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SHRI SAI COLLEGE OF PHARMACY, HANDIA, PRAYAGRAJ, UTTAR PRADEH, INDIA
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A Scientific Abstract Book

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Commemoration of

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Shri Sai College of Pharmacy, Handia, Prayagraj, Uttar Pradesh

in the collaboration of

Association of Pharmacy Professionals (APP)

Edited by- Dr. Sarita Singh

30th INDO-US INTERNATIONAL CONFERENCE

on

Worldwide Challenges and Current Opportunities in Nanotechnology and Pharmaceutical Field

18th March 2024

Shri Sai College of Pharmacy, Upardaha, Handia, Prayagraj, Uttar Pradesh, India

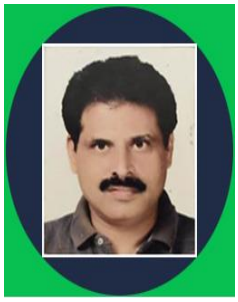
Abstract Book

WC2ONPF-2024

Dr. Ghanshyam Singh
Patron
Ghanshyam Group of Institutions

I am indeed very happy to know that the Department of Pharmacy of Ghanshyam Group of Institution is going to organize its first Indo-US International Conference. The field of education is undergoing to the drastic changes and the present day educational institutions are expected to produce a workforce which are well versed with the technological transformations. With these challenges we can think of bringing about a revolution in the education field and utilize the opportunities created by advanced research.

I am sure this **Indo-US International Conference** based on **Worldwide Challenges and Current Opportunities in Nanotechnology and Pharmaceutical Field** to be held on **18th March 2024** will deliberate lacunae in pharmacy field that need to address in order to keep young minds ready to take on the technological and educational transformation.



Mr. Vinod Kumar Singh
Chairman
Ghanshyam Group of Institutions

It is quite gratifying to note that the Department of Pharmacy of our college is hosting its first **Indo-US International Conference** on the theme **Worldwide Challenges and Current Opportunities in Nanotechnology and Pharmaceutical Field** in association with APP on **18th March 2024**. Organizing such an event reinforces our objective of developing an environment for the exchange of ideas towards research and technological developments. I wish the conference would be able to deliberate on current issues of national and international relevance, particularly in the field of cloud pharmacy professionals.

Mr. Vivek Kumar Singh
Director
Ghanshyam Group of Institutions

It is with much delight that I pen down a few words for the conference souvenir which is a tremendous effort of the Department of Pharmacy of Ghanshyam group of Institution. They organizing its first **Indo-US International Conference** on the theme **Worldwide Challenges and Current Opportunities in Nanotechnology and Pharmaceutical Field** in association with APP on **18th March 2024** and also bringing out a "Book of Abstracts" to highlight the recent research outcomes in the related field. In this connection I convey my best wishes to the team for their laudable effort and also wish them grand success in conducting the event.

Dr. Sunil Singh
Principal
Shri Sai College of Pharmacy, Handia, Prayagraj

On behalf of Shri Sai College of Pharmacy it is my honour to welcome the participants to our first **Indo-US International Conference** on the theme **Worldwide Challenges and Current Opportunities in Nanotechnology and Pharmaceutical Field.** This conference is intended to provide a platform for researchers and scholars to showcase their work and collaborate with others to extend the current boundaries in science with minute details much relevant for present day survival.

I congratulate the entire team for the hard work they have put forth to give this international conference. Its much needed colour and vigour. I wish them great success for the successful conduct of the entire event and hope this mission will be carried out with even more dynamism in the years ahead.

Dr. Sarita Singh
Head of the Department
Shri Sai College of Pharmacy, Handia, Prayagraj

I am extremely delighted and feel honoured to extend a heartfelt welcome to the upcoming **Indo-US International Conference** to be held on **18th March 2024**. There have been unprecedented numbers of quality papers that are to be presented in the conference. Your presence underscores the importance and relevance of your work in your respective fields, and I extend heartfelt congratulations to all authors whose papers have been accepted. Your dedication and intellectual prowess have earned you a well-deserved place at this prestigious event, and we eagerly anticipate your ground-breaking presentations.

I am sure that this occasion will provide an affable environment for the researchers and academicians to freely exchange the views and ideas with others. I convey my warm greetings and felicitations to the organizing committee and the participants and extend my best wishes for the success of the conference.

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INDO-US INTERNATIONAL CONFERENCE

Theme: "Worldwide Challenges and Current Opportunities in Nanotechnology and Pharmaceutical Field"

(18th March, 2024)

Venue: Shri Sai College of Pharmacy, Handia, Prayagraj, Uttar Pradesh

Inauguration	10.00 AM – 10:45 AM
Welcome Speech & Opening Remarks	
PROF. SUNIL SINGH Convener & Principal Shri Sai College of Pharmacy Handia, Prayagraj, Uttar Pradesh	
MR. VIVEK KUMAR SINGH (Group Director) Ghanshyam Group of Institutions Prayagraj, Uttar Pradesh	
DR. GHANSHYAM SINGH (Patron)	
PROF. HEMENDRA GAUTAM Guest of Honor Director, Arya College of Pharmacy, Nawabganj Bareilly, Uttar Pradesh	
Scientific Session-l	
PROF. ALEKHA K. DASH Creighton University, Omaha, Nebraska, USA	11:00 AM - 11:40AM
Chairperson	
PROF. (Dr.) ALOK MUKERJEE Principal, United Institute of Pharmacy Naini, Prayagraj, Uttar Pradesh	**Dr. ARJUN SINGH** Principal, CSM Group Of Institutions, Prayagraj
Scientific Session-lI	
PROF. (Dr.) GAURAV GUPTA Suresh Gyan Vihar University Jaipur, Rajasthan & Ajman University, UAE	11:40 AM – 12:20 PM
Chairperson	
PROF. (Dr.) AJEET KUMAR YADAV Director, J.S University Sikohabad, Firozabad, Uttar Pradesh	**Dr. NILESH KUMAR DWIVEDI** Principal, Shri Rawatpura College Of Pharmacy, Jabalpur
Scientific Session-III	
DR. AJIT KUMAR YADAV Dean , Department of Pharmacy Mangalayatan University Barela, Jabalpur M.P	12:20 PM – 1:00 PM
Chairperson	
DR. VIRENDRA SINGH Director, Sainik College Of Pharmacy,Hanumanganj , Prayagraj	**DR VINOD TIWARI** Director, Dr. Mahendra Kr Chhote Lal Bind College Of Pharmacy Handia Prayagraj.
LUNCH	01:00 PM - 02:00 PM
Scientific Session-IV	
PROF. (Dr.) RAJESH SHUKLA HOD Department of Pharmacy Mangalayatan University Barela, Jabalpur M.P	02:00 PM - 02:30 PM
Chairperson	
DR. ANIL KUMAR KHARYA Director, Kunwar Haribansh Singh College Of Pharmacy, Jaunpur	**DR. AJIT KUMAR YADAV** Director, R.K. Institute Of Pharmacy, Bareilly
Poster Presentations/ oral presentation	02:30 PM – 3:30 PM
Valedictory Function	3:30 PM onwards
Closing Remarks & Vote of Thanks	

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Special Issue 1

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AB-1

SELECTIVE CYTOTOXIC ACTIVITY OF SYNTHETIC NATURAL CYCLOPEPTIDES ON HCT11 & B16F10 CELLS

Dr. Sunil Singh*

Shri Sai College of Pharmacy, Handia, Prayagraj

Received: *March 8, 2024*

Peptides are natural messenger molecules of human body and hence ideal lead compounds for the initiation of drug discovery research. They are the important organic compounds with potent biological activities. Peptides functions as hormones, enzymes enzyme inhibitors, or substrates or growth inhibitors or promoters, neurotransmitters and immunomodulators. Investigation of new and more potent analogs of molecules with already established activities from a key part of research in pharmaceutical field. It's brings many modifications by manipulates the parent molecules structures serves to increase the activity of the compound, also eliminate adverse effect or toxicity associated with the parent drug. Cancer is the leading cause of deaths in world, We evaluated four natural cyclopeptides Diandrine A, Diandrine C, Fanlizhicyclopeptide A, Fanlizhicyclopeptide B, for cytotoxicity against HCT116 (Human Colorectal Carcinoma) & B16F10 (musculus skin melanoma) cells.

Keywords: Cyclopeptides, synthesis, cell line, HCT116, B16F10.

【1A】

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AB-2

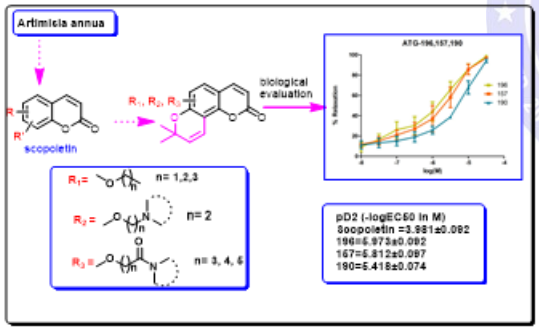
INDUCTION OF VASORELAXTION IN PRE-CONSTRICTED ARTERIES THROUGH SCOPOLETIN DERIVATIVES

Dr. Sarita Singh *, Dr. Atul Gupta

Shri Sai College of Pharmacy, Handia, Prayagraj

Received: *March 8, 2024*

Hypertension is a cardiovascular disease and act as silent killer. It contributes to the burden of heart disease, stroke, kidney failure and premature death. According to WHO, 17.6 million people dies every year and it is estimated that such mortalities may increase up to 23.3 million by 2030. Various conventional medications such as diuretics, ACE inhibitors, calcium channel blocker, beta, and alpha blockers and sympatholytic drugs are available for the treatment of hypertension[1]. Apart from synthetic drugs, natural plant products such as garlic, ginger, arjuna, ginseng, etc are also helpful in reducing hypertension[2]. About 75 to 80% people of developing countries depend on herbal medicines for their primary health care due to better acceptability with human body, lesser side effects, and affordability. Among others, scopoletin is a coumarin, isolated from natural sources (e.g. Artemisia annua). It possesses a relaxant property in smooth muscles, but the mechanism of action is not well defined[1]. Warfarin has a coumarin type of structure which shows indirectly vasorelaxant property. On the basis of this hypothesis a series of novel scopoletin derivatives were designed, synthesized and further evaluated for vasorelaxant in isolated U46619-induced pre-constricted arterial tissues like aorta. The results showed a concentration-dependent relaxation in arteries (in 30 µM, 94-98.5%). Lead compound was further elucidated for mechanistic study like depolarizing of KCl and BKca channel blocking. Different aspects of the lead molecule will be discussed in detail in the presentation.



Keywords: Hypertension, Artemisia annua, scopoletin, coumarin, vasorelaxant.

【1B】

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AB-3

EVALUATION OF CANNABINOID (CB2) RECEPTOR AGONISTS MODULATOR IN PACLITAXEL INDUCED NEUROPATHIC PAIN

Amit Kumar Bhatt*, Dr. K. K. Sharma

Teerthanker Mahaveer College of Pharmacy, TMU, Moradabad-244001, Uttar Pradesh, India

Received: *March 8, 2024*

Clinically, safe and effective medications are still required to treat or prevent CINP. Medication used to treat chronic pain issues, such as gabapentin and tricyclic antidepressants, did not relieve CINP. Strong preclinical data suggests that cannabinoid-based therapeutic approaches may help to lessen the negative effects of cancer chemotherapy, according to the summarized research described above and other sources. To make progress and empirically prove that these interventions are safe and effective for those who are currently experiencing or may experience these significant and occasionally cancer treatment-limiting adverse effects of chemotherapy, basic scientists, clinical trial experts, pain experts, and oncologists will need to work together. As a result, the current study aims to assess the modulator effects of cannabinoid (CB2) receptor agonists in the overexpression of brain-derived neurotropic factors (BDNF), real-time PCR analysis of CB2 mRNA expression in Paclitaxel-induced Neuropathic Pain, and assessment of the diminished role of the cannabinoid (CB2) modulator in Neuropathic Pain. Exploring the therapeutic potential of other CB2 modulators for the treatment of neuropathic pain will be greatly aided by the current research.

Keywords: Neuropathic pain, Cannabinoids,CINP, BDNF, real-time PCR analysis

【1C】

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AB-4

ONG QUAI - A MIRACLE NATURAL DRUG

Anshul Sharma*

Chandigarh College of Pharmacy CGC, Landran, Mohali

Received: *March 9, 2024*

Dong Quai (Angelica sinensis) has been used for thousands of years in traditional Chinese, Korean and Japanese medicine. Dong Quai is marketed in the United States as a dietary supplement. It has been used to treat a variety of ailments including dehydration, nerve disorder, Menopausal symptoms, angina and Insomnia. It is a member of the same plant family parsley, celery and carrots. It's popular in Chinese medicine for female health concerns. It is derived from the root of Chinese herb Angelica sinensis. Dong Quai has been named "Female Ginseng" because of its use for various health conditions in women such as pelvic pain, dysmenorrhea ; recovery from child birth. There are many marketed formulations that are available, for example- Bluebonnet Dong Quai root extracts (capsules), Solgar Dong Quai (100 capsules), Dong Quai extracts drops. Dong Quai is also available in the form of tea tincture. There is huge scope for research of this particular drug, it can prove to be a miracle drug.

Keywords: Ginseng, Dysmenorrhoea, Insomnia

【1D】

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AB-5

ANTICANCER EFFICACY OF SILVER NANOPARTICLES IN *IN VITRO* ANALYSIS

Archana Rohitas Deshmukh*

Institute of Pharmaceutical Research, GLA University, Mathura-281406, India

Received: *March 9, 2024*

Cancer is often regarded by health systems globally as the leading cause of annual fatalities. The limited effectiveness of existing cancer treatments has prompted other scientific fields to explore novel options, such as nanomaterial sciences. Silver nanoparticles exhibit anticancer properties, as demonstrated through in vitro experiments conducted on many cancer cell lines including prostate, breast, cervical, lung, colorectal, and liver cancer. Research indicates that the anti-metastatic action is responsible for the anticancer efficacy by inhibiting migration and invasion processes. The antiproliferative impact is characterized by the downregulation of molecules such cyclin D1, cyclin E, and CDK2. Cell apoptosis is activated through caspase-dependent processes, with low expression of anti-apoptotic protein Bcl-2 and high expression of apoptotic proteins Bax and Bad. Some research links the anticancer effects to the induction of cell necroptosis through the involvement of substances like TNF and IRF1. The pharmacological effectiveness of silver nanoparticles is mostly determined by the dosage, particle size, and chemical makeup. Moreover, multiple studies have demonstrated that the use of these nanoparticles is safe because they have little toxicity in non-cancerous cells. This review discusses the key factors influencing the anticancer properties of silver nanoparticles in several types of cancer cell lines including prostate, breast, cervical, lung, liver, and colorectal cancer.

Keywords: Silver nanoparticles, breast, cervical, colorectal, liver, lung, and prostate cancers.

【1E】

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AB-6

ROLE OF HERBAL PLANT IN FUNGAL INFECTION

Ashish Gupta*

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Fungal infections pose a significant threat to human health, agriculture, and various industries.The emergence of drug-resistant fungal strains has underscored the need for alternative and sustainable antifungal agents. Herbal plants have been a rich source of bioactive compounds with diverse therapeutic properties, including potent antifungal activities. This review aims to summarize and analyze the current state of knowledge regarding the antifungal potential of herbal plants. The review begins by discussing the prevalence and impact of fungal infectionson human health and the environment. The subsequent sections delve into the diverse classes of bioactive compounds found in herbal plants, such as alkaloids, flavonoids, terpenoids, and essential oils, which have demonstrated significant antifungal properties. Additionally, the synergistic effects of combinations of herbal extracts and compounds are explored, highlightingpotential strategies for enhancing antifungal efficacy and reducing the risk of resistance development. Furthermore, the review discusses in vitro studies evaluating the antifungal activity of specific herbal plants against a range of pathogenic fungi. Emphasis is placed on recent advancements in screening methodologies and the identification of promising candidatesfor further development as antifungal agents. The safety profiles of these herbal remedies are also addressed, considering their potential application in clinical settings. In conclusion, this comprehensive review synthesizes current knowledge on the antifungal activity of herbal plants, providing valuable insights into the potential development of novel, sustainable, and effective antifungal therapies.

Keywords: fungal infection, herbal plant, antifungal activity, antifungal agents, plant derivedcompound, fungicide.

【1F】

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AB-7

THE APPLICATION OF GRAPHENE IN THE THERAPY OF SKIN MYCOSES

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Wound healing is an intricate, multi-phase procedure that necessitates the synchronized activity of diverse cellular and molecular systems. Growth factors are crucial in this process as they coordinate cell migration, proliferation, and differentiation, which are vital for tissue repair and regeneration. This review thoroughly investigates the role of important growth factors, such as Platelet-Derived Growth Factor (PDGF), Transforming Growth Factor-beta (TGF-β), Epidermal Growth Factor (EGF), Fibroblast Growth Factors (FGFs), and Vascular Endothelial Growth Factor (VEGF), in the process of wound healing. We investigate the molecular processes by which they work, their interactions in the wound milieu, and their role in several stages of wound healing, including hemostasis, inflammation, proliferation, and remodeling. In addition, we examine the most recent developments in growth factor-based treatments, such as the use of topical applications, delivery methods based on biomaterials, and gene therapy. We emphasize their ability to improve wound healing and tissue regeneration. This evaluation also highlights present obstacles and upcoming prospects in the advancement and medical implementation of growth factor-based treatments for enhancing wound care. Keywords: Wound Healing, Platelet-Derived Growth Factor (PDGF), Transforming Growth Factor-beta (TGF-β), Epidermal Growth Factor (EGF), Fibroblast Growth Factors (FGFs), Vascular Endothelial Growth Factor (VEGF), Therapeutic Applications

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AB-8

ROLE OF HERBAL PLANT IN PEPTIC ULCER TREATMENT

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Herbal plants, also known as medicinal plants, have been used for centuries in various traditional systems of medicine across the globe. The advantages of herbal plants are diverse and encompass multiple aspects, including health, environmental sustainability, and cultural significance. These elements encompass a wide array of substances such as antioxidant, flavonoid, tannin, protein and herbal extract. Peptic ulcers are lesions that form on the inner lining of the stomach, small intestine, or esophagus. They arise from an imbalance between the stomach's acidic environment and the protective mechanisms of the mucosal lining. Common causes include H. pylori infection and NSAID use, leading to symptoms like abdominal pain, bloating, and heartburn. Herbal treatments for peptic ulcers aim to provide relief from symptoms, promote healing of the ulcerated tissues, and address underlying causes such as H. pylori infection or excessive gastric acid production. Here are some herbs commonly considered in the herbal treatment of peptic ulcers- Rangoon Creeper Licorice, Aloe Vera, Turmeric, Ginger and Cabbage Juice. Alternative approach in recent days is the research of medicaments from ayurvedic or traditional medicinal system. The use of phyto-constituent as drug therapy to treat major ailment has proved to be clinically effective and less relatively toxic than the existing drugs and also reduces the offensive factors serving as a tool in the prevention of peptic ulcer. The chemical constituents present in the herbal plant are part of the physiological function of living flora and hence they are believed to have better compatibility with human body.

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AB-9

ANTICONVULSANT AND MUSCLE RELAXANT ACTIVITY OF *CASSIA FISTULA* LINN. SEED EXTRACT IN EXPERIMENTAL MICE

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Phytochemical and pharmacological investigation was carried out on the seeds of Cassia fistula Linn Plant for anticonvulsant and muscle relaxant activity in mice. The hydro-alcoholic extract of seeds of Cassia fistula (100, 200 and 400 mg/kg, p.m.) was studied for its anticonvulsant effect on maximal Electroshock-induced seizures and muscle relaxant activity at the dose level using rota rod and traction Test in mice. Preliminary phytochemical analysis revealed presence of saponin, carbohydrate, glycosides, Flavonoids, tannin and phenolic compounds. Cassia fistula hydro-alcoholic extract (CFHE) (100, 200 and 400 mg/kg,p.o.) Significantly ($p<0.001$) inhibited seizures induced by MES, reduced the duration of Hind Limb tonic extensor phases (HLTE) and caused a decline in motor co-ordination. The hydro-alcoholic Extract possesses anticonvulsant activity and muscle relaxant activity.

Keywords: Anticonvulsant, muscle relaxant, Cassia fistula, mice.

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AB-10

AZO DYES NATURE AND ITS APPLICATIONS IN PHARMACEUTICAL FIELD

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Azo dyes have a lengthy history and are a vital part of our daily life. There are several possible uses for these substances and their derivatives in a variety of industries, as well as in environmental and biological research. Azo dyes are compounds containing two mono- or polycyclic aromatic systems connected to one or more azo groups (-N=N-). Because azo dyes contain color, unlike many organic compounds, azo compounds have a variety of uses. Throughout this article, we examined the chemistry and applications of azo dyes in which reaction for synthesis of azo dye, inorganic nature of azo dye, preparation of synthetic polymers with azo dyes were discussed and concluded that azo dye and its monomeric and polymeric derivatives are an effective substitute for more expensive commercial dyes due to their environmental durability, simplicity of synthesis and photo-electro characteristics. The use of azo dyes as chemical reagents, complexes or modified with synthetic or natural polymers is currently receiving increased attention, even though extensive study into the varied modification and applications of azo dyes is still ongoing. A constant need exists for more azo dye research and development particularly to advance advancements in technology, the environment and sustainability consciousness.

