoo and nutritional shampoo containing vitamin, amino acids proteins hydrolysate. Herbs have long been concerned with hair and are often ingredients of conditioners, shampoos and cleanse. Advantages, limitations, components, method of preparation and evaluation of herbal powdered shampoo are explained in the present paper.
FORMULATION AND EVALUATION OF MULTIVITAMIN VANISHING CREAM

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ABSTRACT

The main purpose of this research work was to formulate and evaluate vanishing herbal cream. Herbal creams offer many advantages on other creams. Most of the existing creams which are prepared from drugs of synthetic origin, such as acyclovir, triamcinolone, calcipotriene, mometasone, which gives fairness to the face, but it contain many side effects such as itching or different allergic reactions. Herbal cream do not show any type of side effect without side effects it gives the fairness look to the skin.

This prepared herbal cream was evaluated. The physical properties such as pH, homogeneity by touch and by visual, appearance (color), spread ability, wetness, type of smear, emolliency were determined. Further studies are needed for investigation of this formulation for its performance.

Everyone wants natural and beautiful skin that’s why the natural skin care products are growing continuously day by day in the present market. The main aim of these natural products is to prevent from skin problems and to prevent the skin from harmful chemicals substances and also give healthy skin. By extract of the seeds and peel of Punica granatum (Pomegranate) with olive oil and almond oil. The herbal vanishing creams with 4 formulations were formulated named as C1, C2, C3 and C4. The manufactured formulations were evaluated for physical evaluation tests like color, odor and evaluated for different evaluation parameters like pH, homogeneity, viscosity, type of smear, after feel test, dye test, spreadability test, patch test and skin irritation studies were done on rat skin. The results were found good and no erythema and hypersensitivity was found on rat skin therefore the formulated creams were tested on human skin and found satisfactory. All the 4 formulations were subjected to accelerated stability studies for 20 days by maintaining at different temperatures and creams were evaluated for different parameters and there was no change in the results.
A REVIEW ON SOLUBILITY ENHANCEMENT USING HYDROTROPIC PHENOMENON

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ABSTRACT

The study on solubility gives information about the structure and intermolecular forces of drugs. Use of the solubility characteristics in bioavailability, pharmacological action and It is a challenging task for researchers and pharmaceutical scientists that the solubility enhancement of various poorly soluble compounds. It is one of the solubility enhancement techniques which enhance solubility to many folds with use of hydrotropes. Ex. citrate, urea, sodium benzoate, sodium etc. It have many advantages like; it does not require chemical modification of hydrophobic drugs, use of organic solvents, or preparation of emulsion system etc. That compound which solubilises hydrophobic compounds in aqueous solution is called as Hydrotropes. By using Hydrotrope solutions the problem of emulsification, which is always encountered with conventional surfactant solutions are resolved. Particularly at industrial level it is most effective method because of easy recovery of the dissolved solute and the possible reuse of hydrotrope solutions. Besides, the advantage of certain properties like the solvent character high selectivity, independent of pH, cheap and easy availability of hydrotropes, non-flammability, makes this technique superior to other solubilization methods. To solubilize water insoluble drugs, solubility remains a critical factor, especially in case of oral formulation. so for in this review various solubility enhancement techniques are highlighted and a review of hydrotropy and its preparation are discussed in brief.

Keywords: Bioavailability, Solubility, Solubility enhancement, Hydrotropy
HERBAL NIGHT MASSAGE CREAM- A POPULAR & DEMANDING COSMETIC PRODUCT

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ABSTRACT

The idea of beauty and cosmetics is as ancient as mankind and advancement. Indian herbs and its consequence are popular worldwide. An herbal cosmetic have growing demand in the world market and is a crucial gift of nature. Herbal formulations always have attracted substantial attention because of their good activity and comparatively lesser or nil side effects with synthetic drugs. Herbal cosmetics are defined as the beauty products which posses sensible physiological activity such as healing, nourishing appearance, enhancing and conditioning properties because of herbal ingredient. A brief description about advantages, limitations, components, method of preparation and evaluation of herbal night massage cream are explained in the present paper.
ABSTRACT

Traditional medicine is an important part of human health care in many developing countries including. The use of medicinal plants in therapy has been known for centuries in all parts of the world and the demand for herbal medicines has grown dramatically in recent years. The world market for such medicines has reached US $ 60 billion, with annual growth rates of between 5% and 15%. The fast growth of patent applications related to herbal medicine and their product leads to the use of herbal products tremendously. The present review gave recent highlights in patent applications in the field of natural products, traditional herbal medicine and herbal medicinal products. Medicinal plants and related plant products are important targets of patent claims since they have become of great interest to the international drug and cosmetic industry.
A REVIEW BIOAVAILABILITY & BIOEQUIVALENCE IN DRUG DEVELOPMENT

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ABSTRACT

Bioequivalence of a drug product is achieved if its extent and rate absorption are not statistically significantly different from those of the reference product when administered at the same molar dose. Bioavailability is referred to as the extent and rate to which the active drug ingredient or active moiety from the drug product is absorbed and become available at the site of drug action. Bioequivalence assumption, regularity requirement, and process for bioequivalence assessment of generic drug product. The regulatory bioequivalence (BE) requirements of drug products have undergone major changes in the last decade. The introduction of the biopharmaceutics drug classification system (BCS) into the guidelines of the Food and Drug Administration (FDA) is a major step forward to classify the biopharmaceutical properties of drugs and drug products. Based on mechanistic approaches to the drug absorption and dissolution processes, the BCS enables the regulatory bodies to simplify and improve the drug approval process. The knowledge of the BCS characteristics of a drug in a formulation can also be utilized by the formulation scientist to develop a more optimized dosage form based on fundamental mechanistic, rather than empirical, information. This review gives a brief overview of the BCS and its implications.

Keywords: Bioavailability, bioequivalence, BCS classification
FORMULATION AND EVALUATION OF DOCETAXEL LOADED
NANOSTRUCTURED LIPID CARRIERS FOR THE TREATMENT OF SKIN CANCER

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ABSTRACT

In the present study, nanostructured lipid carriers (NLCs) loaded with docetaxel were successfully prepared by solvent diffusion method in an aqueous system. The optimized docetaxel NLCs were evaluated for various parameters like Particle size, Drug entrapment efficiency, Drug loading and in vitro release. The mean particle size was found to be 321nm with PDI 1.624. Drug entrapment efficiency and drug loading were determined to be 73.01% and 2.44% respectively. Controlled release of docetaxel up to 72 hrs was observed in in vitro release study.

Keywords: Nanostructured Lipid Carrier, Controlled release drug delivery, Solvent diffusion method
REVIEW ON ANTI BACTERIAL HERBAL FACE WASH

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ABSTRACT

Herbal cosmetics are products which are used to purify, beautify and alteration the skin. Face skin is the main part of the body, which indicates the health of individual. It consist of materials such as lipids, amino acids and carbohydrates etc. so that a balanced nutrition is required for the skin to keep it clear glossy and healthy. Present review article deals with the formulation and characterization of cosmetic herbal face wash preparation. Everyone are very conscious about their beauty and started to dress themselves because they want to increase their own beauty. For the enhancement of beauty herbal face wash playing a important role. It is good attempt to establish the herbal face wash. The herbal cosmetics manufactured are used commonly for daily purpose include herbal face wash, herbal soap, herbal shampoo etc. The industry is now focusing on the growing segment with a vast scope of expansion in coming years.

KEYWORDS: Herbal Cosmetics, Face wash, Face Pack, skin.
A REVIEW ON NANOROBOTICS IN MEDICAL TREATMENTS

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ABSTRACT

Nanorobots is a new nanotechnology used in drug delivery system. These mini robots have unique advantages such as accessing to small areas, increased flexibility, functionality and robustness, and are also cost friendly. It is adaptive and distributed. Nanorobots are too tiny that they can easily transverse the human body. Nanorobots can offer a number of advantages in drug delivery system and over present methods. These includes more Bioavailability, targeted therapy, reach remote areas in human anatomy, large interfacial areas for mass transfer and non-invasive technique. It is the technology of creating machines or robot at or close to the microscopic scale of a nanometer (10^-9 meters). More specifically as no artificial non-biological nanorobots have yet been created, the remain a hypothetical concept. The name such as nanobots, nanoids, nanites or nanomites, have also been used to describe this hypothetical devices. This review shows some application of the nanorobotics related in micro robotics health care, drug delivery application, bio-medical application, brain aneurysm, cancer therapy, and new future nono technologies.

Keywords: Nanorobotics, Drug delivery application, Bioavailability, Nanomedicine, Targeted therapy.
A REVIEW ON- HERBAL TRANSDERMAL PATCH

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Abstract: Over the recent years, great technological advances have been made on development of Transdermal drug delivery system (TDDS) for plant actives and extracts. Chemical extract such as curcumin (curcuma longa), eugenol (syzigium aromaticum), etc are administered through Transdermal drug delivery system. Transdermal drug delivery has many advantages over conventional drug delivery such as improved bioavailability, steady permeation, constant plasma level, termination of drug by patch removal; allow the use of drug with short half life, drugs which cause gastric upset can be used. Disadvantages of Transdermal drug delivery system includes local irritancy at the site of administration, hydrophilic drug can’t be used, unable to achieve high drug level in blood. The present review shows the development of herbal Transdermal formulations and summarizes their methods of preparation, type of active ingredients, size route of administration, biological activity and applications of Transdermal drug delivery system

Key words – Transdermal, bioavailability, patch, TDDS
A REVIEW ON INFLAMMATORY MEDIATORS AND DRUG THERAPY FOR RHEUMATOID ARTHRITIS
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ABSTRACT

Rheumatoid arthritis (RA) is an autoimmune disease which is characterized by inflammation of the joints and destruction of cartilage and bone. The disease pathology is complex which involves the infiltration and activation of various populations of immune cells along with the release of destructive inflammatory mediators into the synovium of affected joints. Several inflammatory mediators are involved in just like as IL-1, IL-6, IL-8, IL-17, and IL-18 and tumour necrosis factor-alfa. Treatment of Rheumatoid arthritis used to Small molecules and biological modifiers such as DMARDs, Methotrexate, Gold, Corticosteroids, analgesic and TNF-alfa blockers and IL-1 antagonist.

Key words- Autoimmune, Pathology, Immune, Small molecules, biological modifiers
EVALUATION OF ALDOSE REDUCTASE INHIBITORY POTENTIAL OF SEED EXTRACTS OF ABELMOSCHUS ESCULENTUS LINN.

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ABSTRACT:

Aim: Seed extracts of Abelmoschus Esculentus is evaluated by in-vitro aldose reductase inhibitory activity.

