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PHARMABIST- 2022

INTERNATIONAL CONFERENCE ON “PHARMAINNOVATIONS 2022”

Theme: Overcome the Challenges in Pharma Research

Date: 12 & 13 September 2022.

Venue: Pharmacy Seminar Hall,

FOP, BIHER,

Tambaram.



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**Organised by,
Faculty of Pharmacy,
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TOPIC: “Repurposing of Drugs; An Innovation in Drug Discovery”

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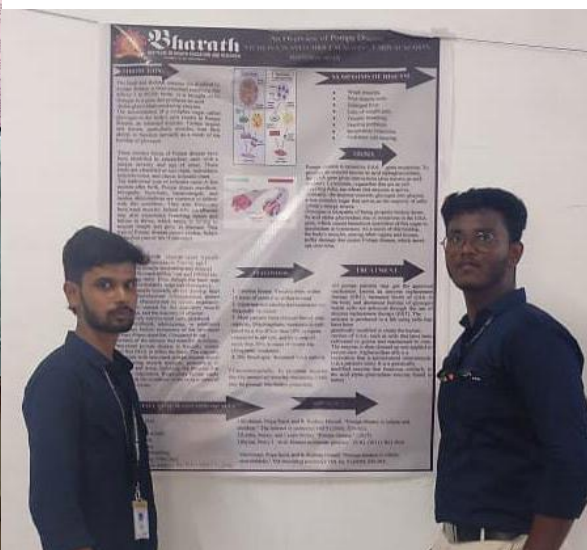
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1) PHARMACOKINETIC DRUG INTERACTION BETWEEN CLOPIDOGREL AND ESOMEPRAZOLE IN ADULT HEALTHY MALE VOLUNTEERS

G Divya Sree*, K Bhargav

Department of Pharmacy Practice, Sri Venkateswara College of Pharmacy, RVS Nagar, Chittoor – 517 127.

ABSTRACT

Proton pump inhibitors are known to impair Cytochrome P 2C19 mediated activation of clopidogrel, the anti-platelet agent used for cardiovascular risk prevention. Esomeprazole is an optical isomer of omeprazole with better efficacy and tolerability than conventional proton pump inhibitors. Esomeprazole is often co-administered with clopidogrel considering the risk of associated gastro intestinal bleeding. This study was designed to determine the effect of esomeprazole on the mean pharmacokinetic profile clopidogrel. Fourteen adult healthy male subjects who volunteered participation were enrolled, randomized equally into two cross-over sequences, dosed with clopidogrel and clopidogrel + esomeprazole in respective periods. Blood samples were collected through ante-cubital or forearm vein indwelling catheter. Concentration of clopidogrel parent prodrug in isolated plasma was determined using validated sensitive liquid chromatography – mass spectrometry. Pharmacokinetic modelling was carried out using PKSOLVER add in for Microsoft Excel. The pharmacokinetic profile of clopidogrel was non-significantly altered by esomeprazole. Statistically significant difference in peak plasma concentration, apparent volume of distribution and clearance of clopidogrel was observed only during period II in subjects co-dosed with esomeprazole (P Value = 0.0483, 0.0011 and 0.0015 respectively). All other primary and secondary pharmacokinetic parameters displayed minor alterations during either periods (P value<0.05). The non-significant alteration of clopidogrel pharmacokinetics by esomeprazole can be potentiated by underlying predisposing factors such as presence of *CYP2C19* allelic variants, increasing the risk of cardiovascular events. Hence co-administration of clopidogrel and esomeprazole should be under clinical monitoring and is not recommended in poor responders of anti-platelet therapy with clopidogrel.