Keywords: Azo Dye, Polymers, Coupling, Derivatives, Polycyclic Aromatic Systems.

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AB-11

UNDERSTANDING HUMAN PAPILLOMAVIRUS (HPV): RISKS, PREVENTION, AND VACCINATION

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Human Papillomavirus (HPV) is a common and highly contagious virus that can affect both men and women. This virus is responsible for a range of health issues, including genital warts and various cancers. HPV is a group of related viruses that can infect various body parts, including the genital area, mouth, and throat. It is primarily transmitted through sexual contact, but it can also be spread forms of close skin-to-skin contact. Risks Associated with HPV, can cause the development of genital warts, which are growths or lumps in the genital and anal areas. HPV is a leading cause of various cancers including cervical, anal, penile, vaginal, and oropharyngeal cancers.

Prevention: Vaccination is one of the most effective ways to prevent HPV infection. Vaccination is recommended for both males and females and is most effective when administered before the onset of sexual activity. The Importance of HPV Vaccination is a critical tool in preventing infections and reducing the incidence of associated cancers. The vaccine is typically administered in early adolescence, providing long-lasting immunity against the most prevalent HPV strains. HPV is a widespread and potentially serious health concern that can lead to various complications, including cancers. Through vaccination, safe sexual practices, and regular screenings, individuals can protect themselves and others from the risks associated with HPV. Public awareness, education, and access to vaccination are essential components of a comprehensive strategy to reduce the prevalence of HPV-related diseases.

Keywords: HPV, Vaccination.

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AB-12

EURYALE FEROX SALISB. (LEAF): AS THE TREATMENT OF ACUTE AND CHRONIC ARTHRITIC MODEL

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The plant *Euryale ferox* salisb. (*Nymphaeaceae*), often known as prickly water lily, has been utilised in the treatment of rheumatism for centuries. The goal of this study is to look at traditional plant phytoconstituents and anti-Arthritic activities.
To prepare the extracts of the leaves of *Euryale ferox* salisb. using 50% ethanol the dried crushed leaves of the plant were extracted. The 50% ethanolic extract (EFEE) was separated into four parts: n-hexane (EFH), chloroformic (EFC), ethyl acetate (EFE) and methanol (EFM) fractions and to explore the anti-Arthritic activity using turpentine oil & formaldehyde induced acute Arthritic model and complete Freund's adjuvant induced chronic Arthritic model in male wistar rats.
Preliminary phytochemical screening and TLC were performed to select the extract and fraction. Male wistar rats were administered ethanolic extract (50%) and fraction for the investigation of anti-Arthritic activity in acute Arthritic and chronic Arthritic model and compared their effects with standard drug aspirin for 14 days and 28 days study respectively. EFEE and EFCF were used to determine haematological and biochemical parameters, such as paw volume, joint diameter, body weight, RBC, WBC, Platelets, RF, Hb, ALT, AST, ALP, and CRP which were supported by histopathological analysis.
The plant exhibited a dose-dependent anti-Arthritic activity in the Formaldehyde, Turpentine, and complete Freund's adjuvant Arthritic models. Euryale ferox significantly improved haematological indicators, body weight, and histological abnormalities.
As a result, the ethanolic extract and a chosen fraction appear promising for the development of phytomedicines for rheumatoid arthritis.
Keywords: rheumatoid arthritis, *Euryale ferox* salisb, CFA

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AB-13

A COMPREHENSIVE REVIEW ON NOVEL MOLECULAR TARGETS OF HYPERLIPIDEMIC NEPHROPATHY

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Hyperlipidemic nephropathy is a prime origin of mortality and morbidity, lowering the quality of life and shortened the life. High triglyceride and cholesterol concentration are autonomous risk point for growth of kidney disease in human. The pathogenesis of nephropathy mediates by various molecules like Endothelins, Angiotensin-converting enzymes (ACE), Dyslipidemia, Growth factors and Transforming growth factor (TGF-β), Pro-inflammatory Cytokines, Fibronectin and Mast cells. The renin angiotensin system (RAS) is involved in most of the pathological activity that result in Hyperlipidemic nephropathy. Various systems of RAAS present to the disease pathology. Angiotensin II and endothelin which shows raised activity during hyperlipidemic nephropathy. Angiotensin II and endothelin provoke the progression of HN. In conclusion, Hyperlipidemic nephropathy progression, multiple signaling pathways are participated. As CKD progresses and develops a result of hyperlipidemia, the renin angiotensin-aldosterone system (RAAS) becomes overactived. Angiotensin II increases the formation of endothelin in the blood vessel wall that, via ET_A receptors. Ang II and endothelin (both are potent vasoconstrictor) is an involved in the progression of Hyperlipidemic Nephropathy.

Keywords: Hyperlipidemic Nephropathy (HN), Hyperlipidemia, Trighlycerides, Cholesterol, ACE, Angiotensin II, Endothelin, RAAS, Chronic Kidney Disease.

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AB-14

PHARMACOKINETIC & PHARMACOLOGICAL ACTIVITY OF BERBERINE IN DIABETES MELLITUS TREATMENT

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Berberine, a natural compound derived from various plants, has shown potential as a therapeutic agent for managing diabetes. This abstract summarizes a study that aims to comprehensively evaluate the long-term safety and efficacy of berberine in the treatment of diabetes while determining the optimal dosage and administration. The research incorporates preclinical and clinical investigations to establish a robust understanding of berberine's effects on diabetes management. The preclinical phase involves conducting experiments on animal models with induced diabetes. Various doses and administration routes of berberine are tested to assess their impact on glycemic control, lipid metabolism, and potential adverse effects. Parameters such as fasting blood glucose, insulin levels, lipid profile, and markers of organ function are measured to monitor the physiological changes induced by berberine treatment. The primary objectives include evaluating the long-term safety of berberine, monitoring glycemic control, assessing insulin sensitivity, and measuring potential side effects.

The findings from this comprehensive evaluation contribute to establishing evidence-based guidelines for the optimal dosage and administration of berberine in the management of diabetes. This study provides valuable insights into the long-term safety, efficacy, and mechanism of action of berberine, enhancing its potential as a viable treatment option for individuals with diabetes. Overall, the study aims to advance our understanding of berberine's role in diabetes management and provide clinicians with evidence-based recommendations for its use. By determining the optimal dosage and administration, this research brings us closer to harnessing the full therapeutic potential of berberine in the long-term management of diabetes.

Keywords: berberine, diabetes, glycemic control

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AB-15

ANALYSING STEVIA REBAUDIANA BERTONI'S CHARACTERISTICS: INNOVATIVE METHODS FOR FOOD APPLICATION, PHYTOCHEMISTRY AND HEALTH BENEFITS

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The plant Stevia rebaudiana is indigenous to Argentina, Brazil, and Paraguay. It is a member of the Asteraceae family. It has a sweetening purpose. In addition to its sweetening properties, stevia has a number of nutrients that are good for human nutrition. Isomesteviol, steviolbioside, and rebaudioside are the chemical components of stevia leaves; they have no calories and are sweeter than sucrose. These steviol glycosides have a high economic value globally because they may be substituted for sugar in food, drinks, and nutraceuticals. They are also said to taste quite well. An overview of various extraction techniques, phytochemistry, and industrial stevia applications are given on this page. an assortment of items, including drinks, baked goods, dairy items as well as desserts. Studies have suggested that stevia may be beneficial to health in preventing a number of ailments. Among these are the antibacterial, anti-obesity, anti-carcinogenic, anti-oxidant, anti-hypertensive, and anti-diabetic qualities that this study looked at. Steviol glycosides, an important stevia phytochemical, have been demonstrated in clinical research to be safe for human intake and to have no acute or serious adverse effects. This study might provide an alternative perspective on stevia's possible medical benefits and help create novel stevia-based products.

Keywords: Nutritional Supplements, Natural Sweeteners, Healthful Meals.

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AB-16

ROLE OF ANTHOCYANIDINS IN THE TREATMENT OF BREAST CANCER

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Introduction: Breast cancer is a significant global health concern, with limited treatment options and substantial morbidity and mortality rates. Anthocyanidins, a class of natural compounds abundant in various fruits and vegetables, have garnered attention for their potential anti-cancer properties. This review aims to summarize the current evidence regarding the role of anthocyanidins in the treatment of breast cancer, including their mechanisms of action and therapeutic potential.

Methods: A comprehensive literature search was conducted to identify studies investigating the effects of anthocyanidins on breast cancer cells and animal models. Relevant databases were searched using appropriate keywords, and studies published in peer-reviewed journals were included for analysis. The search encompassed both in vitro and in vivo studies evaluating the anti-cancer activities of anthocyanidins and their potential mechanisms of action.

Results: Anthocyanidins have demonstrated promising anti-cancer effects in breast cancer through various mechanisms, including inhibition of cell proliferation, induction of apoptosis, suppression of angiogenesis, and modulation of signaling pathways involved in tumor progression. Additionally, preclinical studies have highlighted the ability of anthocyanidins to enhance the efficacy of conventional chemotherapy agents and reduce the development of drug resistance in breast cancer cells.

Conclusion: Anthocyanidins show considerable potential as adjunctive therapeutic agents for the treatment of breast cancer, either alone or in combination with standard treatment modalities. However, further research is needed to elucidate the optimal dosing regimens, bioavailability, and safety profiles of anthocyanidins in clinical settings. Future clinical trials should aim to evaluate the efficacy and tolerability of anthocyanidin supplementation in breast cancer patients, with the ultimate goal of improving treatment outcomes and quality of life.

Keywords: Anthocyanidins, breast cancer, apoptosis, angiogenesis.

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AB-17

UNLOCKING THE POTENTIAL OF FERMENTATION: EXPLORING INNOVATIONS AND HEALTH BENEFITS OF FERMENTED FOODS

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Fermentation, a time- honored biotechnological procedure, has played a crucial role in the course of human history by converting raw materials into valuable products with the aid of microorganisms. Bacteria, yeast, and fungi are utilized as microorganisms to transform substrates into a variety of products, including food, beverages, pharmaceuticals, and biofuels. The process involves a sequence of metabolic pathways, such as glycolysis, the citric acid cycle, and anaerobic respiration, which are regulated by enzymes and regulatory factors. Various factors that influence fermentation, such as temperature, pH, substrate concentration, and microbial strains, are carefully examined to ensure optimal process performance. Fermented fruits and vegetables offer a wealth of vitamins, minerals, dietary fiber, and antioxidants, all of which are essential for maintaining good health and preventing chronic illnesses. Additionally, the process of fermentation increases the availability of certain nutrients like vitamins B and K, making them easier for the body to absorb, fermented fruits and vegetables have been found to possess a range of physiological effects, including antioxidant, anti-inflammatory, antimicrobial, and immunomodulatory properties. These bioactive compounds and metabolites have been linked to numerous health advantages, such as improved digestion, enhanced immune system function, decreased risk of cardiovascular diseases, and potential anti-cancer effects. Furthermore, recent advancements in fermentation technologies, such as metabolic engineering and synthetic biology, have brought about a revolution in the production of bio-based chemicals and fuels, offering promising solutions to urgent societal and environmental challenges.

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AB-18

DEVELOPMENT AND EVALUATION OF ANTIFUNGAL NANO-OINTMENT AGAINST FUNGAL INFECTION

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Fungal infections pose a serious threat, especially for those with weakened immune systems. Current antifungal medications have limitations like poor solubility, penetration, resistance, and toxicity. Nanotechnology offers a promising solution to improve drug delivery and effectiveness. Enter nano-ointments, topical formulations containing nanosized drug carriers dispersed in an ointment base. They enhance antifungal drugs by improving solubility, stability, release, and targeting. In our approach, we're developing a nano-ointment with a broad spectrum triazole antifungal drug attached to a two-dimensional nanomaterial carrier. The plan is to disperse these drug-carrier nano conjugates in a suitable ointment base. We'll assess the nano-ointment for particle size, morphology, drug content, and release. Antifungal activity will be tested against various fungal species, expecting the nano-ointment to have uniform particle size, a spherical shape, high drug loading, and sustained release. Our hypothesis is that the nano-ointment will outperform plain ointment and free drug, showing a synergistic effect of active drug and carrier. Safety and non-irritancy on suitable animal skin will also be assessed. In conclusion, we believe our nano-ointment is a novel and effective formulation for treating fungal infections.

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AB-19

ANTIOXIDANT ACTIVITY OF SCHIFF'S BASES OF PHENOLIC ACIDS

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Phenolic acids, a class of compounds formed by the substitution of hydrogen atoms on benzene rings by a carboxylic acid group and at least one hydroxyl, are widely found in plants, plant foods, and human metabolites. The antioxidant ability center of phenolic acids is phenolic hydroxyl, so the number and position of phenolic hydroxyls are directly related to their antioxidant activity. Organic compounds known as schiff's bases have a carbon- nitrogen double bond (C=N) in the center functional group. These substances have been extensively researched for a wide range of uses, including possible anti-oxidant properties. By scavenging free radicals and avoiding oxidative damage, antioxidants are essential for shielding biological systems from oxidative stress. The DPPH scavenger was used to assessthe antioxidant activity of the synthesized compounds, and the results indicated that they hadgood antioxidant activity. Applications of schiff's bases have been investigated, including possible antioxidant properties. Numerous biological effects, such as those that are antifungal, antibacterial, antimalarial, antioxidant, anticancer, antiviral, antiproliferative, anti-inflammatory, and antipyretic, have also been demonstrated for Schiff's bases. It is crucial to take into account that the antioxidant efficacy of Schiff bases can differ based on their chemical composition, substituents, and potential metal complexes. Schiff bases possessthe ability to function as scavengers of free radicals, thereby aiding in the elimination of reactive oxygen species (ROS) and other free radicals. Through the donation of electrons, they effectively disrupt the chain reaction instigated by these radicals, effectively safeguarding cells against potential harm. Inflammation and oxidative stress are closely interconnected. Certain Schiff bases have demonstrated their ability to possess anti- inflammatory properties, which in turn indirectly contribute to antioxidant effects by reducing inflammation.

Keyword: schiff bases, antioxidant activity, DPPH, free radicals, antiviral, antifungal, anti-inflammatory, metal complex, phenolic acid.

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AB-20

CARDIAC DISORDERS LINKED TO COVID-19 ILLNESS

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Background and aims: Various diseases and abnormalities were encountered during the course of flu-like COVID-19 illness. The cardiovascular system was significantly affected by the coronavirus primarily through Cardiac injury, endothelial dysfunction and myocardial injury. Descriptive understanding and research were required between COVID-19 and CV disease for better care of patients.

Methods: The information searches were performed using different methods like Literature Reviews and Google Scholar search engine.

Result: Cardiovascular has been dramatically affected by Severe Acute Respiratory Syndrome coronavirus (SARS-CoV-2). Predominantly responsible for causing respiratory tract illness, other than that it causes acute cardiac injury. Indian Council of Medical Research (ICMR) assessed the hospitals and collated a find out that most deaths happen because of heart conditions based on 729 fatalities among seemingly healthy 18 to 45-year-olds between the second and third quarters of 2023. The study also suggested a significant elevation of cardiac troponins, which are commonly reported cardiac abnormality in COVID-19. An increase in troponin levels causes sepsis, hypovolemia, atrial fibrillation, congestive heart failure, and renal failure. COVID-19 has been predicted to harm the heart most likely via a cytokinin storm that causes non-ischemic myocardial injury. The other mechanisms responsible for cardiac injury are the involvement of cardiomyocytes, systemic inflammation and angiotensin-converting enzyme 2 (ACE2) also plays a very important role in this process. The information about other CV manifestations of COVID-19 is very limited at present. The development of acute cardiac injury is associated with significantly worse outcomes in these patients.

Conclusion: Most of the current reports on COVID-19 have only briefly described CV manifestations in these patients and have also been seen without the feature of respiratory disease. This report focuses on the current scenario of disease caused by COVID-19 pandemic in 2019 on cardiovascular diseases and further research is required to study the mechanism, incident, and clinical presentation required to overcome the CV manifestation.

Keywords: Coronavirus, Cardiac injury, hypovolemia, atrial fibrillation and myocardial injury

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AB-21

MICROBIOTA AS IMMUNITY BOOSTING AGENT

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Human body is composed of gut, skin and other mucosal environment which is totally called microbiome. Recent studies shows that gut microbiome actively gives multiple host functions like circadian rhythmicity, nutritional responses, metabolism and immunity. The mammalian immune system comprises of complex network of innate and adaptive components in all tissues. This relationship should be balanced in order to avoid any disease. Microbiota is a group of microorganism which resides in human gut which plays crucial role in boosting immunity. Gut microbiome act as an anti-infectious barrier by inhibiting pathogen adherence and subsequent colonisation. It also produces substances like bacteriocin to combat harmful invaders. It actively shape our adaptive immune response. Bacterial components and metabolites from these microorganisms orchestrate the formation and maintenance of immune homeostatis. The close relationshipbetween gut microbiota and human immunity makes regulating the gut microbiome with probiotics an effective strategy for improving health. By supporting gut health, we can enhance our immune system and lead healthier human lives. A harmonius gut contributes to our immune system, so consider incorporating probiotics rich food or supplements into your diet. Keywords: circadian rhythmicity, microbiome, orchestrate , probiotics, homeostasis.

【1U】

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AB-22

DIABETES AND ITS PATHOPHYSIOLOGY, TREATMENTS AND EPIDEMIOLOGY OF DIABETES

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Diabetes mellitus is a well-known long-term disorder which happen due to insufficient release of insulin Hormone from beta cells of the Langerhans of pancreas or when our body could not utilize the proper amount of insulin Hormone. This disorder causes various complications in the body and affects directly and indirectly many of the functions in the body. (WHO 2022) According to WHO, in 2014. It was found that there were 8.5 % of the total population of the young and other persons more than 18 year were suffering from diabetes mellitus. Mainly diabetes is classified into 3 types which are Type 1, Type 2 and gestational diabetes. Type 2 diabetes which is also called non-insulin dependent or adult onset, characterized when our body cannot utilize the proper amount of the insulin which is already present in the blood. Symptoms include polyuria, polydipsia, constant hunger, weight loss, vision changes, and tiredness. These symptoms may rise spontaneously. WHO brought out the global diabetes compact in April of the year 2021 for the prevention and care of diabetes mellitus mainly for the poor and developing countries. This compact is helpful to good communication in the world for lowering the complications of diabetes and also helpful in the improvement of diabetes treatment. (WHO 2021) After comparing the patients of type 2 diabetes mellitus in the world. It suggests the proper hormonal regulation for diabetes and improvement in the insulin as well as in the other drugs such as sulfonylureas, metformin, pioglitazone and some natural products are helpful in the treatment of diabetes mellitus. In the May month of the year 2022, WHA give its statement in form of five global diabetes coverage for their target about the treatment to be complete till 2030.

Key word: Global, Worldwide, WHO

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AB-23

THE ROLE OF HERBAL MEDICINE IN MANAGING EPILEPSY: AN EXPLORATORY ANALYSIS

Saleha Bano*

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Epilepsy, a chronic neurological disorder characterized by recurrent seizures, presents significant challenges to patients and healthcare providers worldwide. Despite advancements in conventional pharmacological treatments, a considerable proportion of individuals with epilepsy experience inadequate seizure control, intolerable side effects, or lack of access to medication. In recent years, there has been growing interest in complementary and alternative medicine, particularly herbal remedies, for managing epilepsy. This exploratory analysis delves into the role of herbal medicine in the management of epilepsy. Drawing upon a synthesis of existing literature, the study investigates the historical use, mechanisms of action, safety, efficacy, and potential limitations of various herbal therapies in epilepsy management. Furthermore, it explores the cultural and societal contexts surrounding the utilization of herbal medicine in epilepsy treatment across different regions of the world. The findings suggest that several herbal remedies have demonstrated anticonvulsant properties through various mechanisms, including modulation of neurotransmitter systems, antioxidant effects, and inhibition of neuronal excitability. However, the evidence supporting their efficacy and safety remains limited and often conflicting, primarily due to methodological challenges, such as inadequate study designs, small sample sizes, and lack of standardization in herbal preparations. Moreover, the analysis highlights the importance of considering potential herb-drug interactions, adverse effects, and regulatory issues when integrating herbal medicine into epilepsy management. Despite the promising anecdotal reports and preclinical studies, further rigorous clinical research is warranted to elucidate the therapeutic potential and establish evidence-based guidelines for the use of herbal medicine in epilepsy. In conclusion, while herbal medicine holds promise as adjunctive therapy for epilepsy, its integration into mainstream healthcare requires cautious evaluation, rigorous scientific scrutiny, and collaboration between traditional healers, clinicians, and researchers. This exploratory analysis contributes to a better understanding of the complex landscape of herbal medicine in epilepsy management and underscores the need for continued investigation to optimize treatment outcomes and ensure patient safety.