Material & Methods: The dried seed powder of Abelmoschus Esculentus Linn was extracted by successive solvent extraction method to obtained hydroalcoholic and aqueous extract. Water saturated n-butanol was used for further extraction of the dried hydroalcoholic extract. 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.

Result & Discussion: From the result it was observed that all the three extracts inhibit AR activity, but at different extent. From dose response curve it was found that saponin extract (SE) is more effective followed by methanolic extract (ME) and aqueous extract (AE) with IC50 values of 32.66 ±0.33 µg/ml, 73.48 ±1.13 µg/ml and 131.0 ±1.65 µg/ml respectively.

Conclusion: In the end it was concluded that among the three extracts, saponin extract of Abelmoschus Esculentus Linn is potent in inhibiting the aldose reductase enzyme which contribute major role in the diabetes complication.

KEY WORDS: Aldose Reductase, Goat Eye Lens, NADPH, Saponin Extract, Methanolic Extract.
ANTI-INFLAMMATORY ACTIVITY OF ACETONIC EXTRACT OF VIGNA UNGUICULATA

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ABSTRACT

The present study investigates the anti-inflammatory activity of acetonic extract of *Vigna unguiculata* using carrageenan induced paw edema in wistar albino rats. The medicinal values of the *Vigna unguiculata* has been mentioned ancient literature as useful in the treatment of disorders of inflammation. Dried seeds of *Vigna unguiculata* were powdered and extracted with acetone. The anti-inflammatory activity was done by carrageenan induced hind paw edema method using Plethysmometer. Indomethacin used as a standard drug. For this activity Control group receive only carrageenan, Standard group receive indomethacin (40mg/kg), induced 0.1 ml carrageenan, test group receive acetonic seed extract of *Vigna unguiculata* (500mg/kg). The result showed that acetonic extract of *Vigna unguiculata* seed exhibited statistically significant (p<0.05) inhibition of paw volume at a dose of 500 mg/kg. However, maximum inhibition of paw edema was found to be in Group II 91.70% and although the inhibition of paw edema with the extract was 72.73% which is less than standard group but higher than that of control group.

KEYWORDS: Acetonic seed extract, Anti-inflammatory activity, excision wound, Plethysmometer.
WOUND HEALING ACTIVITY OF HYDROALCOHOLIC EXTRACT OF PRAECITRULLUS FISTULOSUS LEAVES

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ABSTRACT

Praecitrullus fistulosus (Cucurbitaceae) commonly known as “Tinda” is commonly used as vegetable. The present study was designed to evaluate the effect of Praecitrullus fistulosus hydro-alcoholic extract as well as its interaction with conventional wound healing drugs using different models such as excision model. The leaves of Praecitrullus fistulosus were collected and authenticated. Extraction of dried leaves was carried out using Soxhlet apparatus to obtain its Hydro alcoholic extract. The extract of Praecitrullus fistulosus showed the significant wound healing activity as comparable to the standard drug. The oral administration of Praecitrullus fistulosus extract at 100 mg/kg and 200 mg/kg respectively as compared to the control treated group showed wound healing comparable to that of standard drug.

Keywords: Praecitrullus fistulosus, wound healing, Soxhlet apparatus
ANTIPYRETIC ACTIVITY OF CAPSICUM ANNUM LINN IN RABBITS

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ABSTRACT

This study was conducted to investigate the antipyretic effect of the hydroalcoholic extract of Capsicum annum Linn. against Escherichia coli (E. coli)-induced pyrexia in rabbits. Hydroalcoholic extracts of Capsicum annum Linn were given orally at 25, 50, and 100mg/kg for antipyretic affect in E. coli-induced fever in rabbits. The animals were divided into five groups of five each. Among these five groups, three received various doses of experimental treatments, whereas the fourth one served as positive control and received paracetamol. The fifth group of animals served as negative control and received no treatment. The body temperature of the rabbits was measured rectally over a period of 5 h. Capsicum annum Linn exhibited better effects at dose rate of 25, 50, and 100mg/kg. The hydroalcoholic extract of Capsicum annum Linn has significant antipyretic effect. These results lend support to the popular use of Capsicum annum Linn in traditional medicine as a remedy for pyrexia and suggest that the characterization of the principles for such activity deserves further investigation.

Keywords: Antipyretic Activity, Escherichia coli, Hydroalcoholic Extract, Medicinal Plants, Traditional Medicine
DIURETIC ACTIVITY OF HYDROALCHOLIC EXTRACT OF MORUS INDICA LEAVES IN WISTAR ALBINO RATS

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ABSTRACT
Morus indica are small shrubs belonging to family moraceae. The present study was framed to evaluate diuretic activity by Morus indica leaves. Morus indica mainly contains anti-oxidants such as tocopherols, ascorbic acid and b-carotene which are effective against cancer, heart disease and cataracts. Diuretic activity of hydroalcoholic (70:30) extract of Morus indica (200 mg/kg and 300 mg/kg body weight orally) was studied in wistar albino rats (n=6). Furosemide (10 mg/kg) orally was used as the standard. Total 24 hours urine volume was measured using metabolic cages. The concentration of Na⁺, K⁺ in the urine at the end of 24 hours was estimated. Data was analyzed by One-way ANOVA followed by Dunnet t test. Hydroalcoholic extract of mulberry leaves showed a significant (P < 0.05) dose dependent increase in urine volume (8.1 ± 0.97ml/100g/24hr and 9.7±0.75 ml/100gm/24hr). Hydroalcoholic extract of mulberry leaves increased the excretion of sodium but decreased the excretion of potassium significantly compared to control. This preclinical study showed a potential diuretic activity but further studies regarding the mechanism of action is required to validate this finding.

Keywords: Morus indica, diuretic, furosemide, potassium sparing effect
A REVIEW ON VARIOUS PHARMACOLOGICAL ACTIVITIES OF NELUMBO NUCIFERA

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ABSTRACT

Nelumbo nucifera (Nelumbonaceae), a aquatic plant, has been used as a medicinal plant in China, India and other country. Indian lotus and scered lotus are common name of nelumbo nucifera. It is easily available in india and china. In china for more than 400 years before it has been recorded in the most famous medicinal book. Leaves, seeds, flower, rhizome and other part of plant can be used in traditional system of medicine. In the traditional system of medicine, the other parts of plant is reported to beneficial effects as the treatment of dysentery, smallpox, fever, hyperdipsia, cough, hepatopathy, cholera, pharyngopathy. The researchers claims that Nelumbo Nucifera has various pharmacological activities like antioxidant, anticancer, antiviral, antidiarrhoeal, antifungal, antibacterial, anti-inflammatory, diuretic and antiobesity. The phytochemical, pharmacological, and therapeutical knowledge are available in this review.

Keywords: Nelumbo nucifera, pharmacological activity like antifungal, antioxidant, anticancer, antiviral, anti-inflammatory and antibacterial, traditional uses.
A REVIEW ON AEGLE MARMELOS AND OCIMUM SANCTUM: ITS USES AND PHARMACOLOGICAL ACTIVITIES

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ABSTRACT

Medicinal plants are considered as wide source of active medicinal and nutraceutical properties. A diversity of herbal plants can be used in management of various disease and disorders. The present study is based on the pharmacological activity of *Aegle marmelos* and *Ocimum sanctum*, commonly known as a bael and tulsi, respectively in India. *Aegle marmelos* having great potential to cure the disease like peptic ulcer, inflammation, diarrhea, and anticancer, cardio protective, anti bacterial, anti fungal, anti pyretic, analgesic, respiratory infection, antioxidant, wound healing and many more. *Ocimum sanctum* also has antibacterial activities against a wide variety of gram positive and gram negative bacteria (including enteric organisms); fungi and viruses (including fish pathogens) indicate that different extracts of this plant possess versatile anti-infective properties. Fixed oil and linolenic acid, a chemical constituent of tulsi used to possess analgesic as known as antipyretic and anti-inflammatory activities. This review summarizes the scientific information of various aspects of *Aegle marmelos* and *Ocimum sanctum* plant used in traditional medical system to cure a variety of diseases.
A REVIEW ON: PHARMACOLOGICAL PROFILE OF PHYLLANTHUS NIRURI

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ABSTRACT

Phyllanthus niruri L. commonly called as ‘the gale of wind’ or ‘stonebreaker’ or ‘seed-under-leaf’ is a small traditional and tropical herb found in coastal regions. It belongs to Euphorbiaceae family having wide range of medicinal properties, and is used extensively across the world. In Indian ayurvedic and unani system it is used for the treatment of Jaundice, ulcers, skin diseases, diabetes, chest pain, Bronchitis, Anemia, Leprosy, Asthma, urinary complications, hiccups etc. It has bitter taste and acts as an astringent. It also shows laxative effect. This review summarizes information about pharmacological profile of P. niruri as the extracts of Phyllanthus niruri have a wide range of pharmacological activities including antimicrobial, antiviral, hepatoprotective, antioxidant, anticancer, anti-inflammatory, antiplasmodial, diuretic, antifertility, immunomodulatory action, HIV replication inhibition, anti-diabetic, hypolipidaemic activity, cardio protective activity, anti-platelet, vasorelaxant property, spasmylytic activity and anti-neoplastic activity.

Keywords: Phyllanthus niruri L., pharmacological activity, medicinal properties.
A REVIEW ON: ALIEN HAND SYNDROME

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ABSTRACT
Alien hand syndrome (AHS) is the rare neurological disorder affecting the muscular muscle movements. In this condition, a person experiences involuntary muscles movement without control over the actions. The common feature of AHS is the involuntary autonomous activity of the affected extremity that is perceived as being controlled by an external force. The common physiology is that, the primary motor cortex controlling hand movement is isolated from premotor cortex influences but remains generally intact in its ability to execute movements of the hand. Although different subtypes of AHS have been distinguished, this classification clearly does not cover the wide clinical variety of abnormal (involuntary) motor behaviors of the upper extremity. This review is aimed to provide exhaustive knowledge of disorder affecting on abnormal involuntary motor behaviors of the upper extremity after a stroke, which may help to improve early recognition of AHS and facilitate adjustment of rehabilitation therapy. Also, this review provides the knowledge of causes, physiology, precaution & treatment regarding the rarest among rare disorder that is alien hand syndrome.