Keywords: Clopidogrel, CYP2C19, Esomperazole, Enzyme Inhibition, Pharmacokinetics

2) ANTI –INFLAMMATORY ACTIVITY OF ETHANOLIC EXTRACT OF *CARICA PAPAYA* LEAF AND INDUCED EGG-ALBUMIN ON ALBINO RATS WITH STANDARD DRUG INDOMETHACIN

P. Premitha Rajya Lakshmi, U. Vara Lakshmi

ABSTRACT

The objective of this study was designed to isolate ethanolic extract as well as to observe anti-inflammatory activity of the leaf extract of *Carica papaya* (family: Caricaceae). The study includes Macerate extraction of the powdered leaves of the plant with ethanol, Filtration of the extract and solvent evaporation to get the ethanolic crude extract, formulate the extract into a suitable dosage form for its application perform Anti-inflammatory test of using paw induced oedema method for albino rats. The results of this study is the anti-inflammatory effect of carica papaya in egg albumin-induced paw oedema at the end of 3h significantly reduced paw volume compared to the control. The reference drug indomethacin inhibited the paw oedema by 53.64%. Thus, the anti-inflammatory effect of *Carica papaya* extract (200 mg/kg is higher than that of standard drug, indomethacin, 10 mg/kg. From the experimental results it was concluded that ethanolic extract of leaves of *Carica papaya* Linn, showed good anti-inflammatory activity of leaves against the albino rats and was compared with the standard drug indomethacin.

Keywords: carica papaya, oedima.

3) LIPID POLYMER HYBRID NANOPARTICLES - ROBUST COMBINATIONAL DRUG DELIVERY SYSTEM

MANASWINI BHAMIDIPATI, Dr. R. NAGARAJU ;

SRI PADMAVATHI MAHILA VISWA VIDYALAYAM

ABSTRACT

A new drug delivery system called Lipid Polymer Hybrid Nanoparticles (LPHNP'S), which combines the characteristics of both polymeric nanoparticles and liposomes, has been developed in Nanomedicine. The methods used to prepare hybrid nanoparticles have evolved from a two-step approach that involves preparing separate lipid layers and polymer solutions later for them to combine and form LPHNP'S to the most reliable one-step approach to self-assemble the hybrid nanoparticles. They can be layered with outer PEG lipid layers which helps to add ligands for targeted delivery. Recent developments on these hybrid nanoparticles open up a wide range of possibilities for targeted cancer therapy, vaccine preparation, gene encapsulation, co-delivery of drugs, etc. This potential drug delivery system includes high drug loading, exhibits tunable drug release, and exhibits stable surface functionality. Abundant research has been done on these hybrid nanoparticles in the therapy of cancer and for the co-delivery of certain drugs.

Keywords: LPHINP, PEG, NANOMEDICL

4) INVITRO EVALUATION OF ANTIULCER ACTIVITY OF ETHYLACETATE EXTRACT OF STRYCHNOS WALLICHIANA ROOTS

Swetha. Petlu*, Mojesh. S

Sri Padmavati Mahila Visvavidyalayam, Tirupati.

ABSTRACT

The objective of this study is to perform phytochemical screening and antiulcer activity of ethylacetate extract of roots of *Strychnos wallichiana* was tested by H⁺/K⁺ ATPase activity. The antiulcer activity was performed at five different concentrations ranging from 20 µg/ml, 40 µg/ml, 60 µg/ml, 80 µg/ml, 100 µg/ml. The phytochemical analysis of ethylacetate extract of *Strychnos wallichiana* showed positive results for alkaloids, steroids, Tannins and Phenolic compounds. The compound was compared with standard Omeprazole. The percentage inhibition of ethylacetate extract of *Strychnos wallichiana* increases in dose dependent manner and is nearly equal to the standard.

Keywords: H⁺/K⁺ ATPase, antiulcer.

5) A Review on The Seeds of *Nigella sativa* Possessing Anti-Obesity Property

Varsha R*, Malarkodi Velraj.

Department of Pharmacognosy, School of Pharmaceutical Sciences, VISTAS, Tamilnadu, Chennai-600117.