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AB-24

INVESTIGATING THE HEALING PROPERTIES OF HERBAL MEDICINE AS AN ANTIHYPERGLYCEMIC AGENT

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Throughout human history and across diverse cultures, herbal medicines have played a crucial role. These medicines, derived from plants and their extracts, have been utilized for therapeutic purposes for centuries. Their significance can be understood from various perspectives: Traditional Medicine: In numerous cultures, herbal medicines serve as the foundation of traditional medical practices. Traditional herbal remedies are deeply rooted in cultural practices and ailments. Herbal medicines are an integral part of complementary and alternatives. Numerous people turn to herbal remedies as substitutes or additions to traditional medical therapies, particularly for ailments such as persistent pain, stress, or specific chronic illnesses. Herbal remedies are commonly employed in preventive healthcare. Some herbs are thought to have immune-enhancing qualities, and regular intake is believed to promote general wellness and prevent diseases. However, it is of utmost importance to exercise caution when using herbal medicines. Ensuring standardization, quality control, and scientific validation is crucial to guarantee the safety and effectiveness of these natural remedies. Diabetes Mellitus is a metabolic disorder characterized by chronic hyperglycemia accompanied by greater or lesser impairment in the metabolism of carbohydrates, lipids and proteins. The treatment of diabetes with herbal medicine playing significant role. It is important to highlight that lifestyle changes, proper nutrition, and conventional medical treatments are crucial in managing diabetes.

【1X】

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AB-25

A NARRATIVE REVIEW OF STATINS IN CVS

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More than 200 million people around the world currently take statins aimed at preventing cardio-vascular disease. Statins are the most frequently used drug in lowering the LDL and cholesterol levels.Large multicentre statin trials have conclusively shown that such a reduction decreases both morbidity and mortality and their mainstayare treatment for reduction of LDL-C and increase in high density lipoprotein cholesterol (HDL-C)for primary and secondary prevention of CVD.They remarkably helpin reducing the chances of heart diseases by inhibiting HMG- CoA reductase enzyme. Statins result in reduction of cardiovascular events by 25% - 45%. They arewell tolerated, but it has some side effects like statin-associated symptoms (SAS), which includes statin-associated muscle symptoms (SAMS), diabetes mellitus (DM), and central nervous system problem. These are "statin-associated symptoms" because they are infrequent in clinical trials andcausative associationof statins are unclear. SAS is important because they prompt dose scaling down or discontinuation of these life-saving drugs. SAMS is the most common SAS and myalgia may affect 5% to 10% ofindividuals. Clinically dominant muscle symptoms, including rhabdomyolysis and statin-induced necrotizing autoimmune myopathy (SINAM), are uncommon. Antibodies against HMG-CoA reductase enzyme apparently provoke SINAM.Statins are undoubtedly a very potent drug in combating CVDs but should only be prescribed after properly studying patient's medical history.

Keywords: Statins, SAS, Cardiovascular disease, Rhabdomyolysis

【1Y】

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AB-26

A REVIEW ON ANTINEOPLASTIC AGENTS DERIVED FROM NATURAL PRODUCTS

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Through years of evolutionary selection pressures, organisms have developed potent toxins that coincidentally have marked antineoplastic activity. These natural products have been vital for the development of multiagent treatment regimens currently employed in cancer chemotherapy, and are used in the treatment of a variety of malignancies. The number of patients suffering from a cancer is constantly increasing and, consequently, the number of chemotherapies administered follows the same trend. Given the high reactivity and toxicity of the antineoplastic drugs, analytical methods are required in all the pharmaceutical fields: from drug development to their elimination in waste water treatment plant, including formulation quality control, environment and human exposure as well as therapeutic drug monitoring. Antineoplastic drugs (ADs), also known as chemotherapy or cytotoxic drugs, include compounds with various mechanisms of action that are used to fight the global burden of cancer, preventing or disrupting cell division of neoplastic cells.

Keywords: Cancer, antineoplastic agents, natural products, analytical methods

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AB-27

THE ROLE OF ION CHANNELS IN RENAL DYSFUNCTION

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Introduction: Renal dysfunction encompasses a spectrum of disorders affecting kidney function, leading to imbalances in electrolytes, fluid retention, and impaired waste removal. Ion channels play a crucial role in regulating renal function by controlling ion transport across cell membranes. Dysregulation of ion channels can contribute to various renal pathologies, including hypertension, electrolyte disorders, and kidney injury.

Methods: This abstract reviews current literature on the involvement of ion channels in renal dysfunction. Key ion channels involved in renal physiology and pathophysiology, such as epithelial sodium channels (ENaC), potassium channels, calcium channels, and transient receptor potential (TRP) channels, are discussed. Mechanisms by which dysfunction of these ion channels contributes to renal disorders are explored, including alterations in ion transport, cellular signaling pathways, and renal hemodynamics.

Results: Dysfunction of ion channels in the kidney can lead to a range of renal disorders, including hypertension, salt-sensitive hypertension, polycystic kidney disease, diabetic nephropathy, and acute kidney injury. Examples include mutations in ENaC associated with Liddle syndrome, aberrant potassium channel activity in Bartter syndrome, and dysregulated calcium channels in nephrolithiasis.

Conclusion: Understanding the role of ion channels in renal dysfunction provides insights into the pathogenesis of renal disorders and offers potential targets for therapeutic intervention. Targeting ion channels could lead to novel treatment strategies for various renal conditions, ultimately improving patient outcomes. Further research into the precise mechanisms underlying ion channel dysfunction in renal pathology is warranted to develop more effective therapies for renal dysfunction.

Keywords: epithelial sodium channels, transient receptor potential channels, polycystic kidney disease, diabetic nephropathy, Bartter syndrome.

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AB-28

IMPACT OF XENOESTROGENS ON FEMALE REPRODUCTIVE SYSTEM

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When plastic comes in contact with the food it leaches chemicals like xenoestrogens into it which are similar to the hormone estrogen produced by the human body and it completely messes up the hormonal balance of the body. Xenobiotics include synthetic industrial chemicals used as solvents/lubricants and their byproducts such as plastics (bisphenol A, BPA), plasticizers (phthalates), flame retardants (polybrominated diphenyl ethers, PBDEs), pesticides (dichlorodiphenyltrichloroethane, DDT), and pharmaceutical agents (diethylstilbestrol).The hormone estrogen is an important key to a woman's physical well-being; however, an overload of estrogen is destructive, causing a cascade of unpleasant symptoms and raising the risk of life-threatening diseases. If estrogen is dominant and progesterone deficient, estrogen becomes toxic to the body. Untreated estrogen dominance has been clinically-linked to an increased risk of breast and uterine cancers, osteoporosis, low thyroid, and dementia. Xenoestrogens such as phthalates, parabens, bisphenol A, dichlorodiphenyltrichloroethane, and dioxins are compounds found in ordinary substances such as detergents, cosmetics, plastics, pesticides and herbicides. Estrogen is a vital component in the development of the female reproductive system. However, xenoestrogens mimic endogenous estrogenic signaling and exhibit endocrine disrupting properties that may cause longlasting repercussions on human reproductive health. Xenoestrogen bind to both intracellular and membrane-bound estrogen receptors resulting in an inappropriate activation of tissue-specific estrogenic responses, precocious puberty and polycystic ovarian syndrome in females. Although the pathways of many xenoestrogens mechanism are unknown, the detrimental outcomes on reproductive health are evident. In women, xenoestrogens can contribute to a condition known as estrogen dominance. This is especially likely during premenopausal, when the normal balance of progesterone and estrogen is out of balance anyway, leaving women prone to high estrogen levels. In addition to causing symptoms, estrogen dominance can increase the risk of breast, uterine, and ovarian cancers.

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AB-29

EXPLORING SIRNA AS A POTENTIAL TARGET FOR CERVICAL CANCER THERAPY: A COMPREHENSIVE REVIEW

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Cervical cancer remains a significant global health burden, particularly in regions with limited access to screening and treatment. Despite advances in conventional therapies, the need for more effective and targeted treatment strategies persists. RNA interference (RNAi) has emerged as a promising approach for cancer therapy, with small interfering RNA (siRNA) holding immense potential as a targeted therapeutic agent. This presentation aims to provide a comprehensive overview of the role of siRNA in cervical cancer therapy. We will discuss the mechanisms of siRNA-mediated gene silencing, its potential targets in cervical cancer cells, and the challenges associated with siRNA delivery. Furthermore, we will review recent preclinical and clinical studies exploring the efficacy and safety of siRNA-based therapeutics for cervical cancer. By highlighting the current state of research and identifying future directions, this presentation seeks to stimulate discussion and collaboration towards the development of innovative siRNA-based approaches for the management of cervical cancer.

Keywords: Cervical cancer, SiRNA, Gene silencing.

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AB-30

THE NEUROPROTECTIVE POTENTIALITY OF FLAVONOIDS ON ALZHEIMER'S DISEASE

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Alzheimer's disease (AD) is the most common form of dementia, estimated to be affecting 4.4% of the population older than 60 years of age. AD is characterized by cognitive dysfunctions, behavioural disability, and psychological impairments due to the accumulation of amyloid beta peptides, neurofibrillary tangles, oxidative stress and inflammation. Developing therapies for neurodegenerative diseases are challenging because of the presence of blood–brain barrier. Flavonoids can slow the neuronal degeneration as they have shown activity in central nervous system and are able to cross the blood–brain barrier. These can be easily extracted from fruits, vegetable, and plants. In Alzheimer disease, flavonoids scavenges the reactive oxygen species and reduces the production of amyloid beta protein. In this review, the classification of flavonoids and their neuroprotective properties will be studied for the treatment of AD.

Keywords: Alzheimer's Disease, Flavonoids, Neurodegenarative Disease, Neurocognitive, memory.

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AB-31

INVESTIGATING THE CENTRAL NERVOUS SYSTEM ACTIVITY OF RANDIA DUMETORUM: INSIGHTS FROM PRECLINICAL STUDIES

Sweksha Singh*

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Randia dumetorum, commonly known as "Manila Arang," is a medicinal plant traditionally used in various folk remedies. Recent pharmacological investigations have revealed its potential neuroactive properties, prompting further exploration into its effects on the central nervous system (CNS). This oral presentation will delve into the preclinical studies conducted to elucidate the CNS activity of Randia dumetorum. Utilizing in vitro and in vivo experimental models, we assessed its impact on neuropharmacological parameters, including locomotor activity, anxiety, depression, memory, and cognition. Our findings suggest that Randia dumetorum exhibits significant CNS-modulating effects, potentially mediated through interactions with neurotransmitter systems and neurotrophic factors. Furthermore, we will discuss the implications of these findings in the context of developing novel therapeutics for neurological disorders. This presentation aims to contribute valuable insights into the neuropharmacological profile of Randia dumetorum and its potential applications in CNS-related ailments.

Keywords: Randia dumetorum, neuroactive properties, medicinal plant.

【2E】

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AB-32

ADVANCEMENTS IN HEALTHCARE THROUGH IOT INTEGRATION: UNVEILING APPLICATIONS, BENEFITS, AND OVERCOMING CHALLENGES

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The integration of Internet of Things (IoT) technologies in healthcare is revolutionizing the industry, offering unprecedented opportunities to enhance patient care, streamline operations, and improve overall health outcomes. This paper delves into the diverse applications, benefits, and challenges associated with the implementation of IoT in healthcare settings. The applications of IoT in healthcare are extensive, ranging from remote patient monitoring and wearable devices to smart healthcare infrastructure. Remote monitoring enables healthcare professionals to gather real-time data on patients' vital signs, medication adherence, and overall health status. Wearable devices, such as smartwatches and fitness trackers, empower individuals to actively participate in their health management. Moreover, the implementation of IoT in healthcare infrastructure includes connected medical devices and smart hospital systems, facilitating seamless communication between devices and optimizing resource utilization. The benefits of incorporating IoT in healthcare are multifaceted. Improved patient outcomes, timely interventions, and personalized treatment plans are among the direct advantages. Enhanced data collection and analysis enable healthcare providers to make informed decisions, leading to more effective and efficient care. Additionally, IoT contributes to the reduction of healthcare costs by preventing hospital readmissions through proactive monitoring and management of chronic conditions. This paper provides a comprehensive overview of the transformative potential of IoT in healthcare, shedding light on its applications, benefits, and the critical challenges that must be addressed for successful implementation. As healthcare continues to evolve in the digital age, understanding and navigating the complexities of IoT integration will be pivotal in shaping the future of patient-centered, data-driven healthcare systems.

Keywords: Healthcare Technology, Remote Patient Monitoring, Wearable Devices

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AB-33

THE ROLE OF VARIOUS DRUG IN THE TREATMENT OF PEPTIC ULCERS

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An ulcer is a rupture in the skin or mucous membrane that results in pus, disintegration and necrosis of the epithelial tissue and loss of surface tissue. Something that rots and degrades like an exposed wound. Ulcers of the digestive tract in the duodenum or stomach are included in the general term "peptic ulcers". The development of peptic ulcers is dependent upon the breakdown of mucosal defences in addition to the presence of acid and peptic activity in stomach juice. Mucosal lesions that pierce the muscularis mucosae layer and create a cavity encircled by both acute and chronic inflammation are known as peptic ulcers. The stomach contains gastric ulcers, which are typically found in the area where the corpus and antrum mucosae transition, along the lesser curvature. Duodenal ulcers are located in the duodenal bulb. An imbalance between protective and destructive elements of the stomach mucosa leads to the peptic ulcer disease process. Peptic ulcer disease can arise from a number of risk factors, including the use of non-steroidal anti-inflammatory medicines, H. Pylori infection, and excessive hydrochloric acid secretion. The inner layers of the mucosa are vulnerable to acidity if the outer layer of protection is compromised. It is well known that H. Pylori induces inflammation and colonises the stomach mucosa. Additionally, the H. Pylori hinders the release of bicarbonate, which encourages the growth of acidity and stomach metaplasia. Peptic ulcer symptoms include bloating, nausea, abdominal fullness, and epigastric pain. Urea breath testing, stool antigen testing, quick urease testing, histology of stomach biopsies obtained at the time of upper endoscopy, and serologic testing are among the diagnostic procedures for H. pylori infection. Many drug classes are used to treat peptic ulcers, including H2 receptor blockers (like Cimetidine, Famotidine, and Ranitidine), which block the action of histamine at the histamine H2 receptors of parietal cells, and proton pump inhibitors (like Omeprazole, Lansoprazole, and Rabeprazole), which inhibitthe gastric H+/K+-ATPase (proton pump) enzyme system. Magnesium hydroxide and aluminium hydroxide raise the pH of the stomach to more than four, block pepsin's proteolytic activity, and cause fluid to be retained osmotically.

Keywords: Peptic ulcers, NSAIDs, Endoscopy, Parietal cells, PPIs, Proteolytic

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AB-34

PHYTOCHEMICAL, THERAPEUTIC AND PHARMACOLOGICAL SIGNIFICANCE OF SARCODON ASPRATUS: A REVIEW

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Sarcodon aspratus is an endogenous fungus that has commonly been used as a functional food in China and other South east Asian countries. A wide range of health benefits have been attributed as in the treatment of infection, pain, fever, inflammation, tumor, injury and lowering of blood pressure. Isolates from the genus, called Scabronines, may increase nerve growth factor synthesis.Various components as alkaloids, flavonoids, phenolic acids, tannins, glycosides are present in this which codes for numerous biological actions. The present article includes the detailed exploration of the various pharmacological properties reported so far.

Keywords: *Sarcodon aspratus*, Phytochemical, Pharmacology, mushroom.

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AB-35

SOLID LIPID NANOPARTICLES AS A CARRIER FOR THE TREATMENT OF SKIN MYCOSES

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Topical fungal infection is one of the major problems in this modern world. It is estimated that around 20-25 % of world population are affected by fungal infections. Fungal infections affecting the skin continue to pose a significant health concern, necessitating the development of advanced therapeutic strategies. The major problems with conventional formulations are degradability, bioadhesive property and number of applications. Solid lipid nanoparticle is one of the most promising carriers for the drug targeting and extended drug release. Various in vitro studies demonstrate the sustained and controlled release of the antifungal drug from SLNs, indicating their potential for prolonged therapeutic effects. SLNs are generally considered biocompatible and well-tolerated by the skin. The lipid components used in their formulation are often selected to mimic natural skin lipids, reducing the risk of irritation. The nanoscale size of SLNs enhances drug penetration into the skin, improving bioavailability compared to conventional formulations. SLNs are relatively easy to formulate, and the manufacturing processes are scalable. They can be produced using techniques such as high-pressure homogenization, solvent evaporation, or microemulsion methods. Topical application of SLNs offers a non-invasive route of drug administration, which is advantageous for localized skin conditions while minimizing systemic side effects. The summarized findings contribute to the understanding of current trends, challenges, and future directions in utilizing SLNs for effective management of fungal skin infections.

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AB-36

THE ROLE OF MEDICINAL NATURAL PLANT IS THE TREATMENT OF SUPERFICIAL FUNGAL INFECTION

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Superficial fungal diseases, which encompass dermatophytosis, candidiasis, and pityriasis versicolor, pose a significant global health challenge due to their prevalence and the emergence of drug-resistant strains. These botanical resources contain a diverse array of bioactive compounds with potential antifungal properties, offering novel approaches for the development of effective and sustainable therapies. This review aims to examine the role of medicinal natural plants in treating superficial fungal diseases. We explore the various mechanisms by which phytochemicals derived from these plants exert antifungal activity, including inhibition of fungal growth, disruption of biofilm formation, modulation of host immune responses, and depletion of fungal virulence factors. Numerous medicinal plants have demonstrated significant antifungal efficacy against a range of superficial fungal pathogens. For example, extracts from plants such as neem (*Azadirachta indica*), and turmeric (*Curcuma longa*) exhibit potent antifungal properties attributed to compounds like azadirachtin, terpinen-4-ol, and curcumin, respectively. Moreover, the synergistic interactions between phytochemicals within these plants can enhance their antifungal potency and broaden their spectrum of activity. Furthermore, medicinal natural plants offer additional advantages such as affordability, accessibility, and lower risk of adverse effects compared to synthetic antifungal agents. However, challenges such as standardization of plant extracts, optimization of formulations, and validation through clinical trials need to be addressed to ensure their safety and efficacy in clinical practice. In conclusion, medicinal natural plants represent a valuable source of bioactive compounds with significant potential in the management of superficial fungal diseases. Future research endeavors should focus on elucidating the mechanisms of action, optimizing formulations, and conducting well-designed clinical trials to validate their efficacy and facilitate their integration into mainstream healthcare practices.

Keywords: medicinal natural plants, bioactive compound, antifungal agents, *Azadirachta indica, Curcuma longa.*

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AB-37

BIOMARKERS OF HEAVY METALS INDUCED NEPHROTOXICITY

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Nephrotoxicity is one of the leading causes of morbidity and mortality worldwide. Different types of drugs, chemicals and industrial or environmental toxins (heavy metals) are responsible for nephrotoxicity. Among the heavy metals lead & cadmium is the major toxic metal causing nephrotoxicity. Heavy Metal enters into the body through inhalation, ingestion and affects all the major organs of the body like kidney, liver, heart etc. It majorly affects the kidney, because the major organ associated with the excretion of poisonous substances. Heavy metal induces oxidative stress and affect all parts of nephron, but majorly affects the proximal tubule because majority of reabsorption of heavy metals like lead occur in proximal convoluted tubule. Various biomarkers and diagnosis tests are used for the estimation of lead poisoning.This review discusses few heavy metalk, their toxicity mechanising and their health impacts on Humans with special emphasis on the kidneys

Keywords: Lead, Cadmium, Nephrotoxicity, Biomarker, Oxidative stress.

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AB-38

UNLOCKING THE COMPLEX TAPESTRY OF DIABETIC NEPHROPATHY

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A Comprehensive Exploration of the Renin Angiotensin System and its Molecular Interplay. This abstract delves into the intricate mechanisms connecting advanced glycation end products, activated protein kinase C, and angiotensin II, propelling the progression of diabetic nephropathy. Examining the latest research on inhibitors targeting angiotensin converting enzyme, renin angiotensin aldosterone system, AGEs, and PKC, the review sheds light on promising avenues for slowing down the relentless march of this debilitating condition. From unraveling pathophysiology to exploring preventative strategies, this abstract offers a nuanced understanding of the stages, pathogenesis, and treatments in the diabetic nephropathy."

Keywords: Diabetic nephropathy, Renin Angiotensin System, Angiotensin II, Advanced Glycation End Products, Protein Kinase C, Angiotensin-Converting Enzyme, AGEs

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AB-39

A METHOD FOR CREATING A SELF-NANO-EMULSIFYING DRUG DELIVERY SYSTEM FORMULATION OF AMIODARONE

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The present disclosure relates to a system for developing a self-Nano-emulsifying drug delivery system formulation of amiodarone. The objective of the present disclosure is to formulate and evaluate the self-nano emulsifying drug delivery system of amiodarone drug which will results in high solubility and bioavailability of this anti-arrhythmic drug. The proposed system is formulated by using olive oil, biopolymer, and PEG 400, wherein the biomaterial is obtained from seeds of Cicer Arietinum. The prepared formulation is then evaluated using various studies for physical parameters. The results from the present disclosure showed that the nano emulsion enhances the solubility and bioavailability of amiodarone drug, wherein its stability is also enhanced. The results clearly indicate that the prepared formulation is completely safe for biomedical as well as pharmaceutical applications.