Keywords:- Alien hand syndrome, causes, physiology, precaution & its treatment.
MEMORY ENHANCING ACTIVITY OF HYDROALCHOLIC EXTRACT OF *LUFFA AEGYPTIACA* FRUITS

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ABSTRACT

The present study was to evaluate the effect of *Luffa aegyptiaca* on cognitive functions and cholinesterase (ChE) activity in scopolamine-induced amnesia in rats. The extract of *Luffa aegyptiaca* was administered orally at three doses (100, 200 and 300 mg/kg) for 7 and 14 consecutive days to the respective groups of rats. Piracetam (120 mg/kg) was used as a standard nootropic agent. Learning and memory parameters were evaluated using elevated plus maze (EPM) and passive avoidance. Brain cholinesterase activity was evaluated. It was observed that *Luffa aegyptiaca* at the above-mentioned doses after 7 and 14 days of administration in the respective groups significantly reversed scopolamine (1 mg/kg i.p.)-induced amnesia, as evidenced by a decrease in the transfer latency in the EPM task and step-down latency in the passive avoidance task. *Luffa aegyptiaca* reduced the brain ChE activity in rats.

Keywords: *Luffa aegyptiaca*, cholinesterase, Scopolamine, Amnesia
A REVIEW ON ANTIPLATELET DRUGS

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ABSTRACT

Antiplatelet therapy is widely used with proven benefit for the prevention of further ischemic complications in patients with coronary heart disease and stroke. There is a well-established therapeutic role for antiplatelet therapy that includes aspirin (a cyclooxygenase 1 [COX1] inhibitor), clopidogrel (an antagonist of the ADP P2Y(12) receptor), and the GPIIb-GPIIIa (αIIbβ3) antagonists. However a significance of Antiplatelet therapy is also found in Arterial Thrombosis. Treatment guidelines for acute coronary syndrome and percutaneous coronary intervention now recommend the use of oral antiplatelet agents including clopidogrel in combination with aspirin (dual antiplatelet therapy: DAPT) for the prevention of recurrent ischemic events.

KEY WORDS: - Coronary heart disease, Aspirin, Clopidogrel, Arterial Thrombosis, Ischemic events.
A REVIEW ON ANTICANCER DRUGS

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ABSTRACT

Chemotherapy is a major therapeutic approach for the treatment of both localized and metastasized cancers. Since anticancer drugs are neither specific nor targeted to the cancer cells, improved delivery of anticancer drugs to tumor tissues in humans appears to be a reasonable and achievable challenge. Scientists are working to increase the availability of drug for tumor. Some success has been achieved in enhancing the efficacy and reducing the toxicity of drugs. Pharmacokinetic and pharmacodynamic considerations are two areas which have been focused toward the quantitative pharmacological studies of anticancer drugs in this manuscript. Mechanism of drug resistance, and specific changes affecting the delivery of available chemotherapeutic agents, as well as the drugs to restore the sensitivities to agents of resistant tumor cells, are discussed. This monograph covers the developments and progress in the delivery of anticancer drugs in two approaches: the theoretical approach, including pharmacokinetic and pharmacodynamic considerations, therapeutic implications and mechanism of drug resistance, and the practical approach, including the physical, chemical, biochemical and physiological considerations.

Key words: - Chemotherapy, Tumor, Anticancer.
EFFECTS OF DIAZEPAM AND PENTOBARBITONE ON CONVULSIONS INDUCED BY LOCAL ANAESTHETICS IN MICE

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ABSTRACT

The effects of diazepam and pentobarbitone on convulsions induced in mice by lidocaine and amethocaine were compared. Pentobarbitone was less effective than diazepam in preventing seizures. Diazepam decreased the lethality of lidocaine as did the higher doses of pentobarbitone. Neither drug markedly affected the lethality of amethocaine. The solvent for diazepam was itself a convulsant in high doses.

Keywords: Diazepam, Pentobarbitone, Lidocaine
REVIEW ON BURN WOUND HEALING ACTIVITY OF HERBAL OIL
(LAVENDER OIL AND TEA TREE OIL)
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ABSTRACT
The largest organ of human body is skin that protect the internal organ from the external environment performs many functions including fluid homeostasis, thermoregulation & immunologic function and also prevent body dehydration. It can be injured by chronic wound, excision, burn tumors & other dermatological condition. In which burn are one of the most common incident that damage to the skin. Todays the topical treatment of burn is use of antiseptics, antimicrobials , anti- inflammatory agents but this are not a true wound healers, no. of growth factors such as transforming growth factor β (TGF β) epithelial growth factor ( EGF ) insulin like growth factors ( IGF ) having pro healing activity but their specialized methodologies & high post required for their production are serious limitations to their routine use. The present study is emphasizes on the treatment of burn wound by using herbal oil ( lavender and tea tree ).

Key words : TGFβ , EGF , IGF , Lavender oil , Tea tree oil.
ASSESSMENT OF ANTIDIABETIC ACTIVITY OF POLYHERBAL FORMULATION ON EXPERIMENTAL RATS

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ABSTRACT

Diabetes mellitus (DM) is a group of common metabolic disorder that shares the phenotype of hyperglycemia. It is characterized by elevated blood glucose levels and disturbances in carbohydrate, protein and lipid metabolism and by complications like retinopathy, microangiopathy, neuropathy, nephropathy, etc. More than 150 million people are suffering from it worldwide and it is likely to increase to 300 million by the year 2005. More than one-fifth of them are Indians and the International Diabetes Federation declared India as “Diabetic Capital of the World”. Synthetic antidiabetic agents can produce serious side effects and they are not suitable for using during pregnancy.

Key words: Anti-diabetic activity, Mucuna pruriens, Withania somnifera, Aegle marmelos, Semecarpus anacardium, Alloxan monohydrate.
ANTIANEMIC ACTIVITY OF ETHANOLIC EXTRACT OF *Pennisetum glaucum* (PEARL MILLET)

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ABSTRACT

*Pennisetum glaucum* also known as Pearl millet is most widely grown cereal type of millet and it gives an anti-anemic activity as it is rich source of iron and helps in increasing a RBCs in blood. The present study was done to evaluate the antianemic activity of ethanolic extract of *Pennisetum glaucum*. Anemia was induced by intra-peritoneal administration of phenylhydrazine at dose of 40mg Kg/ Day for two days. The animals were divided into 5 groups containing 6 animals each. 1st group served as control group, group 2nd as anemic control, group 3rd as standard reference control administered with Vitamin B12 complex, group 4th and 5th animals were treated with 100mg/Kg and 200mg/kg dose respectively. Extract was prepared using maceration method and was given orally to anemic rat up to 4 weeks. Blood samples were collected from the rat by tail incision on D0, D2 to the 4th week of treatment. The samples were analyzed for RBC, hemoglobin and percentage hematocrit. Extracts at dose of 100mg/kg and as well 200mg/kg increased (p<0.001) significantly the number of red blood cells in the 4th week of treatment when compared with that untreated anaemic group. In addition, the hemoglobin level increased (p<0.01) significantly in the first week of treatment to the rats of groups III and IV which received respectively reference antianaemic (Vitamin B12). The anti-anemic effect of Ethanollic extract was comparable to that of the drug vitaminB12.

Keywords: Anti-Anemic, Ethanollic Extract, *Pennisetum glaucum*, Phenylhydrazine.
ANTI ANAEMIC ACTIVITY OF SOLANUM MELONGENA FRUIT IN PHENYLHYDRAZINE INDUCED ANEMIA RATS

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ABSTRACT

An anemia is a Blood Disease. Blood Is a fluid connective tissue which is continuously pumps by our heart in our veins and arteries which are present in our Body. When something happens wrong in our blood it may cause harmful effects on our health. There are many types of anemia are found in our body like Iron Deficiency Anemia, Pernicious Anemia, Aplastic Anemia, Hemolytic Anemia, hemorrhagic Anemia, and megaloblastic Anemia. These different types of anemia are responsible for various changes occur in human health. Effect People of All Ages, Races, and Ethnicities. Some Types of Anemia Are Very Common and Some types are Very Rare. Some Are Very Mild, And Others Are Severe or dangerous if not treated aggressively. The Good News Is That Anemia Often Can Be Successfully Treated can be easily prevented

Solanum melongena (eggplant) are the delicate and which can be used for topical perennial often during cultivated as a tender in temperate climates. The stem are often spiny. The flower colour is white and purple, within a five-lobed corolla and yellow stamens. The egg-shaped are glossy purple fruit has white flesh with in a meaty texture to cut surface of the flesh rapidly turns brown when the fruit is open the fruits The Aim Of the research work which can be Determine to Anti-Anemic Properties Of fruits Extract Of Solanum Melongena And Its Effect On Selected Biochemical Indices Such As Hb,Rbc Count, In Order To Determine The Efficiency Of This Extract is used for Treatment Of Anemia In Man.
WOUND HEALING ACTIVITY OF BRASSICA OLERACEA VAR. BOTRYTIS

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ABSTRACT

Wound is an injury on living tissue caused by a blow, cut, or other impact, i.e. wound is a tropical injury which is caused due to external attrition. It can be cured or healed by several formulations like ointment, lotions and gels which we apply tropically on the wound and the wound is healed in some few days. These formulations contain harmful chemical which healed the wound quickly but also cause some harmful effect on the skin. Now a day some Ayurvedic formulations for wound healing are also available in the market which is not made up of any type of harmful chemicals. It contains only some plant extract which is purely natural and have no harmful effect on skin. The advantage of these Ayurvedic formulations is that it have very less or no side effect as compared to the chemical formulation. Here we are studying wound healing property of Brassica oleracea var. botrytis (common name is cauliflower).

This activity of cauliflower is due to presence of vitamin c in high percentage. Vitamin c is a substance which has a property of wound healing. The chemical constituents of cauliflower is that it have the highest amount of vitamin C (649.7 mg·100 g−1). It have total phenol (1345.2 mg·GAE 100 g−1), and total flavonoid (632.7 mg·CE 100 g−1) the major fatty acids were palmitic acid (23.52%–38.42%), linoleic acid (13.09%–18.97%), and linolenic acid(26.32%–51.80%)
A BRIEF REVIEW OF HERBAL PLANTS USED AS DIURETICS

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ABSTRACT

Medicinal herbs are the significant source as Diuretics. Poly-herbal preparations such as Mangifera indica, Lepidium sativum, Mimosa pudica, Achyranthes aspera have been used as diuretics. According to clinical use one estimate, more than 650 mono and poly-herbal preparations in the form of decoction, tincture, capsules and tablets from more than 75 plants. There exist a large number of studies which supports the diuretic effects of traditional herbal medicines. Thereview of article the various herbal plants are used traditionally as diuretics and the identification of chemical constituent of the plant promoting diuresis. The present paper also involves various plant drugs and their pharmacological profile which focus on the dose administered, bioactive extract involved in diuresis mechanism. This work may mark an important milestone for the researchers in the selection of medicinal plant for carrying their work on diuretics.