Keywords: Nano-emulsifying drug, formulation, bioavailability, amiodarone

【2M】

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AB-40

NOVAL DRUG DELIVERY SYSTEM (NDDS) IN CANCER THERAPY

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Cancer is the biggest killer that threatens human health. Poor bioavailability and strong drug resistance of cancer drugs are common defects. In recent years, drug delivery therapy based on nanotechnology has become a focused research area, and nano drug delivery system has been widely studied in cancer treatment.From our focused review, we conclude that still now the most advanced and potent field of application for NDDSs is lipid-based, while other significantly potential fields include polymer-based and inorganic NDDSs. However, despite the promises, challenges remain in practical implementations of such NDDSs in terms of dosage and stability, and caution should be exercised regarding biocompatibility of materials

Keywords: Cancer, nanotechnolog, bioavailability, biocompatibility, NDDS

【2N】

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AB-41

APPLICATIONS OF MOLECULAR DOCKING TECHNIQUES IN REPURPOSING OF DRUG

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The applications of molecular docking techniques have played a key role in paradigm change in the field of drug development by providing a potent toolkit for the investigation. In-addition drug repurposing of already-approved medications and for a novel treatment that was not previously recommended is known as drug repurposing. During the critical situation, it has attracted a great deal of attention. Molecular docking techniques have emerged as a necessity to expedite the drug development process and medication requirements. It promotes a validated, cost and time effective method of creating novel pharmaceuticals. The molecular docking technologies facilitate the prediction of the binding interactions between small molecules and target proteins. The researchers can more thoroughly evaluate the potential efficacy of well calibrated pharmaceuticals against novel disease targets. We will explain in this chapter how molecular docking was initially used to help with the drug discovery process. Next, we demonstrate the emerging and newer uses and applications of docking, such as target fishing and profiling, polypharmacology, drug repurposing, and adverse effect prediction. We also discussed about the potential of this technique, future applications and its combination with other emerging techniques like artificial intelligence.

Keywords: molecular docking techniques, repurposing, paradigm, Validation, Prediction, Polypharmacology

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AB-42

ROLE OF HERBAL DRUGS AS PREVENTION OF NEPHROTOXICITY

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Kidney are the most important organ of the human body like heart, liver, lungs and pancreas etc. Health of kidney is very important for a healthy life but kidney diseases are expected to become fifth leading cause of death by 2040. Drug induced nephrotoxicity one of the most common cause of acute kidney injury such as Aminoglycosides (Gentamicin), antivirals (acyclovir tenofovir,indinavir), antifungals (amphotericin B, caspofungin) and anticancer (Doxirubicin,Cisplatne). Colistin is a class of polymyxin antibiotic which has been used for treatment of Gram-negative infections, but it was withdrawn due to its nephrotoxicity. Some herbal medicines are also cause nephrotoxicity like aristolochic acids and other phytochemicals-alkaloids, anthraquinones, and glycosides, etc. known for kidney toxicity. In addition, kidney diseases have been recognized as risk factors for severe forms of COVID-19. Due to the adverse effects of drugs, it is necessary to point other alternatives to complement the treatment of these diseases, such as nephroprotective agents. Plants (*Curcuma longa*, *Euphorbia paralias*, *Boerhavia diffusa*) are a wide source of nephroprotective substances and can have beneficial effects in different levels of the physiological pathways which lead to kidney damage.

Keywords: Nephrotoxicity, Nephroprotective, Acute Kidney Injury

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AB-43

UTILIZATION OF NANOTECHNOLOGY IN ENHANCING THE EFFICACY OF HERBAL DRUGS

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In recent years, the convergence of nanotechnology and herbal medicine has emerged as a promising avenue for addressing the challenges associated with conventional drug delivery systems and improving the therapeutic efficacy of herbal drugs. This abstract explores the utilization of nanotechnology to enhance the bioavailability, stability, and targeted delivery of herbal drugs, thereby unlocking their full therapeutic potential.

Nanotechnology offers a plethora of tools and techniques for manipulating materials at the nanoscale, typically ranging from 1 to 100 nanometers. By harnessing these capabilities, researchers can overcome the limitations of traditional herbal drug formulations, such as poor solubility, low bioavailability, rapid degradation, and non-specific distribution in the body. Nanoformulations of herbal drugs can be tailored to optimize their physicochemical properties and pharmacokinetic profiles, ultimately leading to improved therapeutic outcomes.

Furthermore, nanotechnology enables the formulation of herbal drugs with controlled release profiles, allowing for sustained drug release over an extended period of time. Through the precise engineering of nanoparticulate carriers, drug release kinetics can be modulated to match the desired therapeutic window, minimizing fluctuations in plasma drug concentrations and reducing dosing frequency. Controlled release formulations also mitigate the risk of dose-dependent side effects and enhance patient compliance with herbal therapy regimens.

Moreover, nanotechnology plays a pivotal role in enhancing the stability and shelf-life of herbal drugs, which are often susceptible to degradation due to environmental factors, such as light, oxygen, and moisture. Nanoencapsulation protects herbal bioactives from degradation and oxidation, preserving their pharmacological activity during storage and transportation. This improved stability not only extends the product lifespan but also reduces the need for preservatives and additives, promoting the development of more natural and eco-friendly herbal formulations.

Keywords: Nanotechnology, Herbal Medicine, Drug Delivery, Controlled Release, Stability.

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AB-44

NEW DRUGS FOR THE TREATMENT OF HYPERTENSION

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Since 1950 a number of new antihypertensive drugs have come into use and have helped to change not only our clinical management but also our basic concepts of essential hypertension. These drugs have in common only their antihypertensive property, and even this is mediated differently by each of them. Thus the ganglionic blocking drugs reduce the activity of the sympathetic nervous system, the veratrum products stimulate the depressor activity of the parasympathetic nervous system, the Rauwolfia derivatives lessen the pressor effects of central nervous agitation, hydralazine diates the arteriolar system, particularly in the kidney, and chlorothiazide Augments natruresis, and may decrease renal pressure activity. Each of these Drugs has a place in the treatment of different patients, and several or even All of them may be used in combination in certain cases. The purpose of This paper is to give a resume of the present status of these new agents, not Only as to their beneficial actions but also as to their undesirable side-effects, And to draw some inferences concerning the physiologic mechanisms that May be operating in arterial hypertension.

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AB-45

THE WAREHOUSE

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Despite the fact that warehousing is critical to many firms' pricing structures and customer service offerings, there isn't yet a thorough, organized process for developing warehouses. This paper examines the existing literature on the general methodology of warehouse design as well as the literature on instruments and methods applied to particular domains of research. The general findings from the literature have since been improved and validated in light of warehouse design firms. The result is a broad outline of steps that may be applied to any phase, along with corresponding tools and methods. The goal of this is to help practitioners and further research into the creation of a more thorough methodology for warehouse design.
Keywords: warehouse, instruments, design, customer

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AB-46

MENSTRUAL HYGIENE AMONG ADOLESCENT GIRLS: A REVIEW

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Background: Adolescence has been recognized as a special period that requires specific attention. It marks an important milestone, and hence required good hygienic practices during menstruation to maintain a healthy life. Girls' and women's health, education, and integrity are all dependent on good menstrual hygiene. According to the National Family Health Survey 5 (NFHS-5), women between the ages of 15 and 24 years who safeguard themselves throughout their menstrual period with hygienic ways are 77.3% in India (urban 89.4%, rural 72.3%). Teachers leave a positive impact and greatly influence the minds of children. But the issue of menstrual hygiene is seldom being discussed in the school curriculum. It is also included in Millennium Development Goals. Therefore, to understand the consequences and importance of menstrual hygiene practices among adolescent girls, it is important to study the current practices about the same so that future interventions can be planned accordingly.

Aim: This review is focused on to spread the knowledge, awareness, beliefs, and source of information regarding menstruation, and also to assess hygiene practices among adolescent girls.

Conclusion: After evaluation of various study, the conclusion is found that menstrual hygiene was unsatisfactory among adolescent girls. Therefore, to lead a healthy life, the girls should be educated about the facts of menstruation and proper hygienic practices.

Keywords: Adolescence, menstruation, hygiene, knowledge

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AB-47

CERVICAL CANCER: A REVIEW OF EPIDEMIOLOGY

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Globally, cervical cancer is the fourth most common cancer in women, with around 660000 new cases in 2022. In the same year, about 94% of the 350000 deaths caused by cervical cancer occurred in low- and middle-income countries. Regional differences in the cervical cancer burden are related to inequalities in access to vaccination, screening and treatment services, risk factors including HIV prevalence, and social and economic determinants such as sex, gender biases and poverty. Women living with HIV are 6 times more likely to develop cervical cancer compared to the general population, and an estimated 5% of all cervical cancer cases are attributable to HIV. Cervical cancer disproportionately affects younger women. Human papillomavirus (HPV) is a common sexually transmitted infection which can affect the skin, genital area and throat. Almost all sexually active people will be infected at some point in their lives, usually without symptoms. In most cases the immune system clears HPV from the body. Persistent infection with high-risk HPV can cause abnormal cells to develop, which go on to become cancer. Boosting public awareness, access to information and services are key to prevention and control across the life course. As a result, it is advised to implement screening programs, HPV vaccination campaigns, and society-based preventive and control strategies. Keywords: Cervical cancer, epidemiology, risk factors, awareness, HIV

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AB-48

TUBERCULOSIS: A SYSTEMIC REVIEW

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Tuberculosis (TB) is an airborne infectious disease, which is caused by bacteria of the Mycobacterium tuberculosis. It is one of the oldest disease and known as a major cause for death throughout the world. According to WHO, tuberculosis is a second leading cause of death of human population after Covid-19 and it is above the HIV/AIDS. In 2022, an estimated that 10.6 million people fell ill with tuberculosis (TB) worldwide which included 5.8 million men, 3.5 million women and 1.3 million children. TB is present in all countries and age groups. In India, National strategic plan (2017-2025) has a national goal of elimination of tuberculosis by 2025. It requires increased awareness and understanding of Tuberculosis. In this review article contained history, taxonomy, epidemiology, histology, immunology, pathogenesis and clinical features of tuberculosis (TB) has been discussed. The treatment regimen for sensitive, drug resistant and extensive drug resistant tuberculosis has been summarized along with newer drugs recommended for multi drug resistant tuberculosis. This review article has been prepared through extensive literature study in view of better understanding and to increase awareness regarding tuberculosis.

Keywords: Tuberculosis, Mycobacterium tuberculosis, infectious, disease.

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AB-49

DEVELOPMENT AND CHARACTERIZATION OF NOVEL VESICULAR CARRIER TRANSETHOSOME FOR TRANSDERMAL DELIVERY OF PREDNISOLONE

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This research describes a novel carrier, transethosomes, for enhanced skin delivery of Prednisolone. Transethosomes are composed of phospholipid, ethanol, water and edge activator (surfactants). Transethosomes are prepared by rotary evaporation sonication method by using Soya phosphatidylcholine, tween 80, span 80 and ethyl alcohol. Characterization of the transethosomes was based on results from recovery, particle size, transmission electron microscopy (TEM), zeta potential and elasticity studies. In addition, skin permeation profile was obtained using static vertical diffusion Franz cells and hairless mouse skin treated with transethosomes containing 0.5% (w/w) prednisolone, and compared with control (polyethylene glycol, PG) solutions. The recovery of the studied vesicles was above 90% in all vesicles, as all of them contained ethanol (15-20%). There was significant difference in the particles size of vesicles those containing tween 80 and span 80. The TEM study revealed that the transethosomes were in irregular spherical shape, implying higher fluidity due to perturbed lipid bilayer. The zeta potential of vesicles containing Tween 80 showed higher negative value compared to other vesicles which containing span 80. The elasticities of Formulation F3 (containing tween 80) were much higher than that of formulation containing span 80(F6). However, Transethosomes (contains tween 80) dramatically enhanced the skin permeation of prednisolone compared to containing span 80. Moreover, the Transethosomes (F3) enhanced both in vitro and in vivo skin deposition of prednisolone in the dermis/epidermis region compared to F6. Therefore, based on the current study, the novel carrier Transethosomes could serve as an effective dermal delivery for prednisolone.

Keywords- Prednisolone, Rotary evaporation sonication method, Transethosomes, Tween 80, Span 80, Soya phosphatidylcholine, Ethanol.

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AB-50

SEXUALLY TRANSMITTED DISEASES (STDS): A REVIEW

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Sexually transmitted infections (STI) include a group of diseases of diverse infectious etiology in which sexual transmission is relevant. More than 30 different bacteria, viruses and parasites are known to be transmitted through sexual contact, including vaginal, anal and oral sex. Some STIs can also be transmitted from mother-to-child during pregnancy, childbirth and breastfeeding. Eight pathogens are linked to the greatest incidence of STIs. Of these, 4 are currently curable: syphilis, gonorrhoea, chlamydia and trichomoniasis. The other 4 are incurable viral infections: hepatitis B, herpes simplex virus (HSV), HIV and human papillomavirus (HPV).

In 2020, WHO estimated 374 million new infections with 1 of 4 STIs that is chlamydia (129 million), gonorrhoea (82 million), syphilis (7.1 million) and trichomoniasis (156 million). Hepatitis B resulted in an estimated 820000 deaths in 2019, mostly from cirrhosis and hepatocellular carcinoma. STIs such as gonorrhoea and chlamydia are major causes of pelvic inflammatory disease and infertility in women. When used correctly and consistently, protections that is effective methods of prevention against STIs, including HIV. Safe and highly effective vaccines are available for 2 viral STIs: hepatitis B and HPV. These vaccines have represented major advances in STI prevention. By the end of 2020, the HPV vaccine had been introduced as part of routine immunization programmes in 111 countries, primarily high- and middle-income countries. To eliminate cervical cancer as a public health problem globally, high coverage targets for HPV vaccination, screening and treatment of precancerous lesions, and management of cancer must be reached by 2030 and maintained at this high level for decades. More research into vaccines for chlamydia, gonorrhoea, syphilis and trichomoniasis are needed. This review included symptoms, causes and prevention for STDs and spread knowledge.

Keywords: STDs, Chlamydia, Gonorrhea, Herpes, Syphilis.

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AB-51

CURRENT CHALLENGES IN CANCER TREATMENT: A REVIEW

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Cancer is a worldwide public health priority with a high socioeconomic burden. Unfortunately, cancer treatments often lead to side effects and impairments, greatly feared by patients and clinicians, which need to be identified, properly managed, and prevented. Chemotherapy-induced neurotoxicity is an important problem that may be long-lasting, often irreversible, and may severely affect the quality of life of cancer survivors.

However, many aspects of this topic area were not specifically detailed such as the impact of cancer chemotherapy on sensory functioning (hearing, vision, taste), vital organs like the kidneys, the musculoskeletal system, and approaches to maintaining fertility during and after treatment. Given the increasing incidence, prevalence, and impact of cancer on the health system, research on cancer treatments will continue to expand, and the evaluation of their negative impacts and how to overcome them should also follow. The efforts posed by researchers in this area should help cancer treatments be better tolerated and more effective, leading to enhanced health and wellness of cancer survivors. In this review, we highlight the current concepts and discuss some of the current challenges and future prospects in cancer therapy.

Keywords: neurotoxicity, cancer, socioeconomic, survivors

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AB-52

A DIAGNOSTIC APPROACH AND NATURAL COURSE OF A PATIENT WITH ASTHMA-COPD OVERLAP SYNDROME

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The diagnostic criteria of asthma chronic obstructive pulmonary disease (COPD) overlap syndrome (ACOS) advocated by the Global Initiative for Asthma (GINA)/Global Initiative for Chronic Obstructive Lung Disease (GOLD) are somewhat complicated, and limited data are available regarding how ACOS patients respond to current medications. We present a case of a 64-year-old man with ACOS. With features favouring asthma including childhood asthma history with intermittent episodes of dyspnea at night, elevated blood eosinophil count and total IgE, increased forced expiratory volume in 1 s (FEVI) after bronchodilator (>200 mL and>12% from baseline), and positive skin prick tests, he also had features favouring COPD such as heavy smoker, persistent exertional dyspnea and airflow limitation after inhaled therapy. Over 5-year follow up, the patient experienced a single episode of moderate exacerbation. However, post-bronchodilator FEVI decreased by 240 mL for 4 years i.e. 60 mL/year, after 1.5 years of treatment, indicating rapid lung function decline. This article concluded the longitudinal studies are necessary to assess optimal interventions and natural course of ACOS.

Keywords: Asthma, chronic obstructive pulmonary disease, diagnosis, exacerbation

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AB-53

FORMULATION DESIGN AND EVALUATION OF NANOSTRUCTURED LIPID CARRIER OF LACIDIPINE

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Lacidipine is a new third generation dihydropyridine calcium channel blocker shows a significantly better tolerability profile than amlodipine.Lacidipine tablets contain a medicine called lacidipine. This belongs to a group of medicines called 'calcium channel blockers'. No side effects of dihydropyridineassociated edema as observed by felodipine and amlodipine. The incidence pedal edema and subsequent withdrawals has been reported to be lower with lacidipine than with amlodipine or nifedipine. lacidipine is a highly lipophilic drug of poor bioavailability of~ 10%) range 3-59%. In spite of the marked role of the drug in hypertension therapy, no reported trials were so far adopted to enhance its oral absorption. In this study a solid lipid based nanostructured lipid carrier of lacidipine are prepared by the Box Behnken Method to enhance its penetration. In-vitro drug release study of nanostructured lipid carrier. It was found that the % drug release in phosphate buffer pH 6.8 is 88.49±3.01 % which is significantly high as compare with the drug suspension carried out under the same experimental condition which showed only 32.27±3.01 % cumulative % drug release.

Keywords: Amlodipine, Lacidipine, nanostructured, lipid.

【3A】

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AB-54

NANOSPONGES: ADVANCING BIOAVAILABILITY FOR CONTROLLED DRUG DELIVERY

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The development of a recent method for delivering drugs advances efficiently. Any method that can be used for delivering a chemical that targets a particular reason is usually appreciated. This requirement is met by specialized drug delivery systems that are capable of precisely delivering the medication at the site of action without negatively affecting its efficacy or quality. Developing controlled release and improving bioavailability are two major obstacles in medication administration that could be addressed with nanosponges technology. Nanosponges provide a number of benefits by encasing drug molecules in a porous nanomaterial matrix. These benefits include enhanced solubility, resistance to degradation, and targeted distribution to certain locations. Additionally, because of their tenable qualities, drug release kinetics may be precisely controlled, maximizing therapeutic efficacy and minimizing side effects. The design, manufacturing, and therapeutic applications of nanosponges are discussed in this abstract along with their latest advancements. Moreover, it underscores the possibility for drug delivery systems based on nanosponges technology to transform the pharmaceutical sector by offering customized, safer, and more effective treatment choices. The development of nanosponges has shown to be a major advancement in the fight against problems such as poor bioavailability, physiochemical instability, medicine toxicity, and patient unacceptability. There are six distinct methods for creating the nanosponges, each of which has a unique mechanism to release the medication. The nanosponges can also undergo a number of characterization procedures. A variety of medical conditions, including cancer, autoimmune illnesses, theragnostic uses, improved bioavailability, stability, and more, can benefit from the use of nanosponges drug delivery systems.

Keywords: Controlled Release, Solubility, Bioavailability, Nanosponges.

【3B】

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DIABETES: A 21ST CENTURY CHALLENGE

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Diabetes has emerged as one of the most pressing health challenges of the 21st century, affecting millions worldwide and posing significant economic and social burdens. This abstract provides an overview of the contemporary landscape of diabetes, highlighting its multifaceted nature and the complexities involved in its management. The prevalence of diabetes has reached epidemic proportions globally, fueled by changing lifestyles, urbanization, and an aging population. Type 2 diabetes, in particular, has become increasingly prevalent, driven by factors such as obesity, sedentary lifestyles, and dietary patterns high in sugar and refined carbohydrates. Effective management of diabetes requires a comprehensive approach that addresses not only glycemic control but also the prevention and management of associated comorbidities and complications.

Lifestyle modifications, including dietary changes and increased physical activity, play a central role in diabetes management, complemented by pharmacological interventions tailored to individual needs. Advancements in technology, such as continuous glucose monitoring systems, insulin pumps, and mobile health applications, have revolutionized diabetes care, offering patients greater convenience, flexibility, and control over their condition. However, access to these technologies remains limited in many regions, highlighting disparities in healthcare delivery and access. Furthermore, diabetes management must extend beyond the clinic to encompass broader social determinants of health, including education, socioeconomic status, and environmental factors. Multidisciplinary care teams comprising healthcare professionals, educators, and community stakeholders are essential in addressing these complex challenges and providing holistic support to individuals with diabetes.

In conclusion, diabetes represents a 21st-century challenge that demands innovative solutions and concerted efforts from healthcare systems, policymakers, and society as a whole. By prioritizing prevention, improving access to care and resources, and promoting patient-centered approaches, we can mitigate the impact of diabetes and enhance the well-being of affected individuals and communities.

【3C】

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AB-56

TARGETED DRUG DELIVERY SYSTEM: ADVANTAGES AND SOME CARRIERS

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Drug targeting is a new drug delivery system that aims to deliver the drug to the target site of action or site of absorption without releasing the drug at any other non-target site. The delivery system is designed to retain the intact drug without any modification until reaching and releasing at the target site. The targeted drug delivery systems have several advantages over conventional ones as improvement of pharmaceutical activity, low side effects and reduction of the administered dose. The main purpose of the targeted drug delivery system is to obtain the pharmacological action of the therapeutic agent at diseased organs only without affecting the healthy one especially in the case of cancer treatment with chemotherapeutic agents. Drug targeting can be attained using different carriers that maintain and transport the intact drug to preselected organ or tissue. Different types of carriers can be used for drug targeting such as nanotubes, noisome, nanowirs and nanopartical. The drug targeting is a useful delivery system for delivering the therapeutic agent to a specific site without causing toxicity in other organs.