Keywords: Poly-herbal preparations, Mangifera Indica, Lepidium sativum, Mimosa pudica, Achyranthes aspera, diuretic activity.
TREATMENT OF CANCER CELL FROM HEALTHY CELL

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ABSTRACT

Cancer is a group of diseases involving abnormal cell growth with the potential to invade or spread to other parts of the body. These contrast with benign tumor which does not spread to other parts of the body. Cancer is the leading cause of death across the globe. A new study in mice suggests two different ways to overcome treatment resistance to and improve the efficacy of targeted cancer drugs known as PI3K inhibitors. Science has approved that in human mind 50,000 thoughts in mind are coming in day in which some are bad and some are good for our health as well as it effect our mind & thinking ability also so according to law of attraction we have to find the root of that disease & work on that also so by that we can easily treat cancer. In human body w.b.c. are present which work as policeman of body so we have to insert that bacteria or Microbes in W.B.C which can increase the working capacity or increase the efficiency of wbc towards that antigen so that can easily kill that cancerous cell & Neutrophils and Monocyte can phagocyte that cell or can increase the capacity of B&T Lymphocytes by that they can puncher the cell Resealed Erythrocyte is also a concept to treat cancerous cell By working on gene i.e. according to human Genome Project on which work is still going on work on gene can able to treat cancer i.e. through Biotechnology it is easy to work on cancerous cell

KEYWORDS: - PI3K inhibitors, B&T Lymphocytes, human Genome Project, Erythrocyte Biotechnology
A REVIEW ON CORONARY ARTERY STENTS IN THE TREATMENT OF ISCHAEMIC HEART DISEASE:
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ABSTRACT

Coronary artery stents are prosthetic linings inserted into coronary arteries via a catheter to widen the artery and increase blood flow to ischemic heart muscle. They are used in the treatment of ischemic heart disease (IHD). IHD is a major cause of morbidity and mortality (123,000 deaths per annum) in the UK and a major cost to the NHS. Clinical effects of IHD include subacute manifestations (stable and unstable angina) and acute manifestations (particularly myocardial infarction [MI]). Treatment includes attention to risk factors, drug therapy, percutaneous invasive interventions (PCIs) (including percutaneous transluminal coronary angioplasty [PTCA] and stents) and coronary artery bypass graft surgery (CABG). In the last decade there has been a steady and significant increase in the rate of PCIs for IHD. In the UK, rates per million populations increased from 174 in 1991 to 437 in 1998. Stents are now used in about 70% of PCIs. Data from the rest of Europe suggest there is potential for PCI and stent rates to increase considerably. In the UK there is evidence of under-provision and inequity of access to revascularization procedures.

KEYWORDS - Prosthetic linings, Catheter, Myocardial infarction, Revascularization Procedures
HERBAL DRUG USED IN TREATMENT OF ARRHYTHMIAS - A REVIEW

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ABSTRACT

Nutritional and herbal supplements may have harmful or beneficial effects on arrhythmias. Potential supplements that may have antiarrhythmic activity include omega-3 polyunsaturated fatty acids (N-3 PUFA), coenzyme Q10, and carnitine. Clinical studies show that N-3 PUFA or fish oil supplementation appears to reduce mortality and sudden death. Coenzyme Q10, used in treatment of heart failure, and carnitine and its derivatives may have beneficial effects on arrhythmias, although clinical studies have been limited. Antioxidant supplements may be beneficial, but large studies with vitamin E have been disappointing in that it does not reduce mortality. Correction of electrolyte disturbances has been long advised and magnesium supplementation has been beneficial in the treatment of torsades de pointes and in some studies after cardiac surgery. However, routine electrolyte supplementation with empiric potassium or magnesium in non-deficient patients has not been convincingly beneficial. Several herbal supplements have also been promoted to have antiarrhythmic activity. However, clinical studies are lacking to support routine use of these herbal medications. In addition, some herbal supplements may cause serious proarrhythmia, and many supplements significantly interact with warfarin and digoxin.

KEYWORDS:
Arrhythmias, Herbal Medicine, Vitamins, Electrolytes, Supplements
ABSTRACT

An orphan drug is a pharmaceutical agent that has been developed specifically to treat a rare medical condition; these rare diseases have been defined by WHO as a disease or condition with a prevalence of ≤1/1000 population. Other definitions are diseases affecting <1/2000 population in European union, whereas USFDA defines it as any disorder affecting <200,000 population. In Indian, so far, ~450 rare diseases have been identified. In several jurisdictions, various legislation has been enacted to encourage the development of orphan drugs for rare diseases. The Orphan Drug Act (1983) was the first serious attempt to address the unmet medical needs for patients with rare diseases and to provide motivation for the pharmaceutical industry to promote orphan drug development. The key purpose of ODA was to incentivize R&D initiatives for such drugs to treat millions of population suffering from rare diseases. In many regions medical needs of patients with rare diseases have always been neglected by the society and pharmaceutical industries based on their small numbers and unprofitability. The process of drug development for rare diseases is no different from common diseases but involves significant cost and infrastructure.

KEYWORDS – Orphan drugs, Rare disease, Development, Orphan drug act.
ANTI-COAGULANTS – A REVIEW

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ABSTRACT

Anticoagulants are pivotal agents for prevention and treatment of thromboembolic disorders. Limitations of existing anticoagulants, vitamin K antagonist and heparins, have led to the development of newer anticoagulant therapies. These anticoagulants have been designed to target specific coagulation enzymes or steps in the coagulation pathway. New anticoagulants that are under evaluation in clinical trials include: (1) inhibitors of the factor VIIa/tissue factor pathway; (2) factor Xa inhibitors, both indirect and direct; (3) activated protein C and soluble thrombomodulin; and (4) direct thrombin inhibitors. Although most of these are parenteral agents, several of the direct inhibitors of factor Xa and thrombin are orally active. Clinical development of these therapies often starts with studies in the prevention of venous thrombosis before evaluation for other indications, such as prevention of cardioembolism in patients with atrial fibrillation or prosthetic heart valves. At present, the greatest clinical need is for an oral anticoagulant to replace warfarin for long-term prevention and treatment of patients with venous and arterial thrombosis. Ximelagatran, an oral direct thrombin inhibitor, is the first of a series of promising new agents that might fulfill this need. Large phase 3 trials evaluating ximelagatran for the secondary prevention of venous thromboembolism and prevention of cardioembolic events in patients with atrial fibrillation have been completed.

Key word: Anticoagulants
LAY UNDERSTANDING OF FAMILIAL RISK OF DISEASES

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ABSTRACT

Although the family history is increasingly used for genetic risk assessment of common chronic diseases in primary care, evidence suggests that lay understanding about inheritance may conflict with medical models. This study systematically reviewed and synthesized the qualitative literature exploring understanding about familial risk held by persons with a family history of cancer, coronary artery disease, and diabetes mellitus.

Key Words: Heredity, Risk factor genetics, Health Behavior, Cancer, Diabetes mellitus
THE β-LACTAMS STRIKE BACK: CEFTAZIDIME-AVIBACTAM
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ABSTRACT

Multidrug-resistant gram-negative bacterial infections have emerged as a major threat in hospitalized patients. The penicillin was introduced into clinical use in the early long time, a biological chess match has ensued between medical science and microbes leaving some to speculate that we are nearing the “postantibiotic era.” the treatment of serious infections caused by resistant gram-negative bacteria. This includes the major gram-negative nosocomial pathogens such as abstract multidrug-resistant (MDR) Acinetobacter species and Pseudomonas aeruginosa, extended-spectrum β-lactamase (ESBL)-producing Enterobacteriaceae, and carbapenem-resistant Enterobacteriaceae. Treatment options are often inadequate and, as a result, these infections are associated with high mortality. A cephalosporin and a novel synthetic non-β-lactam, β-lactamase inhibitor, ceftazidime-avibactam.

KEYWORDS: ceftazidime-avibactam; extended-spectrum β-lactamase; gram-negative; resistance; β-lactamase
MASKED HYPERTENSION & TREATMENT - A REVIEW

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ABSTRACT

Masked hypertension is defined as a normal blood pressure (BP) in the clinic or office (<140/90 mmHg), but an elevated BP out of the clinic (ambulatory daytime BP or home BP>135/85 mmHg). It may occur in as many as 10% of the general population, and is important because it is not diagnosed by routine medical examinations, but carries an adverse prognosis, both in terms of increased target organ damage and cardiovascular events. Possible characteristics of individuals with masked hypertension are: relatively young age, male sex, stress or increased physical activity during the daytime, and smoking or drinking habits. Masked hypertension has also been described in treated hypertensive patients (in whom the prognosis is worse than predicted from the clinic pressure) and in children, in whom it may be a precursor of sustained hypertension. It may be suspected in individuals who have a history of occasional high BP readings, but who are apparently normotensive when checked in the office. One practical point is that we should continue to follow such people rather than dismissing them, and encourage out-of-clinic monitoring of BP. This would apply particularly to smokers and those with BP in the prehypertensive range. The potential implications of masked hypertension are huge, but the optimal strategy for detecting the condition in the general population is not yet clear.

Keywords: Masked Hypertension, Prognosis, Normotensive, Clinic monitoring
REVIEW ON "ANTIBIOTIC RESISTANCE".

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ABSTRACT

An antibiotic resistance having the ability of bacteria and other microbes to resist the effects of an antibiotic. A primary characteristic of antibiotics is that they lose their effectiveness over time. In the last twenty years, the number of antibiotic classes and analogues in development has not kept place with antibiotic resistance.

A growing list of infections i.e., pneumonia, tuberculosis, and gonorrhea are becoming harder and at that particular times impossible to treat while antibiotics are becoming less effective. Antibiotic-resistant infections again relate with the level of antibiotic consumption.

A big challenge in a country is related to antimicrobial use, determinants and development of antimicrobial resistance, regional variation and interventional strategies according to the existing health care situation.

We are here to discuss six possible approaches to develop ‘resistance-resistant’ antibiotics. First, multitarget inhibitors in which a single compound inhibits more than one target may be easier to develop than conventional combination therapies with two new drugs. Second, inhibiting multiple targets in the same metabolic pathway is expected to be an effective strategy owing to synergy. Third, discovering multiple-target inhibitors should be possible by using sequential virtual screening. Fourth, repurposing existing drugs can lead to combinations of multitarget therapeutics. Fifth, targets need not be proteins. Sixth, inhibiting virulence factor formation and boosting innate immunity may also lead to decreased susceptibility to resistance.

Keywords Anti Microbial, Antibiotic Resistance, Infection Growing.
CHIKUNGUNYA VIRUS INFECTION: NEED OF PREVENTION AND TREATMENT

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ABSTRACT

Chikungunya is a mosquito-borne viral disease, very similar to dengue. The mosquitoes which spread it are Aedes aegypti and Aedes albopictus. These mosquitoes acquire the virus when they feed on an infected person. The virus spreads in the system of the mosquito and reaches its salivary glands. Soon after, when the mosquito feeds on a person, it infects him. High fever, Severe muscle and joint pain, Severe headache, Nausea, Vomiting, Rash on the skin due to damaged blood vessels, Enlarged painful lymph node in the neck, Sore throat, Painful abdominal cramps, Cold fingers and toes, Dizziness Constipation. The present review deals with the prevention and treatment of Chikungunya.
PREVENTION AND TREATMENT OF NIPAH VIRUS INFECTION

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ABSTRACT

Infections with Nipah virus is associated with encephalitis (inflammation of the brain). After exposure and incubation period of 5-14 days, illness present with 3-14 days of fever and headache, followed by drowsiness, disorientation and mental confusion. These signs and symptoms can progress to coma within 24-48 hours. Some patients have respiratory illness during the early part of their infections, and half of the patients showing severe neurological signs showed also pulmonary signs. It can be diagnosed by a number of different tests: - serum-neutrilization, enzyme-linked immunosorbent assay (ELISA), polymerase chain reaction (PCR) assay, immunofluorescence assay, virus isolation by cell culture. The present review focuses on the prevention and treatment of nipha virus infection.
EVALUATION OF DIURETIC ACTIVITY OF PRAECITRALLUS FISTULOSUS IN ALBINO RATS

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ABSTRACT

The study aims to evaluate the diuretic effect of a herbal fruit Praecitrullus fistulosus using animal models. To evaluate the diuretic activity of the plant, Albino rats were divided into five groups. The control group received normal saline (10 mg/kg), the reference group received furosemide (10 mg/kg) and the test groups were administered different doses (i.e., 10, 30 and 50 mg/kg) of the herbal extract by oral route, respectively. We observed significant diuretic, kaliuretic and natriuretic effects in the treated groups in a dose dependent manner. However, urinary pH remained unchanged during the course of the study. The diuretic index values showed good diuretic activity of the herbal extract. The Lipschitz values demonstrated that the herbal extract, at the dose of 50 mg/kg, showed 46% diuretic activity compared with furosemide. The extract of Praecitrullus fistulosus, at the dose of 50 mg/kg, significantly increased the urinary volume and modified the concentration of urinary electrolytes, and there was observed no signs of acute toxicity associated with the herbal extract. Further studies are encouraged to isolate the pure phytochemical responsible for diuresis.

Keywords: Praecitrallus fistulosus, Lipschitz value, diuretic index, Na+ /K+ ratio.
ANTIDEPRESSANT ACTIVITY OF HYDROALCOHOLIC EXTRACT OF ORIGANUM VULGARE

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ABSTRACT

Origanum vulgare (Laminaceae) popularly known as Oregano, is a Mediterranean herb widely used for culinary purpose as well as antimicrobial agents. The present study was designed to evaluate the antidepressant and anxiolytic like effect of hydro-alcoholic (70%) extract of Origanum vulgare as well as its interaction with conventional anxiolytic and antidepressant drugs using Tail Suspension Test (TST) and Forced Swim Test (FST) and to evaluate the possible mechanisms involved in its actions. The leaves of Origanum vulgare were collected, authenticated and extracted via soxhlation to obtain its Hydro alcoholic extract. The extract of Origanum vulgare showed the significant antidepressant activity comparable to the standard drug. The oral administration of Origanum vulgare extract at 100 mg/kg and 200 mg/kg respectively as compared to control treated group showed an antidepressant activity comparable as of standard drug. The antidepressant effects of Origanum vulgare extract seem to be mainly associated with the activation of dopaminergic system and possess potential antidepressant and anxiolytic activities.
COUMARIN ANALOGUES AS A POTENTIAL INHIBITOR OF LEISHMANIASIS: A MULTI-TARGETING PROTEIN INHIBITION APPROACH BY MOLECULAR DOCKING
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ABSTRACT
Leishmaniasis is one of the most dreadful diseases as a leading cause of death in most of the developed countries. In the given study molecular docking study was performed on the library of coumarin analogues as anti-leishmaniasis agents. Total 300 coumarins analogues were taken from Pubmed and were studied using a molecular docking study on trypanothione reductase from Leishmania infantum (PDB code: 2JK6 and 2P18) and Leishmania mexicana (PDB code: 3PP7). Molecular docking result revealed that most active compound COU-130 and COU-220 bind to the active site of the protein with amino acids present in the various proteins. In PDB 2JK6 the active compound binds to the amino acid thr-51 and ser-14 were binding to the active site, and in PDB 3PP7 the active compound binds amino acid thr-26 and in PDB 2P18 the active compound binds to the amino acid phe-219 and try-212. Further in vitro and in vivo study of selected coumarin analogues can be studied for their therapeutic potential in treating leishmaniasis.
Keywords: Leishmaniasis, Molecular Docking, Coumarins.
DESIGN, SYNTHESIS AND LIPID PEROXIDATION INHIBITORY ACTIVITY OF BENZYLIDENECETOPHENONE DERIVATIVES

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ABSTRACT

A series of Benzylidene acetophenone derivatives containing nineteen compound was subjected to QSAR analysis. A number of models were generated, the best model showed that biological activity was affected by parameters RPCS (Relative Partial charge surface area) ,WK. Unity (weight Holistic Invariant molecular descriptor) and SC-5 (subgraph count 5) (CDK descriptor). Based on results of QSAR analysis a series of 10 compounds were designed and synthesized. The structure of synthesized compound was confirmed by IR, NMR, Mass spectroscopy. The synthesized compounds were evaluated for lipid peroxidation inhibitory activity using NDGA reference compound.

All the synthesized compounds showed lipid peroxidation inhibitory activity against Microsomes obtained from male wistar rats. IC₅₀ of the synthesized compound was calculated. The best activity was shown by compound P1 (3.12 μM) amongst the synthesised compounds.
SYNTHESIS AND ANTIMICROBIAL ACTIVITY OF SOME INDOLE DERIVATIVES

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ABSTRACT

A series of substituted indole derivatives was synthesized, characterized and evaluated for antimicrobial activity against two gram negative and two gram positive strains using ampicillin as standard. Microbiological evaluation was performed by cup plate method for zone of inhibition and serial dilution method for MIC (Minimum Inhibitory Concentration). Results of antimicrobial activity of synthesized compounds show that Y1 and Y5 have lower MIC and greater diameter of zone of inhibition against all the four strains of microorganism i.e. E.coli, B.substilis, P. aeruginosa, S.aureus. High MIC and lower diameter of zone of inhibition shown by Y10 against all the four strains.
A REVIEW ON ORGANOSULPHUR CHEMISTRY OF ALLIUM SATIVUM AND ITS USE IN THE TREATMENT OF VARIOUS DISEASES

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ABSTRACT

Organosulphur compounds present in plants show one of the main group of phytochemicals that contains beneficial biological activities. Major source of sulphur containing compounds in plants include Allium vegetable - garlic, onion and cruciferous vegetables - cabbage, cauliflower. The most studied species, garlic show health benefits mainly due to organosulfur compounds. Medicinal properties of organosulfur compounds in garlic like alliin, allicin, S-allyl mercaptocysteine, ajoene, diallyltrisulfide and allyl propyldisulfide used against treatment of various diseases. Organosulphur compounds in garlic are thus possible disease preventive agents. This review is an attempt to update the recent research progress carried out in recent years related to garlic.

Keywords: S-allyl mercaptocysteine, allicin, garlic, allium sativum,alliin.
A REVIEW ON RP-HPLC METHOD DEVELOPMENT OF ACECLOFENAC USING HYDROTROPIC SOLUBILIZATION TECHNIQUE

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ABSTRACT

Aceclofenac is a non steroidal anti-inflammatory drug with good analgesic and anti-rheumatic properties. Various methods for analysis of Aceclofenac are available but are time consuming, expensive, toxic and harmful due to organic solvents which are been used in the analysis. A new, precise and simple RP-HPLC method for estimation of Aceclofenac can be developed using hydrotropic technique in which organic solvents are avoided to reduce toxicity. Hydrotropic technique is the process by which water insoluble substances are made water soluble by hydrotropic substance called hydrotrope. A hydrotrope is a compound that solublize hydrophobic compound in aqueous solution. Aceclofenac is a BCS class II drug (highly permeable and low soluble in water) and attempts can made to formulate an aqueous solution of this drug using hydrotropic agent. The hydrotrope should not interference in the estimation of drug. Hence RP-HPLC method can be developed by using suitable hydrotrope by this technique. The method can be new, simple, economic, safe, rapid, accurate and reproducible.
A REVIEW ON: MICROWAVE ASSISTED HETEROCYCLIC SYNTHESIS

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ABSTRACT

The major drawback in drug discovery is synthesis of new chemical entities. Microwave assisted drug design has emerged as a new ‘lead’ in synthesis of organic compound. A Microwave (µ-wave) is a form of electromagnetic energy that falls at the lower frequency and is defined in frequency range of the 300 to 300000 mhz. Microwave is induced organic reaction enhancement chemistry is gaining popularity as a non-conventional technique for rapid organic synthesis. Important feature of this technique are easy access to very high temperature, good control over energy input over a reaction and a rapid synthesis. The main aim of this review is to prepared a desired organic compound from available starting materials via (multi-step) procedure, involving microwave irradiation and its benefits is energy efficient, rapid energy transfer, faster reaction, pure compound obtained. The microwave assisted synthesis technology mainly applied in the pharmaceutical powders and pasteurization of food products.