Keywords: Drug targeting, Drug delivery system, Pharmacological action, Chemotherapeutic agents, Nanotubes, Niosome, Nanowirs and Nanopartical.

【3D】

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AB-57

CONTROLLED DRUG DELIVERY SYSTEM: A REVIEW

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Drug supply is the process by which a medicinal substance is administered to have clinical efficacy in humans or animals. Controlled drug distribution technology has advanced over the last 60 years. The first controlled release system was introduced in 1952. These systems offer many advantages compared with traditional methods. An appropriately designed controlled release drug delivery system can be a major advance towards solving problems concerning the targeting of a drug to a specific organ or tissue and controlling the rate of drug delivery to the target site. Oral Sustained release (SR) / Controlled release (CR) products provide an advantage over conventional properties of drugs in such a way that it reduces dosing frequency to an extent that once daily dose is sufficient for therapeutic management through uniform plasma concentration providing maximum utility of drug with reduction in local and systemic side effects and cure or control condition in shortest possible time by smallest quantity of drug to assure greater patient compliance.

Keywords: Traditional drug delivery, Controlled release system, Drug release rate, Sustained release, Patient compliance.

【3E】

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PRODRUG AS DRUG DELIVERY SYSTEM IN ONCOLOGY

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Cancer is the most common cause of death in human populations. The conventional treatment route cancer is chemotherapy and surgery. But this type of treatments has been restricted by the lack of targeted cell and sever toxicity towards healthy cells. If focus on the limiting side effects then it responsible for low therapeutic potential. To overcome of these drawbacks, the design of prodrugs has evolved and it prepared by covalently linking the drug through a degradable moiety. The prodrugs are able to inactivate the drug during its bio-distribution and deliver the drug to its target. It could be an important breakthrough in cancer therapy as drug delivery carrier. This strategy consisting in the covalent binding of a pro-moiety to daily used therapeutic compounds has been clinically proven in the design of targeted prodrugs leading enhanced therapeutic efficacy and increase of the therapeutic index. This review summarizes and compares several strategies that improve the therapeutic index of chemotherapy (i.e. conventional drugs) by their chemical transformation into prodrugs improving pharmacokinetic profiles and optimizing administration routes in comparison to the initial drug. This review provides an overview of the methods used to control the structure and function of prodrugs and, ultimately, their current and future potential in increasing the therapeutic index of daily used anticancer drugs. Keywords: Cancer therapy, Chemotherapy, Prodrugs, Therapeutic potential.

【3F】

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EXPLORING MOLECULAR INTERACTIONS: A COMPUTATIONAL STUDY ON 2-(2-(5-CHLORO-3-METHYL-1-PHENYL-1H-PYRAZOL-4-YL)VINYL)-6-METHYLPYRIMIDIN-4-OL DERIVATIVES AS POTENTIAL LYASE INHIBITORS

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An entirely with pyrazole Nonsteroidal anti-inflammatory substances (NSAIDs), which are frequently employed in the treatment of cancer.Pyrazole, a crucial heterocyclic scaffold in medicinal chemistry, has a wide range of biological actions including antiviral, anticonvulsant, anticancer, antibacterial, and antifungal activity were the inspiration for the creation of pyrazole bearing pyrimidine derivative. In order to evaluate pyrazole carrying Pyrimidine analogues as anti-inflammatory, anticancer, and COX inhibitors, successful marketed medications with pyrazole as the central core (Celecoxib, Deracoxib) were used as a foundation.By enhancing specificity towards COX2 as opposed to COXI, it could possibly be feasible to create Analgesics with greater medical value as well as reduced imperilment. In the current investigation, the selective COX2 inhibitor celecoxib's central pyrazole core, which is coupled to the phenylsulfonamide group, has been employed. Through chemical modification novel pyrazole bearing Pyrimidine analogues were created. To explain the derivatives' binding affinities and their mechanisms for interaction with the active site of the lyase enzyme, a molecular interaction investigation was also conducted.

Keywords: Cyclooxygenase-1, cyclooxygenase-2, 4,5-dihydro-1H-pyrazole, inflammation, molecular docking

【3G】

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AB-60

PREPARATION AND EVALUATION OF ECONAZOLE NITRATE CONTAINING FILM FORMING GEL

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Background and Objective: The aim of present study is to develop a film-forming gel (FIFOGE) formulation of Econazole nitrate with hydroxy propyl methyl cellulose (HPMC) as a gelling agent, Eudragit RS PO as a film forming polymer and Triethyl citrate as a plasticizer. Tenia pedis is fungal infection of skin occurs in athlete's foot. Econazole nitrate is broad spectrum antifungal drug used in treatment of tenia pedis having high resistance towards fungal infection. For the treatment of fungal infection of skin, antifungal drug requires to be present for longer duration of action in contact with the skin. Therefore, the formulation having prolonged drug release is required. Method- Film-forming gel forms a thin, transparent film like layer on the skin and provides a prolonged release of Econazole nitrate. So, such formulation reduces duration of therapy and improves patient's compliance. In the chosen design (Box-Behnken statistical screening design), 3 factors were evaluated, each at 3 levels and all 13 possible combinations were performed in the experimental trials. The Drug concentration, Eudragit RS (PO) and concentration of Triethyl citrate were chosen as independent variables. Drug content was selected as dependent variables.
Method of Preparation of FIFOGE: The Eudragit RS PO and Hydroxypropyl methyl cellulose polymer solution were developed in methanol by means of dispersion method. Eudragit RS PO was dispersed in 20ml of methanol containing Triethyl citrate. Hydroxypropyl methyl cellulose was dispersed in 15ml of aqueous methanol separately. Both solutions were allowed to swell for 24 hours to produce clear solutions. The polymeric solutions were mixed properly with continuous stirring at 50 rpm for 30 min. Accurately weighed quantity (10mg) of the Econazole nitrate was dissolved in 15ml methanol. The drug solution and polymeric dispersion were mixed properly with continuous stirring at 50 rpm for 30 min.
Result- The optimized film-forming gel obtained was formulated and evaluated for all parameters.
Keywords: Film-forming gel (FIFOGE), Econazole nitrate, Eudragit RS PO, Tenia pedis.

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PHYTOCHEMICALS STUDIED FOR INTEGRATIVE CANCER CARE OF RICE BARN

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The number of people over the age of 60 on the world stage is projected to increase twice as fast as in the past four years. In terms of longer life expectancy, human body cells are moreprone to chronic diseases such as diabetes, heart disease and cancer due to lack of essential nutrients. As the condition is reaching an epidemic in many parts of the world, nutritional diet is demonstrated as the most important non-genetic contributor to human health. In fact, components present in many naturally occurring foods have been recognized to play important roles as promoters or inhibitors of these diseases. Thus, these phytochemicals present in their natural form may help as a major group component with beneficial effects in preventing or delaying the onset of nutritional diseases in specific population groups. Knowing how these components affect the health of human life will be possible only when we get a better understanding of the molecular basis of these components.

Key Words: Extract of Rice barn, inhibitors, human health etc.

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AB-62

FORMULATION, DEVELOPMENT AND EVALUATION OF POLY HERBAL TABLET FOR ITS NEUROPROTECTIVE ACTIVITY

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Aim & Objective: Pharmacological Exploration of Selected Indian Medicinal Plants as a Neuroprotective Agents.To explore the Neuroprotective effect of polyherbal extract from Cinnamomum bark and leaves of Jasminum Sambac plants which may be beneficial for society in future, to make the monograph a plant and to open the new door for new scientist.To formulate the tablet with effective extract.Hence in future the research project of mine can be used by many health care professional to treat Neuroprotective agents.

Methodoloy: The current study was designed to investigate the protective effect of Polyherbal Formulation (PHF) 200 and 400mg/kg for 21days. Swiss albino mice were injected with STZ (0.5mg/kg) on 14th day of pretreatment with PHF. Behavior pattern was assessed using Morris water maze, Y maze and Open field test. Biochemical estimations, namely brain Acetylcholinesterase (AchE), reduced glutathione (GSH), Catalase, Super oxide dismutase (SOD) and TBARS levels were performed.

Conclusion: The present study revealed that Polyherbal formulation significantly reduced AchE levels, oxidative stress, lipid peroxidation and cognitive impairment. The neuroprotective effect of Polyherbal Formulation might be associated with its antioxidant and anti-cholinesterase activitie

Results: The study showed that STZ significantly impaired learning and memory with a significant enhancement in brain AChE, TBARS and reduction in brain GSH, Catalase and SOD levels. Treatment of PHF significantly attenuated STZ induced behavioral and biochemical changes. The inhibitory effect of PHF on STZ induced dementia of AD type might be associated with its AchE inhibition and Free radical scavenging activity

【3J】

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AB-63

DESIGN AND DEVELOPMENT OF TUMOR TARGETED CAPECITABINE LOADED NANOPARTICLES

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Aims: Capecitabine is an orally-administered chemotherapeutic agent used in the treatment of advanced stage of colorectal cancers (CRC). The present research was to design and development of tumor targeted capecitabine loaded nanoparticles for CRC targeting to enhance bioavailability, reduce dose, minimize side effect, and sustain drug release for 24 h.

Materials and Methods: Capecitabine-loaded nanoparticles were prepared by emulsion solvent evaporation method. Nine formulations of nanoparticles with different ratios of capecitabine and chitosan were prepared. A central composite design with design expert software version 10.0.3.1 was employed in formulating and optimizing the nanoparticles to maximize entrapment efficiency and minimize particle size. The optimized nanoparticles were coated with polymer and were evaluated.

Results and Discussion: Fourier transform infrared spectroscopy study revealed the compatibility of drug with excipients while differential scanning calorimetry study confirmed the complete drug entrapment in polymer matrix and scanning electron microscopy revealed spherical shape of nanoparticles. The release profile of capecitabine from chitosan nanoparticles was found to be pH dependent. In vitro dissolution studies of polymer coated nanoparticles revealed negligible released in simulated gastric as well as intestinal fluid, followed by 100% released in simulated colonic fluid, in 24 h. The optimized nanoparticles showed colon-specific controlled release properties, and thus could be effective for CRC treatment.

Conclusion: Capecitabine-loaded nanoparticles can be prepared using chitosan as polymer sustained release and pH sensitive polymer for CRC targeting.

Key words: Capecitabine, central composite design, mucoadhesion, pH-dependent release

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AB-64

FORMULATION AND EVALUATION OF OXICONAZOLE NITRATE EMULGEL

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Oxiconazole nitrate is a new topical broad-spectrum antifungal medication used to treat superficial fungal infections. It has low solubility in water, so various techniques are used to improve its bioavailability. Emulgel emerged as one of the most interesting topical delivery systems for hydrophobic drugs such as oxiconazole because it has two release control systems. The prepared emulgel was evaluated for physical appearance, pH measurement, viscosity, dispersibility, drug concentration and in vitro diffusion and skin irritation studies. The formulation can be estimated that it was a good topical formulation and technique use for the future aspect.

【3L】

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AB-65

DEVELOPMENT OF ANALGESIC & ANTI-INFLAMMATORY OINTMENT FROM *NYCTANTHES ABROR-TRISTIS*

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The mythological plant Nyctanthes arbor-tristis (Oleaceae) plant has significant medicinal properties according to Ayurveda. The traditional medical system uses the leaves of Nyctanthes arbor-trisitis Linn. to treat rheumatism, sciatica, and other inflammation-related conditions. The leaves of Nyctanthes arbor-tristis linn were extracted and then blended into an ointment base for analgesic and anti-inflammatory ointment formulation. The ointment was then tested on several in-vitro and in-vivo evaluation parameters to ensure that it had an efficient therapeutic effect. Thisformulation should result in a herbal remedy with great efficacy, low cost, and minimal adverse effects. The effectiveness of plant-based medications used in traditional medicine has drawn a lotof interest due to their low cost and little adverse effects.

【3M】

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FORMULATION AND EVALUATION OF HERBAL LAXATIVE SUSPENSION USING SENNA PLANT

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Several species of Senna are well known for their therapeutic properties, being used in folk medicine to treat throat inflammation and constipation. In this regard, the anti-inflammatory, laxative and intestinal motility effects of different extracts of Senna. A laxative effect was observed for the methanolic extracts comparative to the standard drug.The Suspension was formulated with the extract of senna and the Suspension was evaluated on different in-vivo & in-vitro parameters.

Senna is a member of a large genus of tropical flowering plants. It has frequently been used in herbal medicine. Senna is the leaf or fruit {pod} of the plant Senna Alexandrina. Senna is also called Fletcher's Castoria, Ex-lax and SenokotIt as trade names. It has been employed as a laxative and stimulant in folk medicine. Many herbal teas used for weight loss and bowel movements contain senna.

【3N】

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AB-67

A REVIEW ON THE PRESENT SCENARIO OF THE REGULATORY EXPECTATION ABOUT THE STABILITY STUDIES IN THE PHARMACEUTICAL INDUSTRY

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Stability study is a crucial aspect of ensuring the quality and efficacy of drug substances (Active Pharmaceutical Ingredients) and /or drug products (Finished Pharmaceutical Product) such a Tablets, capsules, Syrups, Ointments, Parenterals, etc. Stability studies are performed based on the different climatic conditions (such as Temperate, Mediterranean, Hot & Dry, Hot & Humid and Hot & very Humid) of the world along with one or more approaches (such as Long term approach, Intermediate approach and accelerated approach). Temperature, Humidity, Light, Air, pH, packaging material, Duration of storage, type of dosage form, etc. are the few factors which may affect the stability of a drug substance or drug product. Stability studies plays very important role in protecting the patient health worldwide by establishing the proper Retest Date (for drug substances), Self-Life (for the drug product), Storage conditions and Labeling instructions for the drug substances and/or drug products. So that, nowadays various medicine regulatory bodies in the world such as USFDA, EMA, ICH, ANVISA, MHRA, TGA, etc. are enforcing to Collect the stability study data of pharmaceuticals at the time of drug substance and /or drug product development.

【30】

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LOCAL *IN-SITU* GEL FORMING DRUG DELIVERY SYSTEMS AS EMERGING TOOL FOR PERIODONTITIS

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Periodontitis is a microbial disease that leads to inflammation in the tooth-supporting tissues of the oral cavity that is common among the elderly. It is initiated by oral inflammation induced by bacterial dysbiosis. In recent times, with more biomarkers and the development of new technologies, several point-of-care testing (POCT) platforms have been developed for the diagnosis and monitoring of periodontitis. This abstract focuses on oral microbiology and the pathogenesis of periodontitis as well as recent insights into the *in-situ* gel (ISG) system for periodontitis. Periodontitis treatment methods like films, fibres, strips and microparticulate systems have drawbacks like discomfort, gingival redness, non-biodegradable polymers, transient clinical gains, and difficulty in film thickness and adhesiveness. Polymeric *in-situ* gels offer controlled medication release, offering benefits over traditional dosage forms. *In-situ* gel dosage forms are reliable due to their ease of preparation, prolonged drug release, superior stability, and biocompatibility. *In-situ* gel (ISG) system is one of the most promising local drug delivery methods because it can sustain high drug concentrations in the gingival crevicular fluid for extended periods of time, resulting in the intended therapeutic effects. *In-situ* medication delivery systems inject liquid preparations into periodontal pockets, solidifying into a custom-geometric gel. Under physiological conditions, the gel transforms into a gel under pH, temperature, ions, and solvent. This innovative approach has the potential to overcome practical obstacles in treating local periodontitis, such as large residence times and uncertainty of drug exposure. From this abstract, it is concluded that experimental evidence suggests that the *in-situ* gel (ISG) forming systems can be useful in treating several common diseases of the oral cavity. Future research should focus on clinical studies to be performed for the *in-situ* gel to make a significant contribution to periodontitis.

Keyword: Oral microbiology, Periodontitis, POCT, Biomarkers, *In-situ* gel system.

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AB-69

A NOVEL APPROACH ON *IN SITU* GEL FOR NOSE TO BRAIN DELIVERY OF ANTI-MIGRAINE DRUG: A REVIEW

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Migraine, a globally prevalent and incapacitating neurological disorder, impacts over a billion individuals worldwide. Treatment options vary among countries and encompass acute, preventive, and non-pharmacological approaches. However, certain migraine therapeutics encounter challenges related to suboptimal bioavailability. The delivery of medications to address migraines within the central nervous system (CNS) is predominantly regulated by the blood-brain barrier (BBB). This protective structure hinders the entry of external substances from the bloodstream into the extracellular fluid of the brain. While existing treatments for prevalent brain diseases affecting millions globally demonstrate partial efficacy, they are accompanied by significant side effects stemming from the widespread distribution of drugs throughout the systemic circulation. Conversely, the physicochemical properties of specific drugs hinder their capacity to traverse the blood-brain barrier (BBB), resulting in sub-therapeutic concentrations within their intended target tissues. While the oral route remains the most preferred and prevalent method for drug administration, limitations such as drug absorption and targeted delivery to specific organs can pose challenges for oral administration. Addressing these challenges and aiming to enhance both the safety and efficacy of drug delivery, a novel approach has been developed the *in situ* nasal drug delivery system. This system represents an innovative method for drug administration. The nasal route, being an alternative and viable option, stands out due to its abundant vasculature and high permeability. The nasal route proves advantageous for drugs facing challenges in oral administration, particularly those susceptible to gastric irritation. The *in situ* gel process involves the drug existing in a sol form before administration, transforming into a gel *in situ* upon entering the body. In recent times, there has been a significant surge in interest in *in situ* based gel drug delivery systems. This heightened interest is attributable to their features such as robust vascularization, heightened permeability, swift onset of action, and diminished enzymatic degradation. These systems hold promise in circumventing the blood-brain barrier, precisely delivering therapeutics to targeted sites, mitigating peripheral toxicity, and regulating the kinetics of drug release. This review focus on the treatment methodologies for migraines, exploring the anatomy and physiology of the nose, the mechanism of drug transmission from the nose to the brain, the principles governing nasal *in situ* gel, as well as its advantages and inherent properties. Additionally, the review delves into the evaluation parameters crucial in the preparation of *in situ* gel formulations.

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AB-70

IMIDAZOLE DERIVATIVE AND ANTIHISTAMINIC ACTIVITY

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Imidazole derivatives are a class of organic compounds that contain the imidazole ring, which consists of five-membered and six-membered nitrogen-containing rings. These compounds have diverse biological activities, including antihistaminic activity. Antihistamines are drugs that counteract the effects of histamine, a compound released by the body during allergic reactions. Several imidazole derivatives have been synthesized and studied for their antihistaminic properties. One example is the H1 receptor antagonist, which blocks the action of histamine at H1 receptors. H1 receptors are primarily found in the respiratory and vascular systems, and their activation by histamine can lead to symptoms such as itching, sneezing, and increased vascular permeability. Promethazine and diphenhydramine are examples of imidazole derivatives with antihistaminic activity. They are commonly used as antihistamines to relieve symptoms of allergies and allergic reactions. These compounds work by competitively inhibiting the bindingof histamine to the H1 receptor, thereby preventing or reducing the histamine-induced responses.It's important to note that not all imidazole derivatives exhibit antihistaminic activity, as the biological effects depend on the specific structural features of the compound. Researchers continue to explore and design new imidazole derivatives with enhanced pharmacological properties, including improved antihistaminic activity and reduced side effects.

Keyword: antihistamine, imidazole, allergic

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AB-71

HYPERTENSION AND ITS RISK FACTORS AMONG PEOPLE RESIDING IN URBAN SLUMS

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Raised blood pressure is a major risk factor for coronary heart disease and ischemic as well as hemorrhagic stroke. Blood pressure levels have been shown to be positively and progressively related to the risk for stroke and coronary heart disease. In some age groups, the risk of cardiovascular disease doubles for each incremental increase. In addition to coronary heart diseases and stroke, complications of raised blood pressure include heart failure, peripheral vascular disease, renal impairment, retinal hemorrhage and visual impairment. Treating high systolic blood pressure and diastolic blood pressure so they are below 140/90 mmHg is associated with a reduction in cardiovascular complications. Blood pressure can be managed with drugs as well as non-pharmacological measures which consist of exercise, weight reduction, salt restriction, eating fruits and vegetables, etc. Non-pharmacological measures play an important role in management of hypertension. The present study was done to assess knowledge of hypertension and its associated risk factors.
Keywords: Hypertension, Knowledge, Risk factors, Community, Urban slums.

【3S】

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NAVIGATING THE TABLET LANDSCAPE: A COMPREHENSIVE REVIEW OF THE LATEST INNOVATIONS AND TRENDS

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In an era dominated by digital advancements, tablets have become indispensable tools for various aspects of our daily lives. This review article aims to provide an in-depth analysis of the current tablet market, highlighting the latest innovations, trends, and key features that define the user experience. The review begins by exploring the evolution of tablets, tracing their journey from mere media consumption devices to powerful productivity tools. It delves into the hardware aspects, scrutinizing the processing power, display technologies, and design aesthetics of leading tablets in the market. Furthermore, the article examines the software ecosystem surrounding tablets, considering the operating systems, app libraries, and user interfaces that shape the overall functionality. It also explores the growing integration of artificial intelligence and machine learning technologies in tablets, enhancing user interactions and personalization. The review will discuss the diverse applications of tablets, ranging from entertainment and gaming to professional use in fields like education, healthcare, and business. It will evaluate the tablets' performance in handling multitasking, creative tasks, and their compatibility with accessories that extend their functionality. Additionally, the article addresses connectivity options, battery life, and the emergence of 5G technology in tablets, reflecting on their impact on mobility and seamless connectivity. Security and privacy concerns related to tablets are also explored, emphasizing the importance of robust protection measures in the digital age. In conclusion, this comprehensive review aims to assist consumers in making informed decisions by providing a holistic understanding of the tablet landscape. By analyzing the latest innovations and trends, this article seeks to guide readers towards selecting the tablet that best aligns with their needs and preferences in an ever-evolving technological landscape.

Keywords: Tablet Evolution, Hardware Innovations, Display Technologies, Design Aesthetics, Software Ecosystem, Artificial Intelligence

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NANOTECHNOLOGY ON HEALTHCARE

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Nanotechnology is applied in vast areas of science, engineering, and technology. Global vision and scientific ingenuity of pharmaceutical science and engineering are today surpassing far and versatile scientific frontiers, including a focus on energy and environmental sustainability. Pursuits in medical science, pharmaceutical science, and nanotechnology are now linked in vision and scientific forbearance. Nanodevices are changing the face of human scientific research.

The effect of nanotechnology on healthcare is already being felt, as various nanotechnology applications have been developed, and several nanotechnology-based medicines are now on the market. These novel nano-based systems can either be therapeutic agents themselves, or else act as vehicles to carry different active pharmaceutical agents into specific parts of the body. Currently marketed nanostructures include nanocrystals, liposomes and lipid nanoparticles, PEGylated polymeric nanodrugs, other polymers, protein-based nanoparticles and metal-based nanoparticles. investors as to future profitability, only a handful of these nano formulations, successfully obtained marketing approval. We survey the range of nanomedicines that have received regulatory approval and are marketed. We discuss ethics, costs, commercial development and possible market failure. We estimate the global nanomedicine market size and future growth. Our goal is to summarize the different approved nano formulations on the market, and briefly cover the challenges and future outlook.

Keywords: nanotechnology, nanodevices, nano formulations, nanomedicine, healthcare, PEGylated polymeric.

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HERBAL IMMUNOMODULATOR SYRUP: A COMPREHENSIVE REVIEW

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This review article explores the therapeutic potential of herbal immunomodulator syrups in enhancing the immune system's functionality. As traditional medicine gains popularity, herbal formulations are garnering attention for their immunomodulatory properties. The aim of this review is to provide a comprehensive analysis of various herbal ingredients commonly found in immunomodulator syrups, their mechanisms of action, and the evidence supporting their efficacy. The review begins by introducing the concept of immunomodulation and its significance in maintaining overall health. It then delves into an in-depth discussion of key herbal components, such as Echinacea, Astragalus, Andrographis paniculata, and Tulsi, among others, highlighting their historical use and scientific evidence regarding their immunomodulatory effects. The synergistic interactions between these herbs in formulated syrups are also explored to understand their combined impact on immune function.

Furthermore, the review evaluates clinical studies and trials assessing the effectiveness of herbal immunomodulator syrups in various populations, including adults, children, and the elderly. The safety profile of these formulations is scrutinized, considering potential adverse effects and interactions with conventional medications.

Additionally, the article examines the challenges and gaps in current research, suggesting avenues for future investigations. The need for standardized protocols in studying herbal immunomodulators is emphasized to enhance the reliability and comparability of research findings.

Keywords: Immunomodulation, Herbal syrups, Echinacea, Astragalus, Andrographis paniculata, Tulsi, Clinical trials.

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AB-75

ADVANCEMENTS IN EMULSION SCIENCE AND TECHNOLOGY: A COMPREHENSIVE REVIEW

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Emulsions play a pivotal role in various industries including food, pharmaceuticals, cosmetics, and materials science. Understanding the intricate mechanisms governing emulsion formation, stability, and application is crucial for optimizing product quality and performance. This review article provides a comprehensive overview of recent advancements in emulsion science and technology. It discusses fundamental principles underlying emulsion formation, stabilization techniques, and recent innovations in emulsion-based products. The review also highlights emerging trends such as green emulsification methods, nanotechnology applications, and novel emulsifier materials. Furthermore, challenges and future directions in emulsion research and development are explored to stimulate further innovation in this field.

Keywords: Emulsions, Emulsion Science, Emulsion Technology, Emulsification, Stabilization Techniques, Nanoemulsions, Emulsifiers, Green Emulsification, Colloidal Systems, Microfluidics.

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AB-76

ADVANCES IN TRANSDERMAL DRUG DELIVERY SYSTEMS: A COMPREHENSIVE REVIEW

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Transdermal drug delivery systems have gained considerable attention in recent years as a promising alternative to traditional oral and parenteral routes. This review article aims to provide a comprehensive overview of the latest developments in transdermal formulations, focusing on key advancements, challenges, and future prospects. The article begins with an introduction to the significance of transdermal drug delivery and the underlying principles governing skin permeation. The review covers various aspects of transdermal formulations, including formulation strategies, novel materials, and emerging technologies. Notable advancements in the design of transdermal patches, gels, and micro/nanoparticle-based systems are discussed, with a focus on improving drug bioavailability, stability, and patient compliance. Additionally, safety considerations, regulatory perspectives, and potential clinical applications are highlighted to provide a well-rounded understanding of the field. The review concludes with a discussion on future directions and potential breakthroughs in transdermal drug delivery, emphasizing the integration of personalized medicine, smart technologies, and biocompatible materials. By offering a comprehensive overview of the current state of transdermal formulations, this article aims to serve as a valuable resource for researchers, clinicians, and pharmaceutical professionals working in the field of drug delivery.

Keywords: Transdermal drug delivery, formulation strategies, nanotechnology, microneedle arrays, skin permeation, drug bioavailability, safety considerations, personalized medicine, smart technologies, regulatory perspectives.

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AB-77

HERBAL EXPECTORANT SYRUPS: AN OVERVIEW OF EFFICACY, SAFETY, AND POTENTIAL MECHANISMS - A REVIEW

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Introduction: Herbal expectorant syrups have been used for centuries as natural remedies to alleviate respiratory symptoms such as cough and congestion. This review aims to provide a comprehensive analysis of the efficacy, safety, and potential mechanisms of action of herbal expectorant syrups.

Methods: A systematic literature search was conducted to identify relevant studies on herbal expectorant syrups. Studies were included based on their relevance to the topic, methodological rigor, and recency. The identified articles were critically reviewed, and data synthesis was performed.

Results: The review highlights the diverse range of herbal ingredients commonly found in expectorant syrups, including but not limited to licorice root, ivy leaf, thyme, and marshmallow. Efficacy studies reveal promising results, demonstrating the potential of these herbal formulations to reduce cough severity, improve expectoration, and provide relief from respiratory discomfort. However, variations in study design and herbal formulations make direct comparisons challenging.

Potential mechanisms of action are discussed, encompassing anti-inflammatory, mucolytic, and bronchodilatory effects among others. Understanding these mechanisms can contribute to a more nuanced appreciation of how herbal expectorant syrups exert their therapeutic effects.

Conclusion: Herbal expectorant syrups represent a promising avenue for the management of respiratory symptoms. While evidence supporting their efficacy is growing, further well-designed clinical trials are needed to establish standardized guidelines for their use. Safety considerations and potential interactions with conventional medications should be thoroughly investigated. This review provides a comprehensive overview of the current state of knowledge on herbal expectorant syrups, offering insights for both healthcare practitioners and researchers.

Keywords: herbal expectorant syrups, cough, respiratory symptoms, safety.

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AB-78

ADVANCEMENTS IN DOSAGE FORMS: A COMPREHENSIVE REVIEW

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The pharmaceutical landscape has witnessed remarkable progress in dosage forms, driven by innovations in drug delivery systems and advancements in pharmaceutical technology. This review article aims to provide an in-depth analysis of the latest trends and developments in dosage forms, encompassing a wide array of delivery mechanisms and formulations. The review begins by exploring the evolution of traditional dosage forms such as tablets and capsules, discussing recent improvements in their manufacturing processes, materials, and bioavailability enhancement strategies. Subsequently, it delves into the realm of novel drug delivery systems, including nanoparticles, liposomes, and microparticles, highlighting their potential in improving drug targeting, sustained release, and therapeutic efficacy.

Furthermore, the article discusses the role of smart drug delivery systems and their integration with emerging technologies, such as nanotechnology and biotechnology. The incorporation of sensors, responsive materials, and personalized medicine concepts in dosage forms is examined, offering insights into the future of patient-centric drug administration.

Additionally, the review addresses challenges and regulatory considerations associated with the development and commercialization of advanced dosage forms. The impact of dosage form innovations on patient compliance, safety, and overall healthcare outcomes is thoroughly discussed, emphasizing the importance of a holistic approach in drug delivery system design.

Keywords: dosage forms, drug delivery systems, pharmaceutical technology, sustained release, nanoparticles, liposomes, microparticles, smart drug delivery

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AB-79

FABRICATION AND EVALUATION OF GRAPHENE CONJUGATED NANOGEL AGAINST FUNGAL INFECTION

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Fungal infections pose a significant global health challenge, necessitating the development of innovative antifungal strategies. In this study, we explore the potential of a novel nanogel formulation, incorporating graphene to enhance the antifungal efficacy against a spectrum of fungal pathogens. Nanogels offer targeted drug delivery in a controlled manner due to having characteristics properties such as softness, stimuli-responsive behaviour, and swelling. Compared to liposomes and polymeric micelles, this loading capacity of the nanogel is high. After drug loading, nanogels collapse and form a stable nanoparticle which encapsulates the biological agents. Nanogels were prepared using homogenization technique and incorporation of Carbopol 940 as a gelling agent in producing a smooth antifungal nanogel. The graphene-loaded nanogel represents a multifaceted approach, leveraging the unique properties of graphene, such as high surface area and excellent biocompatibility, to enhance drug delivery and antifungal activity. Graphene contributes to improved drug loading capacity and controlled release, optimizing therapeutic results. Graphene can damage bacterial and fungal cell membranes with their extremely sharp edges. This study presents a promising strategy in the development of advanced antifungal formulations, addressing the challenges associated with traditional drug delivery. The graphene-loaded nanogel offers a potential platform for the targeted and controlled release of antifungal agents, opening avenues for further preclinical and clinical investigations. The findings contribute to the ongoing efforts to enhance the arsenal against fungal infections and underscore the potential of nanotechnology in revolutionizing antifungal therapy.

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AB-80

NEWER PHARMACEUTICAL APPROACHES FOR HEART FAILURE THERAPY

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The complex medical condition that is referred to as congestive heart failure (CHF) is distinguished by ineffective myocardial functioning, which affects the body's blood supply, (CHF) and atrial arrhythmias are closely associated.Heart failure (HF) is a condition with a high rate of morbidity as well as mortality. On a global scale CHF is a life-threatening medical condition.Currently, the effort under way by relevant pharmaceutical research to develop effective CHF medications and to enhance the effects of medications that already exist corresponds to an improved alternative for this condition's prevention and treatment. Cardiovascular disease is without a doubt one of modern medicine's most difficult tasks. As the proportion of CVD patients rises, the researchers must create new medicinal approaches. The modern era methods disrupt multiple established pathological pathways in heart failure (HF); they provide the potential to enhance and/or improve current treatments, expanding both the survival and the prognosis rate of HF patients. The optimistic and hopeful results they have so far documented force the expansion of heart failure treatment outside the traditional approach. This study aims to provide an overview of modern methods, innovative perspectives, and potential avenues for HF treatment.

Keywords: congestive heart failure (CHF); cardiovascular disease (CVD); myocardial functioning; atrial arrhythmias; medicinal approach.

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AB-81

CURRENT TRENDS OF CHOLECALCIFEROL IN THE TREATMENT OF SKIN DISEASES

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Cholecalciferol, commonly known as vitamin D3, has emerged as a promising therapeutic agent in the field of dermatology, showcasing notable trends in the treatment of various skin diseases. This abstract provides a succinct overview of the current trends surrounding cholecalciferol-based interventions for skin ailments. Recent research has unveiled the multifaceted role of cholecalciferol in skin health, with studies demonstrating its immunomodulatory, anti-inflammatory, and antimicrobial properties. These attributes have positioned cholecalciferol as an effective adjunctive treatment for a spectrum of dermatological conditions, including psoriasis, atopic dermatitis, and acne. The increasing prevalence of vitamin D deficiency worldwide has heightened interest in leveraging cholecalciferol supplementation as a therapeutic strategy. Clinical trials have explored the efficacy of topical and oral cholecalciferol formulations, revealing encouraging results in improving skin barrier function, reducing inflammation, and promoting wound healing. Moreover, cholecalciferol's role in regulating the proliferation and differentiation of keratinocytes has garnered attention in the context of skin cancer prevention. Evidence suggests that maintaining optimal vitamin D levels may contribute to lower skin cancer risks, making it an area of active exploration. As the landscape of dermatological treatments evolves, the integration of cholecalciferol into skincare regimens represents a compelling avenue for both clinicians and researchers. This abstract encapsulates the dynamic nature of current trends in cholecalciferol utilization for skin diseases, emphasizing the need for further investigations to elucidate its full potential in dermatological therapeutics.

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NOVEL DRUG DELIVERY SYSTEM

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The goal of any drug delivery system is to provide a therapeutic amount of drug to the proper site in the body and then maintain the desired drug concentration. A well designed controlled drug delivery system can overcome some of problems of conventional therapy and enhance therapeutic efficacy of the given drug.

Novel drug delivery system is a novel approach to drug delivery that addresses the limitations of the traditional drug delivery systems. Our country has a vast knowledge base of Ayurveda whose potential is only being realized in the recent years. However, the drug delivery system used for administering the herbal medicine to the patient is traditional and out-of-date, resulting in reduced efficacy of the drug. If the novel drug delivery technology is applied in herbal medicine, it may help in increasing the efficacy and reducing the side effects of various herbal compounds and herbs.

Developing a new drug molecule is not only time-consuming and expensive, but also mostly a failing process. However, improving bioavailability, target ability, efficacy or safety of old drugs could be more effective way to use them in clinic. For these purposes, so many strategies including individualizing drug therapy, nanoparticle-based drug delivery systems, drug conjugates, therapeutic drug monitoring, stimuli-sensitive targeted therapy are investigated intensely. Depending on the desired application or targeted site, nanoparticles can be administrated as orally, locally, topically and systemically.

Keywords: Novel drug delivery, Ayurveda, conventional therapy, herbal medicine, nanoparticles.

【4D】

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AB-83

NANOTECHNOLOGY AND NOVEL DRUG DELIVERY SYSTEM IN TREATMENT OF TUBERCULOSIS

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Tuberculosis (TB) is currently the second deadliest infectious disease. Existing antitubercular therapies are long, complex, and have severe side effects that result in low patient compliance.

Nanotechnology is the science that deals with the processes that occurs at molecular level and of nanolength scale size. Nanotechnology has shown tremendous progress in many fields but in pharmaceutical fields are yet to be explored, although, it has powerful impact in various medical fields such as biophysics, molecular biology, bioengineering, cardiology, oncology, ophthalmology, endocrinology immunology etc. Nanotechnology provides intelligent system, devices and materials for better pharmaceutical applications.

In this context, nanosized drug delivery systems (DDSs) have the potential to optimize the treatment's efficiency while reducing its toxicity. Hundreds of publications illustrate the growing interest in this field. In this review, the main challenges related to the use of drug nanocarriers to fight TB are overviewed. Relevant publications regarding DDSs for the treatment of TB are classified according to the encapsulated drugs, from first-line to second-line drugs. The physicochemical and biological properties of the investigated formulations are listed. DDSs could simultaneously (i) optimize the therapy's antibacterial effects; (ii) reduce the doses; (iii) reduce the posology; (iv) diminish the toxicity; and as a global result, (v) mitigate the emergence of resistant strains.

Keywords: nanoparticles; drug nanocarriers; drug delivery systems; targeted delivery; host-directed therapy; physicochemical characterization; biodegradable polymers; tuberculosis; antitubercular treatment

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AB-84

A REVIEW ON PREFORMULATION STUDIES

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Understanding the physicochemical features of chemicals or biological entities that can affect their development into final products is critical at various stages of development. Pre formulation data is crucial for understanding the possible pharmacokinetics of medicine in humans and animals, as well as the opportunities and constraints for process change as the product is scaled up in production. Pre formulation studies are also carried out to anticipate the formulation's stability during manufacturing, transportation, and storage, and therefore to establish the marketed product's shelf life. The measurement of solubility and dissolution rate, molecular dissociation, pKa, diffusion, partition, and permeability, as well as how these might be included in a biopharmaceutical classification system, are all discussed in this review. Absorption and absorption of moisture Differential scanning calorimetric (DSC), thermo gravimetric analysis (TGA), and powder X-ray diffraction are used to classify hygroscopicity and evaluate polymorphism and crystallinity. Stress testing is used to evaluate the stability of active components and excipients in isolation and in combination, taking into account the effects of pH, temperature, humidity, light, and oxidizing agents. Finally, the characterization of powders and particle systems is discussed through the measurement of their fundamental and derived properties.

Keywords: Pre formulation, Shelf life, Crystallinity, X-ray diffraction.

【4F】

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NANOTECHNOLOGY AND NANOPARTICLES IN DIAGNOSIS AND DRUG DELIVERY SYSTEM FOR TREATMENT OF CANCER

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Nanosponges are tiny sponges that may circulate throughout the body and connect to the surface releasing the substance in controlled and predictable manner. The development of a nanosponges based drug delivery system has been a significant step forward in tackling some biopharmaceutical issues. Nanosponges are a polymer-based sphere that can be used for both oral and topical medication delivery. For targeted drug delivery, a wide range of pharmaceuticals can be placed into nanosponges. Another notable property is their aqueous solubility which allows them to be utilized more consistently for drugs with low solubility, enhancing bio-availability reducing drug toxicity and preventing drug degradation. The goal of this paper is to explain the general introduction, characteristics, method of preparation characterization and applications of nanosponges.

Keywords: Nanotechnology, Nanosponges, encapsulations, Bioavailability, novel drug delivery.

【4G】

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AB-86

BIOAVAILABILITY AND BIOEQUIVALENCE IN DRUG DEVELOPMENT

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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 becomes available at the site of drug action. The relative bioavailability in terms of the rate and extent of drug absorption is considered predictive of clinical outcomes. In 1984, the United States Food and Drug Administration (FDA) was authorized to approve generic drug products under the Drug Price Competition and Patent Term Restoration Act based on evidence of average bioequivalence in drug absorption through the conduct of bioavailability and bioequivalence studies. This article provides an overview (from an American point of view) of definition of bioavailability and bioequivalence, Fundamental Bioequivalence Assumption, regulatory requirements, and process for bioequivalence assessment of generic drug products. Basic considerations including criteria, study design, power analysis for sample size determination, and the conduct of bioequivalence trial, and statistical methods are provided. Practical issues such as one-size-fits-all criterion, drug interchangeability and scaled average criteria for assessment of highly variable drug products are also discussed.

Keywords: Bioavailability, Bioequivalence, Pharmacokinetic, Drug development.

【4H】

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AB-87

INNOVATION IN HERBAL FORMULATION

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Herbal medicines have been widely and more conventionally used worldwide since ancient times have been recognize by physician and patients for their therapeutic value as they have very less adverse effects as compared with other modern medicines. These are also called botanical medicine or phytomedicine. Seed, leaves,roots and bark etc. are commonly used to formulate herbal drug. Herbalism has a long tradition of use outside of conventional medicine. It is becoming more dominant to cure disease. An herbs is a plant part use for its flavor, or therapeutic properties. Herbal medicine are one type of dietary supplement. Innovation are new idea for the development of better formulation that meets new requirements, or existing market need.

Key word: Herbalism, Conventional, Suppliment, phytomedicine.

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AB-88

PHARMCOVIGILANCE: KEY FOR DRUG SAFETY MONITORING

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Pharmacovigilance is as a scientific parameters to describe the processes to monitor and evaluate ADRs and it is a fundamental component of effective drug regulation systems, clinical practice and public health programmes. The number of Adverse Drug Reactions (ADRs) reported resulted in an increase in the volume of data handled. To understand the pharmacovigilance, a high level of expertise and knowledge is required to rapidly detect drug risks and also to defend the product against an inappropriate removal. The current global network of pharmacovigilance centers, coordinated by the Uppsala Monitoring Centre, would be strengthened by an independent system of review and response. This would consider litigious and important drug safety issues that may be responsible to affect adversely the public health physically or mentally beyond national boundaries. Pharmacovigilance is an important and integral part of clinical research and these days it is growing in many countries. In this era,many pharmacovigilance centers are working for drug safety monitoring in this global pitch. In this review we will discuss about drug safety,ADRs, worldwide pharmacovigilance centers and their role, benefits and challenges of pharmacovigilance and its future consideration in healthcare sectors.