Keywords- Microwave, electromagnetic energy, non-conventional technique, rapid energy transfer.
QUANTITATIVE ESTIMATION OF SIMVASTATIN BY RP-HPLC IN PHARMACEUTICAL DOSAGE FORM

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ABSTRACT

A simple, precise, accurate and highly selective RP-HPLC Method was developed and validated for quantitative estimation of simvastatin in pharmaceutical dosage form. Chromatographic separation was achieved isocratically using Zorbax XDB C-18 column (250mm*4.6mm) with a mobile phase composed of ACN: Methanol: Buffer (60:20:20) at a flow rate of 0.8 ml/min. detection was carried out by using photo diode array detector at 239 nm. The retention time for simvastatin was found to be 3.38 min respectively. The method was found to be linear in the range of 50-150 µg/ml with mean recovery of 98.23%. The developed method was validated in terms of accuracy, precision, linearity, limit of detection, limit of quantitation. This study aimed at developing and validating an HPLC method, being simple, accurate and selective, and the proposed method can be used for the estimation of simvastatin in pharmaceutical dosage forms

Keywords: HPLC, Simvastatin, Isocratically, Validation.
IN SILICO DOCKING STUDIES OF SECONDARY METABOLITE AND IN VITRO ANTI-PLASMODIUM falciparum activity of Alstonia scholaris

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ABSTRACT

Malaria is a major global threat that results in more than 2 million deaths each year. In India, malaria is one of the most important causes of direct or indirect infant, child, and adult mortality. The treatment of malaria is becoming extremely difficult due to the emergence of drug-resistant parasites, the absence of an effective vaccine, and the spread of insecticide-resistant vectors. The plant Alstonia scholaris has been used in different system of traditional medicine for the treatment of diseases. The extract of the plant showed pharmacological activities ranging from anti-malarial to anticancer properties. Molecular docking is a key tool in structural molecular biology and CADD. The goal of ligand protein is to predict the predominant binding model(s) of ligand with a protein of known 3D structural. In the present work, the motto was to develop new target as anti Plasmodium falciparum activity. Alistonitrine A, a new monoterpenoid indole alkaloid from Alstonia scholaris showed good anti Plasmodium falciparum activity and greater selectivity with TS-DHFR (Thymidylate Synthase Dihydrofolate Reductase) with flexible molecular docking studies. In the docking studies, three important parameters like binding energy, inhibition constant and intermolecular energy were determined. The extract was subjected for pharmacological screening and tested against P. falciparum, exhibited 9 mm zone of inhibition of 200mg/mL. It can be concluded from the present study that the bark and leaf extracts of A. scholaris potentiate the antiplasmodial activity against P. falciparum.

Keywords: - Alstonia scholaris, Plasmodium falciparum, Antimalarial, Molecular docking studies,
MOLECULAR DOCKING: A PARADIGM SHIFT IN TRADITIONAL DRUG DISCOVERY

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ABSTRACT

The major bottleneck in the traditional drug discovery process is its expensiveness and time consumption with unpredictability of results. Also, the present scenario demands incorporation of innovative technologies in advancement of pharmaceutical industry. So, Molecular docking which is based on computer aided drug design and discovery (CADDD) has become a very revolutionary tool in the drug discovery process due to its relative low-cost implications and perceived simplicity of use has stimulated an ever increasing popularity within academic communities. The explosion of structural informatics, genomics, and proteomic plays a major role in leading the efforts towards modern era of drug discovery and development. The molecular docking is a computational process which is based on structure based virtual screening (SBVS) that involves the prediction of 3D conformations and favorable orientations of a ligand within the binding site of a drug target. Molecular docking predicts the binding affinity of ligand to form a stable complex with protein by finding preferred orientation of minimum free binding energy.

It acts as an ebullient explores domain because of its significance to structure based drug design (SBDD), lead optimization, identification of pharmacophore. The aim of this review is to focus on various aspects of molecular docking by incorporating detailed information about SBDD, various approaches used for molecular docking, scoring functions, docking software, and its enormous applications.

Keywords: Molecular docking, CADDD, Computational process, SBDD, Scoring functions.
COMBINATORIAL CHEMISTRY: IDEAL APPROACH IN DRUG DESIGN

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ABSTRACT

This study is important when introducing drug molecule into clinical therapy. Combinatorial chemistry means the systematic and repetitive covalent connection of different molecular entities i.e., with different building blocks. We are studying the principle, design of combinatorial chemistry. We used different approaches for creating chemical libraries and identification of active ingredients with different types and their advantages and disadvantages. Further detailed study deals with methods of combinatorial chemistry in which methods are responsible for formation of new molecule with the huge application of combinatorial chemistry with systemic and repetitive connection by chemical bonding. We also studied the biological activity of newly synthesized molecule against their large number (tens to thousands or even millions) of compounds in a single process.

Keywords: combinatorial chemistry, single process
GREEN CHEMISTRY: IDEAL APPROACH IN ORGANIC SYNTHESIS

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ABSTRACT

Green chemistry which is the latest and one of the most researched topics nowadays has been in demand since 1990’s. Majority of research in green chemistry aims to reduce the energy consumption required for the production of desired product whether it may be any drug, dyes and other chemical compounds. It aims to reduce or even eliminates the production of any harmful by-products and maximizing the desired product without compromising with the environment. The three key developments in green chemistry include use of super critical carbon dioxide as green solvent, aqueous hydrogen peroxide as an oxidizing agent and use of hydrogen in asymmetric synthesis. It also focuses on replacing traditional methods of heating with that of modern methods of heating like microwave radiations so that carbon footprint should be reduced as low as possible. This review emphasize on principle, methodology and recent applications of green chemistry.

KEYWORDS: Energy; Catalyst; Precursor; Carbon Footprint.
THE EVOLVING ROLE OF NATURAL PRODUCTS IN DRUG DISCOVERY

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ABSTRACT

Drug discovery leading to robust and viable lead candidates’ remains a challenging scientific task, which is the transition from a screening hit to a drug candidate, requires expertise and experience. Natural products and their derivatives have been recognized for many years as a source of therapeutic agents and of structural diversity. However, in addition to their chemical structure diversity and their biodiversity, the development of new technologies has revolutionized the screening of natural products in discovering new drugs. Applying these technologies compensates for the inherent limitations of natural products and offers a unique opportunity to re-establish natural products as a major source for drug discovery. The present article attempts to describe the utilization of compounds derived from natural resources as drug candidates, with a focus on the success of these resources in the process of finding and discovering new and effective drug compounds, an approach commonly referred to as “natural product drug discovery”.

Keywords: Biodiversity; Drug Discovery; Efficacy; Natural Products; New Technologies; Structural and Chemical Diversity; Success Steps
DISCOVERY AND DEVELOPMENT OF PI3K INHIBITORS

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ABSTRACT

PI3K stands for Phosphoinositol 3-kinase. The PI3K pathway is an important signaling pathway for many cellular functions. The phosphatidylinositol 3-kinase (PI3K) pathway is frequently activated in human cancers. PI3K inhibitors are potential medical drugs that function by inhibiting PI3 kinase enzyme which is part of this pathway and therefore, through inhibition, often results in tumor suppression. Class I PI3Ks are lipid kinases that phosphorylate phosphatidylinositol 4,5-bisphosphate (PIP2) at the 3-OH of the inositol ring to generate phosphatidylinositol 3,4,5-trisphosphate (PIP3), which in turn activates Akt and the downstream effectors like mammalian target of rapamycin (mTOR) to play key roles in carcinogenesis. Idelalisib has been approved in USA and Europe as the first-in-class PI3K inhibitor for cancer therapy. Idelalisib is the first PI3K inhibitor approved by the regulatory agencies; this approval will change the treatment landscape of indolent B-cell malignancies. The treatment of three indolent B-cell neoplasms: relapsed/refractory chronic lymphocytic leukemia (CLL, in combination with rituximab), relapsed follicular lymphoma, and relapsed small lymphocytic lymphoma (as monotherapy).

Key Words: PI3K, Tumor Suppression, B-Cell Neoplasm, Leukemia.
POT ECONOMY AND ONE-POT SYNTHESIS: ITS IDEAL PROCESS FOR SYNTHESIS OF NEW DRUG SCAFFOLDS

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ABSTRACT

One-pot reactions where several reaction sequences that are conducted in the same reaction flask, are one of the methods that can be used in order to conduct synthesis in a greener fashion. The chemistry is greener due to the reduction of work-up procedures and purification steps required compared to a more stepwise approach. In reactions that require a catalyst it is possible to combine several catalytic processes in the same reaction vessel. The technique for a target molecule in the same reaction vessel is widely considered to be an efficient approach in synthetic organic chemistry. Aim of the review was to explain, the characteristics and limitations of various one-pot syntheses of biologically active molecules, primarily involving organ catalytic methods as key tactics. Besides catalysis, the pot-economy concepts presented herein are also applicable to organ metallic and organic reaction methods in general. This synthesis is a technique to improve the efficiency of a chemical reaction wherein a reactant is subjected to successive chemical reactions in just one reactor. This technique is much preferred by chemists because avoiding a lengthy separation process and purification of the intermediate chemical compounds would save time and resources while increasing chemical yield.

Keywords: Cascade reactions, multicomponent reactions, one-pot reactions, stereo specific reactions, tandem synthesis.
A SYSTEMATIC STUDY OF ADVANCEMENT IN MODERN DRUG DESIGNING APPROACHES

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ABSTRACT:
Computer aided drug design finds the biggest advancement for designing innocuous drugs in short span in comparison to traditional drug designing concepts. Over the years CADD has emerged as extremely advantageous tool for predicting the potential activity of the drug molecules. In present study a systematized effort is made to find the details of the computational methods for designing of molecules with drug like properties. This article presents the details of all the available techniques, comparison of the available molecular modeling tools with their merits as well as the present market of the developed drugs using CADD and study of the clinical status of the drugs developed using CADD.

Key words: CADD, Drug designing, molecular modeling.
A REVIEW ON THE ADVANCEMENT OF GREEN CHEMISTRY

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ABSTRACT

To synthesize a compound in eco-friendly manner without any hazardous effects is the major challenge in synthesis. Majority of research in green chemistry is to reduce the energy utilization which is required for the production of desired product either it may be any drug, other chemical compounds and dyes. Their aim of utilization of green chemistry is to eliminate the production of any harmful bi-products and maximizing the desired product without compromising with the environment. The three key developments in green chemistry include use of super critical CO$_2$, aqueous hydrogen peroxide and use of hydrogen in asymmetric synthesis. It also focuses on replacing traditional methods of heating by modern methods of heating like microwave radiations so that carbon footprint should be reduces as low as possible. Many new molecules have been introduced, synthesized, studied and used.. Commercial production and utilization of dyes, drugs, educts, solvents are started and till now it has been used continue and will always be used in future also. Green chemistry is an eco-friendly and cost effective technology. This review emphasize on principle, methodology and recent applications of green chemistry.

Keywords: Green chemistry, Bi-products, Modern methods.
PPARγ: FROM THE PAST DECADES

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ABSTRACT

Diabetes mellitus is a chronic metabolic disorder that affects more than 180 million people worldwide. Peroxisome proliferator activated receptors are a group of nuclear receptors that have been targeted by the Thiazolidinediones class of compounds for the management of type II diabetes. PPARγ is known to regulate adipogenesis and glucose metabolism. Thiazolidinediones were reported for their antidiabetic effect through antihyperglycemic, hypoglycemic and hypolipidemic agents. These drugs were known to act by increasing the transactivation activity of PPARs.