Keywords: Drug Safety, Pharmacovigilance

【4J】

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AB-89

FLAVONOIDS EXHIBIT NEUROPROTECTION AGAINST VARIOUS SCREENING MODELS OF PARKINSON'S DISEASE

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Parkinson's disease (PD) is a prominent area of study within the field of neurology, particularly neurodegenerative disease (ND). The peak incidence of PD occurs in those over the age of 45, and the disease's prevalence rises continuously with age, the incidence of PD has skyrocketed over the world. NDs are characterized by a slow decline in neural function, but the pathophysiological mechanisms behind this decline remain elusive. Because the pathophysiological mechanisms behind neurodegeneration are intricate, the clinical issue of finding efficient, multi-target treatments still exists. Furthermore, adequate neuroprotective medicines are currently scarce, necessitating the development of new therapeutic agents. There is currently no medicine for PD that is without side effects. The ability of natural flavonoids to lower the risk of PD has contributed to an increase in their popularity in recent years, models both in vivo and in vitro. The flavonoids are gaining critical attention in the management of PD due to the toxic effects of the synthetic drugs. flavonoids exert neuroprotective activity against experimental animal models of PD. It also exhibits protective activity against through ATG-7-dependent autophagic degradation of α-synuclein in transgenic mouse models. Therefore, the present study was designed to evaluate the therapeutic potential of flavonoids against various animal models of PD. The behavioral deficits of the animals due to dopaminergic toxicity were evaluated in actophotometer, OFT, bar catalepsy, narrow beam walk, rota-rod, grip strength and footprint analysis. In summary, flavonoids may be a potential adjuvant remedy or nutraceutical for the prevention and treatment of PD.

Keywords: Flavonoid, Parkinson's disease, neurodegeneration, pathogenesis.

【4K】

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AB-90

ANTIDIABETIC ACTIVITY OF FLAVONOIDS

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Diabetes mellitus (DM) poses a significant global public health issue owing to its widespread occurrence. It is a medical condition marked by consistently high levels of blood glucose resulting from either insufficient insulin production or impaired insulin function, which disrupts the normal metabolism of carbohydrates. Diabetes is a metabolic disorder marked by chronic high blood sugar levels, leading to severe complications including cardiovascular disease, nerve damage, kidney failure, and eye problems. This research aimed to clarify the mechanism of action of Traditional Chinese Medicines (TCM) in treating type II diabetes mellitus (T2DM). Flavonoids a subclass of polyphenolic compounds abundant in various plant derived sources for their potential antidiabetic properties in type 2 diabetes. The observed antidiabetic effects of flavonoids in this model are multifaceted. Apigenin, a flavonoid abundantly found in various fruits and vegetables, has exhibited diverse pharmacological activities. It has the potential to exert anti-diabetic activity through various mechanisms. Firstly, it has been studied for its ability to enhance insulin sensitivity, which is crucial for maintaining normal blood sugar levels. By improving insulin sensitivity, apigenin can be beneficial for individuals with diabetes. Additionally, apigenin possesses anti-inflammatory properties that can help reduce chronic inflammation. This is important because inflammation is associated with insulin resistance, a key factor in the development of type 2 diabetes. By reducing inflammation, apigenin may contribute to its potential anti-diabetic effects.

Keywords: Antidiabetic, Anti-inflammatory, Flavonoid, Apigenin

【4L】

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HERBAL PRODUCTS AS HEALTH FOODS

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The use of herbal products as health foods has gained significant popularity in recent years due to their perceived health benefits and natural origins. This Poster provides a comprehensive overview of the current understanding of herbal products, focusing on theircomposition, health effects, and regulatory considerations. Herbal products are derived from plants and are often used as dietary supplements or functional foods. They contain a variety of bioactive compounds, including polyphenols, flavonoids, and alkaloids, which have been shown to possess antioxidant, anti-inflammatory, and antimicrobial properties. Studies have suggested that regular consumption of herbal products may have a number of health benefits, such as improved digestion, immune function, and cardiovascular health. However, the efficacy and safety of these products can vary widely depending on factors such as the plant species, extraction method, and dosage. Regulatory bodies in many countries have established guidelines for the production and labeling of herbal products to ensure their quality and safety. These guidelines often include requirements for product testing, ingredient disclosure, and manufacturing practices. In conclusion, herbal products have the potential to be valuable additions to a healthy diet, but more research is needed to fully understand their effects and mechanisms of action. Regulatory oversight is essential to ensure the quality and safety of these products for consumers

【4M】

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A REVIEW ON NANOPARTICLES

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Nanoparticles are physical and chemical usually expensive and possibly hazardous in the environment. The evaluation of green chemistry or biological techniques for synthesizing metal nanoparticle from plant extracts has drawn the attention of many researchers. The literature on the green production of nanoparticles using various metals (i.e gold, silver, zinc, titanium and palladium) and plant extract are discussed. The generalized mechanism of nanoparticle synthesis involves reduction, stabilization, nucleation, aggregation and capping followed by characterization. During biosynthesis major difficulties often faced in maintaining structure, size and yield particles can be solved as temperature, pH and reaction period. Green nanotechnology using plant extract opens up new possibilities for the synthesis of novel nanoparticle with the desirable characteristic required for developing biosensor, biomedicine, cosmetic, nanotechnology and in electrochemical, catalytic, antibacterial, electronics and other application.

Keywords: biosynthesis, eco-friendly, nanoparticle, plant extract, researchers.

【4N】

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AB-93

FORMULATION AND EVALUATION OF HERBAL HAIR GEL CONTAINING FENUGREEK SEED OIL FOR IMPROVED HAIR GROWTH AND HEALTH

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Objective: The objective of research work was formulation and evaluation of herbal hair gel containing fenugreek seed oil for improved hair growth and health.

Materials and methods: The prepared coarsely powder of fenugreek seed was standardized with standard parameters. The ethanolic extract of fenugreek seed and oil was used for preparation of hair gel. The gel was prepared by using fenugreek seed, Potassium sorbate, Carbopol 940, Seed extract, PEG 400, Triethanolamine and Purified Water. The prepared hair gel was evaluated by using various parameters such as appearance, pH, consistency, homogeneity, viscosity etc.

Results and discussion: The moisture content of Fenugreek seed was determined to be 2.15% w/w and extractive value for aqueous solution was determined to be 9.10% w/w. The Fenugreek seed extract contained 1.04% w/w of foreign organic matter. The total ash content, acid insoluble ash content and water insoluble ash value, the loss on drying value of the Fenugreek seed extract was determined to be 8.2% w/w, 0.35% w/w, 4.02% w/w, 3.25% w/w. The optimized hair gel drug content was found in ranged from 72.35% to 77.05%, mucoadhesive strength varied from 5.25 N/mm2 to 7.50 N/mm2, indicating the ability of the gel to adhere to mucosal surfaces. The viscosity values ranged from 1625 cps to 1960 cps, reflecting the flow properties of the gel. Among the four formulations, Formulation-4 exhibited the highest percentage of drug release at all the time points, followed by Formulation-3, Formulation-2, and Formulation-1. The stability studies showed that the herbal hair gel formulations remained stable over the course of 30 days.

Conclusion: The formulations retained their smooth appearance, excellent extrudability, and consistent pH values, indicating their suitability for long-term use. There was no change in the formulation.

Keywords: Fenugreek seed, ethanolic extract, standardized, phytochemical tests

【40】

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AB-94

FORMULATION AND EVALUATION OF HERBAL ORODISPERSIBLE TABLETS FOR DYSPEPSIA PROBLEMS IN GERIATRIC PATEINTS

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Dyspepsia, a common gastrointestinal disorder characterized by upper abdominal discomfort, affects a significant proportion of geriatric patients, posing challenges in their management due to age-related physiological changes and polypharmacy. Herbal remedies offer a promising avenue for addressing dyspepsia, given their perceived safety and potential efficacy. This study focuses on the formulation and evaluation of herbal orodispersible tablets targeting dyspepsia in geriatric patients. Various herbal extracts known for their gastroprotective and digestive properties were incorporated into the tablet formulation using suitable excipients. The tablets were evaluated for physicochemical properties, including weight variation, hardness, friability, disintegration time, and drug content uniformity. In vitro dissolution studies were conducted to assess the release profile of the active ingredients. Furthermore, compatibility studies between herbal extracts and excipients were performed to ensure formulation stability. Preclinical studies investigating the acute oral toxicity and pharmacological efficacy of the formulated tablets were also conducted. The results of the formulation and evaluation process provide valuable insights into the feasibility and potential effectiveness of herbal orodispersible tablets for managing dyspepsia in geriatric patients. This research contributes to the development of safe and efficacious herbal formulations tailored to the unique needs of the elderly population, thereby offering a holistic approach to the management of gastrointestinal disorders in geriatric care.
Keywords: Dyspepsia, gastrointestinal disorder, orodispersible, compatibility.

【4P】

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AB-95

NSAID LOADED NANOCARRIER BASED GEL CONTAINING EUCALYPTOL: FABRICATION, CHARACTERIZATION & EX-VIVO STUDY

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Nanocarriers discovered include polymer conjugates, polymeric nanoparticles, lipid-based carriers, dendrimers, carbon nanotubes, and gold nanoparticles. Lipid-based carriers include both liposomes and micelles. Examples of gold nanoparticles are gold nanoshells and nanocages. Different types of nanomaterial being used in nanocarriers allows for hydrophobic and hydrophilic drugs to be delivered throughout the body. Since the human body contains mostly water, the ability to deliver hydrophobic drugs effectively in humans is a major therapeutic benefit of nanocarriers. Micelles are able to contain either hydrophilic or hydrophobic drugs depending on the orientation of the phospholipid molecules.Some nanocarriers contain nanotube arrays allowing them to contain both hydrophobic and hydrophilic drugs.

Nanocarriers are useful transport agents due to their small size and the ability to modify physical characteristics such as the charge and shape to carry therapeutic agents to tissues. Nanocarriers include agents such as nanoparticles, dendrimers, and polymeric or lipid-based carriers like liposomes . Nanocarriers function by serving as a transport carrier that determines the pharmacokinetics of transport and distribution instead of the active drug. The advantages of using nanocarriers include protection against the degradation of active drugs, allowing for higher and more efficient concentrations in the target tissue, as well as a decrease in the severity of undesirable toxic side effect.

Keywords: Nanocarrier, nanoparticle, dendrimers, liposomes.

【4Q】

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AB-96

EFFECT OF ALANTOLACTONE ON ABROGATED EFFECT OF ISCHEMIC PRECONDITIONING IN HYPERLIPIDAEMIC RATS

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Ischemic preconditioning (IPC), a cardioprotective phenomenon against ischemia reperfusion injury caused myocardial infarction. This beneficial effect gets attenuated during disease condition like hyperlipidaemia due to opening of mitochondrial permeability transition pore. Alantolactone (AL) is a compound which is present in *Inula racemose* Hook shows potential effect in terms of restoring effect of IPC mediated cardioprotection in hyperlipidaemic rats. The restoring effect may be calculated in terms of reduce in the level of LDH, CKMB, PI3K and Myocardial Infarct size determination. The mechanism behind the restoration is inhibition of MPTP opening which is further evaluated in terms of the amount of formazan formation. The Cardioprotective effect is also measured in terms of oxidative stress markers such as SOD, CAT and GSH level. Alantolactone restores the IPC mediated cardioprotection in hyperlipidaemic rat hearts by inhibiting the opening of MPTP opening. Hence the use of AL may play beneficial role in IPC mediated cardio-protection in patients with hyperlipidaemia.

Keywords: Ischemic preconditioning, Alantolactone, Mitochondria, Oxidative stress

【4R】

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AB-97

RECENT INNOVATIONS IN PHARMACEUTICAL CHEMISTRY: A COMPREHENSIVE OVERVIEW

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Pharmaceutical chemistry stands at the forefront of modern medicine, continuously evolving to meet the growing demands for novel therapeutics, drug delivery systems, and diagnostic tools. One of the notable advancements is the emergence of precision medicine, enabled by breakthroughs in genomics, proteomics, and personalized diagnostics. This paradigm shift towards targeted therapies has revolutionized the treatment of various diseases, including cancer, cardiovascular disorders, and rare genetic conditions. The development of companion diagnostics and biomarker-based assays has facilitated patient stratification, allowing for tailored treatment regimens and improved clinical outcomes. Moreover, the field of pharmaceutical chemistry has witnessed remarkable progress in the design and synthesis of small molecule therapeutics. Rational drug design approaches, such as structure-based drug discovery and computer-aided molecular modeling, have expedited the identification of lead compounds with enhanced potency, selectivity, and safety profiles. Furthermore, the advent of novel synthetic methodologies and bioconjugation techniques has enabled the synthesis of complex drug molecules and prodrugs, expanding the chemical space for drug discovery efforts. Nanotechnology-based drug delivery platforms, including liposomes, polymeric nanoparticles, and dendrimers, have emerged as promising strategies for targeted drug delivery and controlled release. Additionally, the development of implantable devices, microneedle patches, and biocompatible scaffolds has opened new avenues for localized drug delivery and tissue engineering applications.

Keywords: Precision medicine, Drug discovery, Targeted therapies, Companion diagnostics, Biomarkers

【4S】

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AB-98

IMPORTANCE OF RP HPLC IN ANALYTICAL METHOD DEVELOPMENT

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Chromatography, although primarily a separation technique, is mostly employed in chemical analysis in which High-performance liquid chromatography (HPLC) is an extremely versatile technique where analysts are separated by passage through a column packed with micrometer-sized particles. Now a day reversed-phase chromatography is the most commonly used separation technique in HPLC. The reasons for this include the simplicity, versatility, and scope of the reversed-phase method as it is able to handle compounds of a diverse polarity and molecular mass. Reversed phase chromatography has found both analytical and preparative applications in the area of biochemical separation and purification. Molecules that possess some degree of hydrophobic character, such as proteins, peptides and nucleic acids, can be separated by reversed phase chromatography with excellent recovery and resolution. This review covers the importance of RP-HPLC in analytical method development and their strategies along with brief knowledge of critical chromatographic parameters need to be optimized for an efficient method development.

Keywords- Reversed-phase, Hydrophobic, Resolution, RP-HPLC, Strategies

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AB-99

METAL ORGANIC FRAMEWORK AND THEIR BIODEGRADABLE COMPOSITES CONTROLLED DELIVERY OF ANTIMICROBIAL DRUGS

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Antimicrobial resistance (AMR) refers to the development of resistance by microbial parasite against antimicrobial drugs . This is day by day becoming a global crisis with exceeding number of untreatable bacterial infection . It can be predicted that AMR will be the major cause of mortality by the year 2050. Although there are many researches going on the effect on preventive strategies and infection control. however the development of new therapeutics drugs and medication is a long and lengthy process. Therefore on parallel to it there is going on world wide practices on development on material for optimise drug delivery to improve efficacy and minimizing AMR. For example the research are going on in the development of functionilizating the surface so that they can become self disinfecting or non-fouling and the development of nano particles with antimicrobial properties attributed to their ability to damage numerous essential component of pathogen . in this field there is a new invention of material that is Metal organic frame works , they are used as the carrier of antimicrobial agents , because of their ultrahigh porosity and modular structure which can be made to control the delivery mechanism of loaded drug . They are biodegradable polymer and are healthy antimicrobial carrier. Metal organic frameworks are a class of compounds that consist of inorganic and organic secondary building units. This metal frame work has zero side effect on body.

Keywords: Antimicrobial resistance, polymer, drug delivery, composite, biodegradable.

【4U】

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AB-100

NANOPARTICLE-BASED ORAL DRUG DELIVERY SYSTEMS TARGETING THE COLON FOR TREATMENT OF ULCERATIVE COLITIS

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Inflammatory bowel disease (IBD), including Crohn's disease (CD) and ulcerative colitis (UC), is characterized by chronic relapsing inflammation of the gastrointestinal tract. Delivery of orally administered drugs to the colon is highly desirable for the treatment of UC, as it improves their efficacy while reducing systemic toxicity. However, the targeting of oral drugs to the colon, which is located at the distal end of the gastrointestinal tract, is difficult due to physiological challenges, biochemical barriers, and environmental barriers, including those associated with mucus and epithelium. Recent preclinical studies have indicated that nanoparticle-based drug delivery systems (DDS) may be promising tools for targeted delivery to the colon, with potentially effective outcomes in the treatment of UC. This review highlights general considerations and limitations for oral drug delivery to the colon. Further, this review provides a systematic evaluation of synthetic nanoparticle-based DDS, and emerging naturally derived nanoparticles (eg, extracellular vesicles and plant-derived nanoparticles). These novel nanoparticle-based treatment strategies for UC may offer the opportunity for the practical translation of nanoparticle formulas into the clinic. Keywords: IBD therapy, ulcerative colitis, nanoparticles, oral drug delivery systems.

【4V】

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AB-101

BIOAVAILABILITY ENHANCEMENT TECHNIQUES OF ANTI-TUBERCULOSIS DRUGS

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Tuberculosis (TB) is one of the widespread, fatal diseases caused by Mycobacterium tuberculosis complex affecting human population. However, infection by the organism does not necessarily lead to disease and only 5-10% of these individuals will progress to active disease each year (WHO 2007). 10% people infected with TB bacteria have a lifetime risk of falling ill with TB. The World Health Organization (WHO) estimates that globally there were 9.4 million cases of active TB leading to 1.3 million deaths. However, lives can also be saved with effective diagnosis and treatment. This review focuses firstly on the occurrence and prevalence of this disease, secondly, on ways of its diagnosis and treatment, thirdly on the new tuberculosis drugs under development and lastly on the various bioavailability enhancement approaches which are under process so that the problem of poor/variable bioavailability of drugs, in particular, in fixed dose combinations (FDC's) or due to their enhanced decomposition in stomach acidic conditions etc can be minimized.

Keywords: Bioavailability enhancement, Anti tuberculosis drugs, Bioenhancement techniques, Anti TB bioavailability enhancement

【4W】

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AB-102

FORMULATION AND IN VITRO EVALUATION OF CURCUMIN NANOGEL FORMULATIONS FOR WOUND HEALING

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The aim of this study was to fabricate biodegradable nanogels containing curcumin to alleviate the current shortcomings in wound healing treatment. Curcumin nano-formulations were developed using the Plackett-Burman design method. The effects of different independent treatment variables were studied on the dependent response variables. Pre-formulation studies and in vitro evaluation of solubility, viscosity, particle size, zeta potential, drug content uniformity, surface pH, swelling index and in vitro drug release have been conducted. Additionally, solid-state characterization of the nanogels was performed by FTIR, XRD and SEM. Solid-state characterization of the formulation showed that CUR was physicochemically compatible with other excipients and that CUR was trapped in an amorphous form within the smooth and homogeneous nanoformulations. In vitro drug release results demonstrated the ability of the developed nanogel to deliver drugs to the site of action for a long time.

【4X】

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AB-103

PHARMACOGENOMICS: TRANSFORMING PERSONALIZED HEALTHCARE

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Pharmacogenomics is the cutting edge of personalized medicine; it is the study of how a person's genetic composition affects how they respond to medications. This study examines the noteworthy advancements in pharmacogenomic research and emphasizes how this field has the potential to completely transform the provision of healthcare. Pharmacogenomics helps doctors to customize treatment plans for each patient, maximizing therapeutic results while reducing side effects, by identifying genetic variants that affect medication metabolism, efficacy, and adverse reactions. More effective and efficient healthcare delivery is possible with the incorporation of pharmacogenomic data into clinical practice, especially in areas like cardiology, psychiatry, and oncology. There are still issues to be resolved, such as the requirement for standardized testing procedures, increased accessibility for genetic testing, and strong data demonstrating clinical utility. However, pharmacogenomics guided therapy is starting to become more widely used as a result of technological developments and increased provider understanding. Pharmacogenomics has the potential to completely change medicine by bringing in an era of individualized treatment as research into the intricate relationship between genetics and drug response continues.

Keywords: Genetic Variations, Drug Response, Healthcare Delivery, Biomarkers, Drug Development, Clinical Impact, Therapeutic Outcomes

【4Y】

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AB-104

THE ROLE OF MEDICINAL NATURAL PLANTS IN THE TREATMENT OF LIVER DISEASES.

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Liver diseases pose a significant global health burden, with causes ranging from viral infections to metabolic disorders and environmental toxins. Despite advances in conventional medicine, the search for effective and safe treatments remains a priority. Medicinal plants have long been utilized in traditional medicine systems worldwide for various ailments, including liver disorders. Through an extensive survey of literature, both ancient and modern, this review identifies a plethora of medicinal plants with hepatoprotective properties. These plants contain bioactive compounds such as flavonoids, polyphenols, terpenoids, and alkaloids, which exhibit antioxidant, anti-inflammatory, antiviral, and hepatocyte-regenerating effects. Notable examples include Silybum marianum (milk thistle), Glycyrrhiza glabra (licorice), Curcuma longa (turmeric), Picrorhiza kurroa, and Phyllanthus niruri, among others. The mechanisms underlying the hepatoprotective effects of these plants involve scavenging of free radicals, modulation of inflammatory pathways, inhibition of viral replication, enhancement of liver regeneration, and promotion of bile secretion. Moreover, several clinical trials and experimental studies have demonstrated the efficacy of herbal preparations derived from these plants in ameliorating liver function markers, reducing liver inflammation, and preventing liver damage in various liver diseases, including hepatitis, cirrhosis, and non-alcoholic fatty liver disease (NAFLD). The synergistic effects observed in herbal combinations highlight the potential of multi-herbal formulations in liver disease management. However, challenges such as standardization of herbal products, quality control, and potential herb-drug interactions warrant careful consideration.

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AB-105

MOLECULAR SIGNALING PATHWAYS TARGETED BY PHYTOCHEMICALS IN CANCER CHEMOTHERAPY: A COMPREHENSIVE REVIEW

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Cancer remains a significant global health burden, necessitating the exploration of alternative therapeutic strategies. Phytochemicals, bioactive compounds derived from plants, have emerged as promising candidates for cancer chemotherapy due to their diverse molecular mechanisms and relatively low toxicity profiles. This abstract provides an overview of the molecular signaling pathways targeted by phytochemicals in cancer therapy. Phytochemicals exert their effects through modulation of key signaling pathways involved in cancer cell proliferation, survival, angiogenesis, and metastasis. These pathways include PI3K/Akt/mTOR, NF-κB, MAPK, and Wnt/β-catenin, among others. By interfering with these pathways, phytochemicals can induce apoptosis, inhibit proliferation, suppress angiogenesis, and enhance the efficacy of conventional chemotherapy. Furthermore, phytochemicals exhibit pleiotropic effects and can modulate the tumor microenvironment, contributing to their anticancer activity. Understanding the intricate interplay between phytochemicals and molecular signaling pathways holds promise for the development of targeted and personalized cancer treatments. In conclusion, harnessing the therapeutic potential of phytochemicals in cancer chemotherapy requires a comprehensive understanding of their molecular mechanisms of action. Further research elucidating the precise interactions between phytochemicals and signaling pathways will pave the way for the development of novel phytochemical-based therapies with improved efficacy and safety profiles for cancer patients.

Keywords: Cancer chemotherapy, phytochemicals, molecular signaling pathways, PI3K/Akt/mTOR, NF-κB, MAPK, Wnt/β-catenin, apoptosis, proliferation, angiogenesis.

【5A】

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AB-106

A COMPREHENSIVE REVIEW ON GYNAECOLOGICAL CANCER

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As one of the most prevalent types of cancer in women, gynaecological malignancies represent a significant public health concern. The majority of women report at advanced stages, which has a negative impact on the prognosis and clinical results. This is because cancer is not well-known, the pathology varies, and there are inadequate screening services in poor nations like India. One of the most prevalent cancers affecting Indian women is ovarian cancer and it has been on the rise in occurrence over the past few years. Cervical cancer, after breast cancer, is still the second most frequent malignancy in women, despite a downward trend. Important data in the field of gynecologic oncology has been published by numerous Indian researchers, spanning all disciplines including basic sciences, preventive oncology, pathology, radiological imaging, etc.

Keywords: Gynecological Cancer, Prevention and Treatment

【5B】

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AB-107

NOVEL DRUG DELIVERY SYSTEM: A REVIEW

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Nanotechnology has ultimately come into the domain of drug delivery. Nanosystems for delivery of drugs are promptly emerging science utilizing different nanoparticles as carriers. Biocompatible and stable nanocarriers are novel diagnosis tools or therapy agents for explicitly targeting locates with controllable way. Nanocarriers propose numerous advantages to treat diseases via site-specific as well as targeted delivery of particular therapeutics. In recent times, there are number of outstanding nanocarriers use to deliver bio-, chemo-, or immuno- therapeutic agents to obtain effectual therapeutic reactions and to minimalize unwanted adverse-effects. Nanoparticles possess remarkable potential for active drug delivery. Moreover, conjugation of drugs with nanocarriers protects drugs from metabolic or chemical modifications, through their way to targeted cells and hence increased their bioavailability. In this review, various systems integrated with different types of nanocarriers (inorganic. organic, quantum dots, and carbon nanotubes) having different compositions, physical and chemical properties have been discussed for drug delivery applications. Keywords: Nanotechnology, Nanocarriers, nanotubes, drug delivery applications.

【5C】

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AB-108

CARDIOVASCULAR DISEASE: A REVEIW

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Cardiovascular disease, including stroke, is the leading cause of illness and death through out the world. There are an estimated 62 million people with cardiovascular disease and 50 million people with hypertension in this country. In 2000, approximately 946,000 deaths were attributable to cardiovascular disease, accounting for 39 percent of all deaths in the United States.2- Epidemiologic studies and randomized clinical trials have provided compelling evidence that coronary heart disease is largely preventable.3- However, there's evidence suggesting a genetic link to the disease. In this review, I'll discuss what we currently know about genetic factors in cardiovascular disease, and how future genetic discoveries can improve patient care. Keywords: Strock, Hypertension, Low-density lipoprotein cholesterol, Coronary artery disease.

【5D】

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AB-109

A SYSTEMATIC REVIEW OF NEURODEGENERATIVE DISEASE AND ITS MANAGEMENT

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Parkinson's disease (PD) is a neurodegenerative disorder that affects many people. While a variety of non-motor manifestations may occur, the typical clinical characteristics include a mobility disorder characterized by dyskinesia, resting tremor, and rigidity, with spasticity developing later. The cause of Parkinson's disease is unknown, but several genetic risk factors and several genes that cause rare familial forms of the disease have now been identified. Environmental factors such as tobacco smoke, coffee intake, and exposure to toxic substances have been proposed to alter the risk of Parkinson's disease development, while their function remains unknown. The movement problem is caused by the death of dopaminergic neurons in the substantia nigra pars compacta, with intracellular aggregation of -synuclein in the form of Lewy bodies and Lewy neurites being the pathogenic hallmark. Sleep difficulties are widespread in Parkinson's disease (PD), as reported by nearly two-thirds of PD patients. They are characterized clinically as disorders of the beginning and continuation of sleep, hypnagogic hallucinations, and severe daytime drowsiness SDD. DIMS is caused by degenerative changes in the CNS that affect sleep regulation centers, the persistence of daytime PD related symptoms into the night, concurrent mental health disease, instability of circadian rhythms, and the effects of signal transduction pathways (and other) medication on circadian rhythm. This review gives detailed information about the manifestations and clinical approaches in treating PD and also focuses on the preferential signs and symptoms associated with the incurring stage of the disease.

Keywords: Motor Dysfunction, Dopaminergic Neuron, synuclein, Supranuclear Atrophy, Neurodegeneration

【5E】

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AB-110

FIBER BASED SCAFFOLDING SYSTEM FOR TREATING DIABETIC FOOT ULCER

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Diabetic foot ulcers (DFUs) are one of the main complications of diabetes and are characterized by their complexity and severity, which are frequently aggravated by overexpressed inflammatory factors and polymicrobial infections. Most dressing systems offer a passive action in the treatment of DFUs, being frequently combined with antibiotic or immunomodulatory therapies. However, in many instances due to these combined therapies' inability to properly fight microbial presence, and provide a suitable, breathable and moist environment that is also capable of protecting the site from secondary microbial invasions or further harm, aggravation of the wound state is unavoidable and lower limb amputations are necessary. Considering these limitations and knowing of the urgent demand for new and more effective therapeutic systems for DFU care that will guarantee the quality of life for patients, research in this field has boomed in the last few years. In this review, the emerging innovations in DFU dressing systems via fiber-based scaffolds modified with bioactive compounds have been compiled; data focused on the innovations introduced in the last five years (2017–2022). A generalized overview of the classifications and constraints associated with DFUs healing and the bioactive agents, both antimicrobial and immunomodulatory, that can contribute actively to surpass such issues, has also been provided.

Chronic wounds such as diabetic ulcers often require specialized medical protocol and attention to prevent life-changing complications in affected individuals. Though conventional wound management strategies continue to find use, there are still opportunities for innovative improvements that can optimally accelerate the wound restoration process. Researchers have identified nanofibrous scaffolds as a potential solution to this quest because they have been shown to produce desirable outcomes in the management of diabetic wounds. Thus, further exploration of these novel matrices for minimizing the complications associated with such chronic injuries is beneficial.

Keywords: Diabetic foot ulcers, antimicrobial, immunomodulatory.

【5F】

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AB-111

APPROPRIATE USE OF ANTIBIOTICS

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The misuse and overuse of antibiotics have led to a global crisis of antibiotic resistance, posing a significant threat to public health. Addressing this crisis necessitates a multifaceted approach, with a central focus on promoting the appropriate use of antibiotics. This abstract outlines key strategies and interventions aimed at achieving this imperative goal. Firstly, enhancing public awareness and understanding of antibiotics is paramount. Education campaigns targeting both healthcare professionals and the general public can help dispel misconceptions about antibiotics, emphasizing their proper use and the consequences of misuse. Additionally, empowering healthcare providers with tools such as clinical guidelines and decision support systems can aid in promoting evidence-based prescribing practices. Furthermore, implementing antimicrobial stewardship programs in healthcare facilities is crucial for optimizing antibiotic use. These programs involve multidisciplinary teams working to ensure the judicious use of antibiotics through interventions such as formulary restrictions, pre-authorization requirements, and prospective audit and feedback. In the community setting, promoting alternatives to antibiotics, such as symptom management and prevention strategies, can reduce unnecessary antibiotic prescriptions for conditions where they offer little benefit. Moreover, fostering collaborations between healthcare sectors, including human health, animal health, and agriculture, is essential for addressing the interconnectedness of antibiotic use across various domains .In conclusion, promoting appropriate antibiotic use requires a comprehensive approach involving education, stewardship programs, and collaborative efforts across sectors. By implementing these strategies, we can mitigate the threat of antibiotic resistance and safeguard the efficacy of these vital medicines for future generations.

Keywords: Antibiotics, antimicrobial, misuse, alternatives, resistance

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AB-112

SYNTHESIS OF NANOPARTICLES BY GREEN SYNTHESIS METHOD

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In order to highlight the mutually beneficial relationship between nanotechnology and nanobiotechnology, nanoparticles must provide eco-friendly methods for producing nanomaterials and biosynthesis. Fungi, plants, and microorganisms can all be utilised as biodegradable ingredient for this fieldwork as an agent. As a result, a straightforward, quick, and environmentally friendly approach for creating nanoparticles might be developed. Different approaches are employed in the production of nanoparticles. Because of surface modification, the addition of toxic substances for stability, the reduction of metal ions, and the formation of hazardous byproducts, physicochemical procedures have historically raised worries about the environment. When creating nanoparticles by the addition of chemical and physical techniques under high pressure and temperature, as well as the reduction and stabilization of agents.

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AB-113

NANOMEDICINE IN HEALING CHRONIC WOUNDS: OPPORTUNITIES AND CHALLENGES

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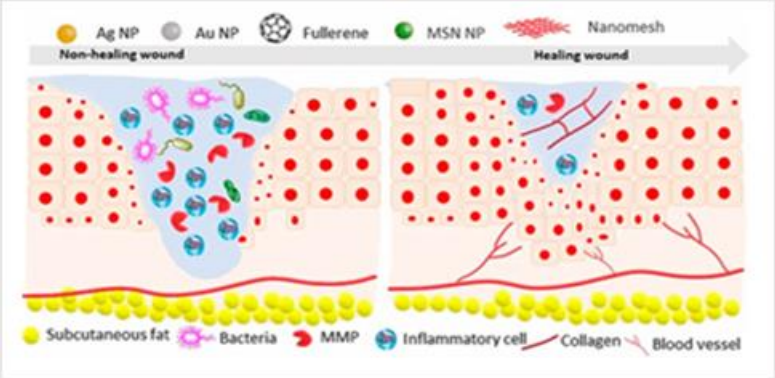
The poor healing associated with chronic wounds affects millions of people worldwide through high mortality rates and associated costs. Chronic wounds present three main problems: First, the absence of a suitable environment to facilitate cell migration, proliferation, and angiogenesis; second, bacterial infection; and third, unbalanced and prolonged inflammation.



Unfortunately, current therapeutic approaches have not been able to overcome these main issues and, therefore, have limited clinical success. Over the past decade, incorporating the unique advantages of nanomedicine into wound healing approaches has yielded promising outcomes. Nanomedicine can stimulate various cellular and molecular mechanisms involved in the wound microenvironment via antibacterial, anti-inflammatory, and angiogenetic effects, potentially reversing the wound microenvironment from nonhealing to healing. This review briefly discusses wound healing mechanisms and pathophysiology and then highlights recent findings regarding the opportunities and challenges of using nanomedicine in chronic wound management. Keywords: chronic wounds, nanomedicine, chronic inflammation, angiogenesis, infection.

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AB-114

AN OVERVIEW OF PARKINSON'S DISEASE SYSTEMS

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The diagnosis and treatment of Parkinson's disease are difficult, despite the fact that it is a prevalent movement problems observed in neurological practise. Considering that PD patients have a wide range of motor and non-motor symptoms, the diagnosis is clinical and occasionally challanging. Levodopa is the primary medication used to treat PD patients, which makes medical management challenging. Levodopa – treated Parkinson's patients, however, frequently have Levodopa induced dyskinesia (LID). However, in rare occasions, this adverse effect may appear even after only a few days or months of treatment. This side effect is often experienced after a lengthy course of therapy. In PD patients who cannot be controlled by drugs alone, several surgical procedures, including as unilateral pallidotomy and Deep brain stimulation, have had excellent outcomes.

Keywords: Deep brain stimulation, dopaminergic drugs, Parkinson's disease.

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AB-115

DRUG METABOLISM AND DEPOSITION

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Drug metabolism and deposition are crucial processes that determine the fate of pharmaceutical compounds within the human body. This chapter aims to explore the intricate mechanisms involved in drug metabolism, emphasizing the role of various enzymes and pathways. Additionally, we will delve into the significance of drug deposition in different tissues and organs, impacting drug efficacy and safety. A comprehensive understanding of drug metabolism and deposition is vital for optimizing drug development and personalized medicine.

Keywords: drug metabolism, drug deposition, phase I metabolism, phase II metabolism, cytochrome P450, drug biotransformation, genetics, drug response.

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AB-116

THE ROLE OF NANOTECHNOLOGY IN ADVANCING SCIENCE AND TECHNOLOGY

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Nanotechnology, a multidisciplinary field at the intersection of physics, chemistry, biology, and engineering, has emerged as a pivotal force in revolutionizing various sectors of science and technology. This abstract explores the significant role of nanotechnology in enhancing materials, medicine, electronics, and environmental sustainability. At the nanoscale, materials exhibit unique physical, chemical, and biological properties, enablingthe development of advanced materials with tailored functionalities. In medicine, nanotechnology offers precise drug delivery systems, diagnostics, and therapeutics, revolutionizing disease treatment and management. Furthermore, nanoelectronics promise faster, smaller, and more energy-efficient devices, driving innovation in computing and communication technologies. Nanotechnology also contributes to environmental sustainability through applications such as efficient energy production, pollution remediation, and water purification. However, alongside its transformative potential, nanotechnology raises concerns regarding environmental impacts, health risks, and ethical considerations, necessitating responsible research, regulation, and public engagement. Overall, nanotechnology stands as a cornerstone of scientific and technological progress, poised to shape the future landscape of innovation and societal development.

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AB-117

A COMPARATIVE QUALITATIVE ANALYSIS OF REDUCING AND NON-REDUCING SUGARS

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The qualitative analysis of reducing and non-reducing sugars is essential for various fields, including food science, biochemistry, and clinical diagnostics. This study aims to comparatively analyze these two types of sugars through various chemical assays and techniques. Reducing sugars, such as glucose and fructose, possess a free aldehyde or ketone group that can undergo reduction reactions, while non-reducing sugars, exemplified by sucrose, lack such groups. This research investigates methods for distinguishing between these categories, including Benedict's test, Fehling's test, and Tollen's test for reducing sugars, as well as hydrolysis techniques to convert non-reducing sugars into reducing forms. The qualitative analysis involves visual observations, color changes, and precipitation reactions. Additionally, modern spectroscopic and chromatographic techniques are employed to enhance sensitivity and specificity. The results provide insights into the characteristics and behavior of reducing and non-reducing sugars, facilitating their identification and quantification in various applications. Understanding these differences is crucial for fields like food processing, diabetes management, and carbohydrate metabolism studies. Further advancements in analytical methods hold promise for improving the accuracy and efficiency of sugar analysis in diverse scientific domains.

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AB-118

A REVIEW ON CARDIOVASCULAR DRUGS AND THEIR TOXICITY

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Cardiovascular diseases are a leading cause of morbidity and mortality in most developed countries of the world. Pharmaceuticals, illicit drugs, and toxins can significantly contribute to the overall cardiovascular burden and thus deserve attention. The present article is a systematic overview of drugs that may induce distinct cardiovascular toxicity. The compounds are classified into agents that have significant effects on the heart, blood vessels, or both. The mechanism(s) of toxic action are discussed and treatment modalities are briefly mentioned in relevant cases. Due to the large number of clinically relevant compounds discussed, this article could be of interest to a broad audience including pharmacologists and toxicologists, pharmacists, physicians, and medicinal chemists. Particular emphasis is given to clinically relevant topics including the cardiovascular toxicity of illicit sympathomimetic drugs (e.g., cocaine, amphetamines, cathinones), drugs that prolong the QT interval, antidysrhythmic drugs, digoxin and other cardioactive steroids, beta-blockers, calcium channel blockers, female hormones, nonsteroidal anti-inflammatory, and anticancer compounds encompassing anthracyclines and novel targeted therapy interfering with the HER2 or the vascular endothelial growth factor pathway.

Keywords: Mortality, Morbidity, Toxicity, cardiovascular diseases.

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FORMULATION AND EVALUATION OF POLYHERBAL GEL

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The skin is the largest organ of the body, accounting for about 15% of total adult body weight. It performs many vital functions, including protection against external, physical, chemical and biological assailants, as well as prevention of excess water loss from the body and role in thermoregulation. The skin is continuous, with the mucous membranes lining the body's surface. Among various changes, dryness, roughness and pimples aremost common. The pathogenesis of this is bacterial over growth and inflammation. To overcome this problem the use herbal remedies such as neem, aloe vera, turmeric lemon gel has been formulated. Polyherbal extract, Cleansing activity. The present project has been undertaken with the aim to formulate and evaluate of polyherbal gel containing Neem (Azadirachta indica A.Juss, Meliaceae), Turmeric (Curcuma longa L., Zingeberaceae), Aloe (Aloe vera (L.) Burm.f., Asphodelaceae),) and Lemon extract (Citrus limon (L.) Osbeck., Rutaceae) as a cleansing agent, anti-acne and skin nourishing. Natural remedies are more acceptable in the belief that they are suffer with fewer side effects than the synthetic ones. Herbal formulation has growing demand in the world market. The plant has been reported in literature having good antimicrobial, anti-inflammatory, refreshing activity, cleansing agent and anti-oxidant. formulations are prepared by using varied concentration of extract prepared formulation where evaluated for various parameters like colour, appearance, consistency, washability, pH and Spreadability, Extrudabilty, skin irritation and compared with marketed formulation. It has wide spectrum of antioxidant activity against acne prone skin. The prepare gel is formulated by using carbopol- 934 as gelling agent, herbal extracts are the medicinal agents in formulation. Polyethylene glycol used as a co-solvent, propyl- paraben as a preservative and required quantity of distilled water as a vehicle. On the basis of the results obtained in the present study we conclude that the gel formulation of polyherbal contents showed good activities towards the declared evaluations.

Keywords- turmeric extract, lemon extract, Neem juice, Carbopol-934, Antioxidant activity.

【50】

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THERAPEUTIC DRUG MONITORING: A COMPREHENSIVE OVERVIEW

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Therapeutic Drug Monitoring (TDM) is an integral component of modern medicine aimed at optimizing drug therapy for individual patients. This comprehensive overview explores the significance, methods, clinical applications, challenges, and future prospects of TDM. TDM involves the measurement of drug concentrations in patients' blood or biological fluids to tailor drug dosages, maintain therapeutic windows, and detect non-adherence. Immunoassays, chromatographic techniques, and point-of-care testing are common methods for TDM. In clinical practice, TDM finds applications in psychiatry, infectious diseases, oncology, and immunology. Challenges include cost, sampling timing, and drug interactions. The future of TDM holds promise with therapeutic drug personalization, biosensors, wearable devices, and data integration using artificial intelligence.
Keywords: Therapeutic Drug Monitoring, drug concentrations, personalized medicine, immunoassays, chromatographic techniques, clinical applications, drug interactions, pharmacogenomics, biosensors, wearable devices, artificial intelligence.

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HYDROPONIC GREENHOUSES: REVOLUTIONIZING AGRICULTURE

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Hydroponic greenhouses are innovative agricultural structures that utilize water-based nutrient solutions instead of soil to grow plants. These greenhouses provide an optimized environment for plant growth, allowing for year-round cultivation and increased crop yields. By harnessing the power of water and nutrient-rich solutions, hydroponics offers a compelling alternative to traditional soil-based agriculture. One exciting application of hydroponic greenhouses is in the cultivation of microalgae. Microalgae require a significant quantity of nutrients for their growth, and they have biostimulant properties that enhance circularity and sustainability. Researchers have explored using hydroponic drainage solution from greenhouse crops to grow microalgae and then utilizing the resulting biomass as a source for biostimulant production. This innovative approach leverages wastewater from hydroponic greenhouses to produce valuable products like biostimulants, contributing to sustainable agriculture. In summary, hydroponic greenhouses are revolutionizing agriculture by providing an efficient and sustainable way to grow crops, and their potential extends beyond traditional plant cultivation to include microalgae-based biostimulant production.

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RAUWOLFIA SERPENTINE: TRANSDERMAL DRUG DELIVERY SYSTEM

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Rauwolfia serpentina also known as "Sarpgandha" (Indian Snakeroot) is now a day most widely used as an effective antihypertension drug. The root of rauwolfia serpentina is the natural source of alkaloid reserpine having antihypertensive and antipsychotic effects because of the traditional dosage form drug delivery system. We can't provide sustain release that must be necessary in any disease or disorder specifically in case of hypertension. This presentation it is presented about Transdermal Drug Delivery System of rauwolfia serpentina which provide a control release of rauwolfia serpentine from the patch.

Keywords: Rauwolfia serpentina, Reserpine, Antihypertension, Antipsychotic.

【5R】

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