Unfortunately, the clinically used Thiazolidinediones, Troglitazone, Pioglitazone and Rosiglitazone, suffered from some serious side effects like idiosyncratic hepatotoxicity, fluid retention and weight gain, as a result of which Troglitazone and Rosiglitazone were banned and the Pioglitazone label was updated for the risk of bladder cancer and hence withdrawn. These drugs were developed at a time when limited data were available on the structure and mechanism of PPARs.

In recent years, however, PPAR-α/γ, PPAR-α/δ and PPAR-δ/γ dual agonists, PPAR pan agonists, selective PPAR-γ modulators and partial agonists have been investigated. In addition to these, several non PPAR protein alternatives of Thiazolidinediones such as FFAR1 agonism, GPR40 agonism and ALR2, PTP1B and α-glucosidase inhibition have been investigated to address the problems associated with the Thiazolidinediones.

Using these rationalized approaches, several investigations have been carried out in recent years to develop newer Thiazolidinediones devoid of side effects. This report critically reviews Thiazolidinediones, their history, chemistry, mechanism mediated through PPAR, recent advances and future prospects.

KEYWORDS:
Glitazones, Hypoglycemic, PPARs, Thiazolidinediones
DEVELOPMENT & VALIDATION OF RP-HPLC METHOD FOR ESTIMATION OF GLABRIDIN IN TRANSFERSOMAL GEL FORMULATION

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ABSTRACT

Glabridin is a major bioactive phytoconstituent of licorice (Glycyrrhiza glabra Linn). The glabridin loaded transfersomal gel were prepared for the purpose of treating various hyperpigmentation disorders. After successful preparation the HPLC method was developed and validated for analysis of glabridin in transfersomal formulation. The HPLC separation was performed using a Kromasil C8, column (250 mm X 4.6 mm, 5µm) with acetonitrile & acetate buffer (70:30 v/v) as mobile phase in gradient elution method at a flow rate of 1 mL/min. Quantification was performed at a detection wavelength of 228 nm. The method is validated for accuracy, precision, reproducibility, robustness and detection and quantification limits, in accordance with International Conference on Harmonization guidelines. Statistical analysis proved that the method is precise, reproducible, selective and accurate for the analysis of glabridin. The proposed, developed and validated high-performance liquid chromatography method for the quantification of glabridin can be used for the quality control and standardization of licorice and different herbal formulations in which licorice is present as a constituent.

Keywords: glabridin, HPLC, method validation, pharmaceutical formulation
DEVELOPMENT AND EVALUATION OF AYURVEDIC VATI FOR THE TREATMENT OF ANEMIA

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ABSTRACT
Anemia is the most common disorder of the blood, affecting about a quarter of the people globally. The use of herbal plants as raw materials in the production of new drugs and development of new dosage form for the treatment of various disease and disorder including anemia is of great interest now-a-days. Demand for herbal plants is increasing in both developing and developed countries. *Spinacia oleracea*, *Zingiber officinale*, *Hordeum vulgare* and *Emblica officinalis* are medicinal plant, cultivated in India. The various parts of plant were used in the treatment of Anemia. Three laboratory batches of AV were prepared using standard methods and were named as AV-I, AV-II and AV-III. The formulated Ayurvedic vati was evaluated. The results shows that the formulation code; AV-II was found to be promising.

Key-words: Anemia, Vati, Herbs
REVIEWING THE THERAPEUTIC PROSPECTIVE OF THE KING OF SPICES
BLACK PEPPER
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ABSTRACT
From ages, spices have been an essential fraction of human diets and trade. The bioactive constituents present in them are of significant worth owing to their beneficial prospective against a variety of ailments. Black pepper, with piperine as its chief constituent, holds prosperous phytochemistry that also includes oleoresins, alkaloids and volatile oils. Black pepper (Piper Nigrum L.) is an imperative healthy spice due to its antioxidant, antimicrobial probable and gastro-protective modules. Piperine also exhibits varied pharmacological performances like antihypertensive, antiplatelet, antitumor, anti-asthmatics, analgesic, anti-inflammatory, anti-diarrheal, antispasmodic, antidepressants, immunomodulatory, anticonvulsant and anti-thyroids. Piperine increases bioavailability of several drugs and nutrients by inhibiting various metabolising enzymes. This review is aimed to provide rationalized information in recent advancement of pharmacognosy, chemistry and pharmacological activities of this miraculous King of spices.
MODIFIED PLANT CELL SUSPENSION METHOD FOR INCREASING PHYTOPHARMACEUTICALS PRODUCTION

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ABSTRACT

Medicinal Plants have proven potential of treating and preventing various disorders and illness from the ancient time. Many Phytopharmaceuticals companies are emerging as a result of its popularity in both the developed as well as developing countries. Newer approaches are developed to protect the plant source and to enhance its productivity in terms of phytochemicals so that the demand and supply can be balanced. Due to overexploitation of plant some alternative methods has to be developed in order to protect the plant from its natural habitat. Plant tissue culture strategies including callus culture and cell suspension culture is one of them. In conventional cultures the secondary metabolites are generated in suitable media but there is no effect on the quantity of phytochemicals. Elicitors are the compounds that stimulating plant defence pathways and the secondary metabolites are released due to defence responses which are triggered and activated by elicitors. If the elicitors like salicylic acid (SA) is used in cell suspension stage, it can lead to the enhanced productivity of phytopharmaceuticals.

Key Words: Medicinal plants, phytopharmaceuticals, cell suspension culture, elicitors, salicylic acid (SA), plant defence mechanism.
A REVIEW ON CURRENT CONCEPTS AND PROSPECTS OF HERBAL NUTRACEUTICAL

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ABSTRACT

Nutraceuticals are food or part of food that provides medical or health benefits including the prevention and treatment of a disease. Nutraceuticals are used to improve health, prevent chronic diseases, increase life expectancy, reduce aging sign and supporting for health & development of body. Nowadays, nutraceuticals have received considerable interest due to its nutritional and therapeutic benefits. The presented review is an attempt to classify all types of nutraceuticals with examples followed by their applications in the treatment of various disorders. Furthermore, the implementation of the designing and development of dosage forms for offering better delivery carrier of the nutraceuticals, the importance and challenges have also been enumerated.

Keywords: Dietary supplement, Health, Nutraceutical, Regulation
REVIEW ON AROMA THERAPY

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ABSTRACT

Aromatherapy, also referred to as Essential Oil therapy, can be defined as the art and science of utilizing naturally extracted aromatic essences from plants to balance, harmonize and promote the health of body, mind and spirit. It seeks to unify physiological, psychological and spiritual processes to enhance an individual’s innate healing process. It was the French perfumer and chemist, Rene-Maurice Gattefosse, who coined the term aromatherapie in 1937. Aromatherapy is becoming increasingly popular; however there are few clear indications for its use. To systematically review the literature on aromatherapy in order to discover whether any clinical indication may be recommended for its use, computerised literature searches were performed to retrieve all randomised controlled trials of aromatherapy from the following databases: MEDLINE, EMBASE, British Nursing Index, CISCOM, and AMED. These studies suggest that aromatherapy massage has a mild, transient anxiolytic effect. Based on a critical assessment of the six studies relating to relaxation, the effects of aromatherapy are probably not strong enough for it to be considered for the treatment of anxiety. The hypothesis that it is effective for any other indication is not supported by the findings of rigorous clinical trials.

KEY WORDS: Healing Process, Transient Anxiolytic Effect.
A REVIEW ON ANTI-ACNE ACTIVITY OF VARIOUS MEDICINAL PLANT

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ABSTRACT

Acne vulgaris is the commonest skin disease all over the world. The bacteria’s responsible for acne are Propionibacterium acne, Staphylococcus aureus, Staphylococcus epidermidis. Many synthetic products are available in market for treatment of acne which includes antibiotics, comedolytic agents, anti-inflammatory agents. There are so many side effects that arise due to long term use of synthetically prepared anti acne preparations such as dryness, pruritus, skin sensitization, peeling, erythema. Bacterial resistance is the serious problem that occurs due to irrational use of antibiotics. Natural substances from plants have proved themselves as promising candidates to treat this disease with no side effects. Some of the plants that have gained interest as anti acne agents because of their antimicrobial activities are summarized, few of them are Hamamelies virginiana (flower), Vitex negundo (leaves), Thymus vulgaris (flower), Hibiscus rosa-sinensis (leaf and flower). The present review focuses on promoting the use of herbs for their anti acne potential and also paves the way towards the formulation of anti acne novel drug delivery systems.

Keywords: Acne vulgaris, Hamamelies virginiana, Vitex negundo, Thymus vulgaris, Hibiscus rosa-sinensis.
A REVIEW ON HAIR GROWING ACTIVITY OF VARIOUS HERBS

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ABSTRACT

Herbal medicine is still the mainspring of about 70-80% of world population for primary healthcare. It has been visualized that number of herbs or plant and their extract are used for hair growing activity and alopecia. Alopecia refers to any form of hair loss, hair thinning, or balding anywhere in the body. There are many factors which can causes hair loss, though the most common and natural one is ageing. Other reasons are stress, pregnancy in women, male pattern baldness, female pattern baldness, exposure to strong sunlight, anaemia, hypothyroidism, deficiency of vitamin B, autoimmune disorder, chemotherapy, etc. Various plants that have proved themselves in hair growing activity are Emblica officinalis, Bacopa monnieri, Trigonella foenum, Hibiscus rosa-sinesis, Poiyporus umbellate and Rosmarinus officinali. These not only enhances hair growth activity but also prevent the fungal infection, falling and graying of hairs. The present reassessment is basically centered on promoting the use of herbs for their hair growing activity.

KEYWORDS: Alopecia, Emblica officinalis, Bacopa monnieri, Trigonella foenum, Hibiscus rosa-sinesis, Poiyporus umbellate, Rosmarinus officinali.
A REVIEW ON: MACA ROOT AND BROCCOLI USE IN WOMEN HEALTH

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ABSTRACT

Hormones is the most important parameter to identify the women’s health condition. Imbalance of hormone in women’s body cause several diseases. Reasons of imbalance hormones in female mainly by improper diet, stressful life, depression, lifestyle and use of drugs and alcohol. Medicinal Herbs and medicine is attracted towards their versatile effect and less side effects on body, as herbs are the wide source of many useful bioactive compounds. An imbalance of hormone women’s suffers from PMS, pcos, acne, depression, weightgain, irregular periods and other related diseases. Western medicines gives undesirable side effects, herb like macaroot and broccoli is the safest and better option for women who would like to reduce hormonal imbalance naturally. Maca root and broccoli contain strong nutritional profile. Maca root has traditionally been used to enhance fertility and sex drive. Broccoli inhibit indole concentration in body which regulate estrogen and help prevents from breast cancer.

Keywords- Hormones, maca root, broccoli, women health.
A REVIEW ON: AMRANTHUS SEED USED FOR THE TREATMENT OF ACNE

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ABSTRACT

Millions of people all around the world struggle with an acne problem. Acne is a long term disease which highly affects the natural beauty of the skin. Amaranth is a plant having variety of medicinal uses, it contain high nutritional value. It is an herbal remedy for acne. It contains vitamin A and C and amino acid lysine, deficient in all cereals and methionine limiting amino acid in legumes. Amaranth has astringent properties which help in the reduction of inflammation and redness of the skin. Vitamin B6 in amaranth can keep the skin healthy moisturized and lower inflammation with very good effect, which is required for acne. Amaranth is packed nutrients that can be easily absorbed by the skin, even tissue in bad conditions. This research includes that Amaranth has such properties that can treat acne and formulation can be made.

Keywords- Acne, Amaranth, Inflammation
A REVIEW ON HERBAL APPROACHES FOR MEMORY ENHANCEMENT

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ABSTRACT
Memory is perhaps the most vital of the aspects that differentiates human beings from other animals. Since ages, drugs and natural remedies have been prescribed to enhance memories in people. The Ayurveda has a treasury of such memory enhancing drugs, which are popular all over the world due to their effectiveness. There are a number of everyday strategies that can improve your memory naturally and protect against memory loss as you age. But only a few natural remedies have been found to improve memory in scientific studies. To keep your mind sharp as you grow older, and possibly reduce your risk of aging-related conditions like Alzheimer's disease and dementia, stick to a health routine for brain-boosting behaviors with natural approaches proven to improve memory.

Keywords: Memory, Herbal, Brain
A REVIEW ON LEPIDUM SATIVUM

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ABSTRACT

Lepidium sativum is an annual herb, belonging to Brassicaceae family. In English it is known as
"Garden cress is an annual herb. It is a fast-growing, edible plant botanically related to
watercress and mustard. It is also known as Asalio or chandrasur in India and it is an important
medicinal crop in India. Garden cress is a perennial plant, and an important green vegetable
consumed by human beings, most typically as a garnish or as a leaf vegetable. Lepidium sativum
mainly contains alkaloids, saponins, anthracene glycosides, carbohydrates, proteins, amino acids,
flavonoids, sterols as chief phytochemical constituents. Its extracts have been found to possess
various pharmacological activities. Folk medicine: The plant is used in Indian folk medicine by
the tribals and rural population for a wide spectrum of diseases like asthma, menstrual cycle
regulation, GIT treatment, respiratory infection treatment, immunity booster, hair loss treatment,
anticarcinogenic, antipyretic, hepatoprotective activity, antihypertensive, diuretic activity. All
these activities are pharmacologically determined in animals. For many other activities like
antiarthritic, brain intellect enhancer and effect on growth hormones, Garden Cress is used as
folklore medicine, but phytoconstituent responsible for that and pharmacological activities still
not approved.

Keywords: Lepidum sativum, phytoconstituents, medicinal uses
A REVIEW ON MARINE DERIVED PHARMACEUTICALS

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Abstract:

Due to changing environment, a variety of new diseases are emerging. Also the enormous growth of world population has overburdened the existing resources for the drugs. And hence, the drug manufacturers and researchers are always on the lookout for new resources to develop effective and safe drugs for the increasing demands of the world population. As it is clearly known that seventy percent of earth's surface is covered by water but research into the pharmacology of marine organisms is limited, and most of it still remains unexplored. Investigations were expanded to marine habitats for the search for new bioactive entities. Mankind has known for the last several thousand years that marine organisms contain substances capable of potent biological activity such as antibacterial, antifungal, antiviral etc. However, only half a century ago the first serious investigation of marine organisms started. Since then, investigations for the natural product content in the marine drugs are still continuing on all forms of life in the marine environment (e.g., bacteria, algae, fungi, etc). In the recent years there has been introduction of clinical trials of new classes of chemotherapeutic agents, which are derived from marine sources and have novel mechanisms of action. Research on new antimicrobial substances must therefore be continued and all possible strategies should be explored. The present project work is based on the aim of study of therapeutic activity of different marine resources.

Keywords:- Bioactive Entities, Marine Sources, Antibacterial, Antifungal & Antiviral Property of marine drugs.
A REVIEW ON- NYCTANTHES ARBOR TRISTIS MEDICINAL

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ABSTRACT

*Nyctanthes arbor tristis* commonly called as ‘night jasmine’ belonging to ‘oleaceae’ family which is a most useful mythological and traditional large shrub or a small tree with high medicinal values in ayurveda, sidha and unani system of medicines used mainly by tribal people of India. The different parts of plant like its fruits, flowers, leaves, seeds, bark and stem have significant pharmacological profile, phytochemical activities, pharmacognostic activity and therapeutic uses which are summarized in this review. Photochemical includes flavanol, glycoside, oleanic acid, essential oils, tannic acid, carotene, friedeline, lupeol, glucose, benzoic acid etc presenting various parts of the plants showing various pharmacological activities like hepatoprotective, antiviral, antifungal, antipyretic, antihistamine, antimalerial, antibacterial, anti-inflammatory, antioxidant activity with main emphasis on antihelminthic properties. This review is beneficial for the future research work and the potential development.
A REVIEW ON HERBAL ANTIFUNGAL AGENTS

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ABSTRACT

A new spectrum of human fungal infections is increasing due to increased cancer, AIDS, and immunocompromised patients. The increased use of antifungal agents also resulted in the development of resistance to the present drugs. It makes necessary to discover new classes of antifungal compounds to cure fungal infections. Plants are rich source of bioactive secondary metabolites of wide variety such as tannins, terpenoids, saponins, alkaloids, flavonoids, and other compounds, reported to have in vitro antifungal properties. The presented review summarizes the information concerning the new profile of antifungal drugs obtaining from medicinal plants.

Keywords: Medicinal plants, Antifungal, Herbs, Disease
AN OVERVIEW OF ADVANCES IN THE STANDARDIZATION OF HERBAL DRUGS

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

KEYWORDS: Herbal drugs, standardization, nanoherbal drugs, phytosomes, DNA marker, chromatographic and spectroscopic techniques
CURRENT SCENARIO AND FUTURE ASPECTS OF HERBAL DRUG PATENTING IN INDIA
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ABSTRACT
Herbs and Herbal drugs are gaining importance in India and worldwide due to less side effects and distinct advantages. The development and expansion of R&D in Indian established the herbal research organizations. The present work was undertaken to dentify innovations in the Indian herbal drug sector by analyzing the patenting trends in India, US and EU. There is a gradual increase in patent filing through the years. In India, individual inventors have maximum applications and grants. Diabetes, cancer and inflammatory disorders are the major areas for patenting in India and abroad. Recent patents are on new herbal formulations for treatment of AIDS, hepatitis, skin disorders and gastrointestinal disorders. Patents by research organizations and herbal companies are on development of new processes for active compound isolation and standardization of such components in addition to new compositions for therapeutic use. Pharmaceutical companies such as Ranbaxy, Lupin and Panacea Biotec are increasingly patenting on herbal drugs. There is increased patenting activity related to diabetes, cancer, cardiovascular diseases, asthma and arthritis in India and abroad.
PLANT POLYSACCHARIDES AS A RELEASE MODIFIER IN DRUG DELIVERY SYSTEM – A REVIEW

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ABSTRACT

Polymers have been successfully employed in the formulation of solid, liquid and semi-solid dosage forms and are specifically useful in the design of modified release drug delivery systems. Both synthetic and natural polymers have been investigated extensively for this purpose, but the use of natural polymers for pharmaceutical applications is attractive because they are economical, readily available, non-toxic, capable of chemical modifications, potentially biodegradable and with few exceptions, also biocompatible. The specific application of plant-derived polymers in pharmaceutical formulations include their use in the manufacture of solid monolithic matrix systems, implants, films, beads, microparticles, nanoparticles, inhalable and injectable systems as well as viscous liquid formulations. Within these dosage forms, polymeric materials have fulfilled different roles such as binders, matrix formers or drug release modifiers, film coating formers, thickeners or viscosity enhancers, stabilisers, disintegrants, solubilisers, emulsifiers, suspending agents, gelling agents and bioadhesives. Drug dosage forms contain many components in addition to the active pharmaceutical ingredient(s) to assist in the manufacturing process as well as to optimise drug delivery. Due to advances in drug delivery technology, excipients are currently included in novel dosage forms to fulfil specific functions and in some cases they directly or indirectly influence the extent and/or rate of drug release and absorption. Since plant polysaccharides comply with many requirements expected of pharmaceutical excipients such as non-toxicity, stability, availability and renewability they are extensively investigated for use in the development of solid oral dosage forms. Furthermore, polysaccharides with varying physicochemical properties can be extracted from plants at relatively low cost and can be chemically modified to suit specific needs. As an example, many polysaccharide-rich plant materials are successfully used as matrix formers in modified release dosage forms.

Keywords: polysaccharide; polymer; excipient; drug delivery; controlled release; renewable resource
REVIEW ON TYROSINASE INHIBITORY ACTIVITY OF SOME HERBAL AGENTS

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ABSTRACT

Some herbal agents have tyrosinase-inhibitory activity. Tyrosinase (Phenol oxidase) is a key enzyme that catalyzes melanin synthesis in plants, microorganisms and mammalian cells. Melanin biosynthesis inhibitory compounds are useful not only as skin whitening agents used in cosmetics but also as a remedy for disturbances in pigmentation. Therefore, many tyrosinase inhibitor plants and agents prevent over production of melanin in epidermal layers. These plants and agents such as Glycyrrhiza glabra, Azadiracta indica, Aesculus indica, Camellia sinensis, Nelumbo nucifera, Acasia catechu, Mangifera indica, arbutin, kojic acid, hydroquinone and stilbene have high inhibitory activity of tyrosinase enzyme. So these plants and agents are used in cosmetic industry due to their anti-hyperpigmentation effects or tyrosinase inhibitory effects.

Key Words: Anti-Hyperpimentation, Tyrosinase Inhibitor, Melanin, Herbal Drugs.