ABSTRACT

Nigella sativa has traditionally been known as a wonder herb with a wide spectrum of pharmacological properties such as anti-inflammatory, anti-cancer, diuretic, anti-hypertensive, analgesics, antioxidant, anti-obesity and antimicrobial properties. The purpose of this study is to review the reports of the seeds of *Nigella sativa* possessing Anti-Obesity properties and can be used in management of obesity. Obesity is a major risk factor leading to a number of chronic diseases. Obesity is associated with various health ailments like Diabetes mellitus, Heart disease, Osteoarthritis, breathing problems and Sleeping disorders. The common causes of Obesity are poor diet, lack of physical activity, calories intake. A healthy diet plays an important role in the prevention and treatment of obesity. The active phytochemical constituents present in the seeds of *Nigella sativa* helps in the reduction of body weight. The *In-vivo* studies conducted by the researchers, on observation show a considerable decrease in the body weight of the animals after they are treated with the extracts of *Nigella sativa* seeds. Hence it has been proven *Nigella sativa* is used in the treatment of metabolic disorders due to its hypoglycaemic, weight reducing, lipid-modifying effects. The use of natural products is gaining worldwide popularity and further mechanism of actions has to be explored for the miracle herb *Nigella sativa*.

Keywords: *Nigella sativa*, anti-obesity, antioxidant, black seeds

6) A systematic review of randomized controlled trials assessing the effect of vortioxetine on metabolic syndrome risk indicators in patients with depression

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Department of Pharmacy practice, Sri Ramachandra Faculty of Pharmacy
Sri Ramachandra Institute of Higher Education and Research (DU), Porur Chennai-116

ABSTRACT

The majority of antidepressants have been reported to cause metabolic syndrome (MetS). Paucity of information available for the effect of vortioxetine on MetS. The study aims to assess the effect of vortioxetine on depressive patients' blood pressure (BP), central obesity, fasting plasma glucose (FPG), triglycerides (TGs), and high-density lipoprotein (HDL) levels, which are risk factors for the MetS. The protocol has been registered with PROSPERO (CRD42021272614). Randomized controlled trials (RCTs) that evaluated the effect of vortioxetine on MetS risk indicators were searched in electronic databases. The primary outcome measure was change in any one of five indicators of MetS for depression patients receiving vortioxetine. The revised Cochrane risk of bias tool for RCTs was used to assess the risk of bias. Following the screening process, 8 RCTs (6 blinded and 2 open-label) were selected for systematic review. The MetS risk factors for vortioxetine treatment in depressed patients were ambiguous from the available research. However, 7 of 8 RCTs have shown that vortioxetine is an effective and safe treatment for depression. All the trials were methodological of high quality. A single study evaluating all the five MetS risk variables in depressed patients on vortioxetine therapy is needed before recommending vortioxetine as a first-line or switch therapy for depression.

Keywords: metabolic syndrome, metabolic risk parameters, serotonin modulator, major depressive disorder, antidepressant

7) DEVELOPMENT AND VALIDATION OF HPTLC METHOD FOR SIMULTANEOUS DETERMINATION OF PERINDOPRIL ARGININE AND AMLODIPINE BESYLATE IN BULK AND TABLET DOSAGE FORM

Anitha.B Murugan.S

Department of Pharmaceutical Analysis Adhiparasakthi College of pharmacy Melmaruvathur-603319 Tamil Nadu

ABSTRACT

A simple, selective, precise high-performance thin-layer chromatographic method for simultaneous determination of Perindopril arginine and Amlodipine besylate bulk and tablet dosage form was developed and validated. The method employed HPTLC aluminum plates precoated with silica gel 60F-254 (20×20cm) as the stationary phase. The mobile phase mixture of Methanol: Acetonitrile: Ammonia (7.8:2:0.2 v/v/v) as a developing system followed by spectro densitometric measurement of the bands at 230nm. Calibration curve was linear over the concentration range of 350-600ng/ml for Perindopril arginine and 490 – 840ng/ml for Amlodipine besylate. The suggested method was validated in compliance with the ICH guidelines parameters like Linearity, precision, accuracy, robustness and ruggedness

Keywords: HPTLC-High Performance Thin Layer Chromatographic

8) A COMPREHENSIVE REVIEW ON PHARMACEUTICAL AQUA GELS-

T. SAI SREE* and S. DIVYA THEJASWEE*

ABSTRACT

Hydrogels can be called as aqua gels. These are a distinctive class which is characterised by polymeric cross-linked three-dimensional networks that can incorporate specific fraction of aqueous solvents and biological fluids in their structures. Recently they have been used in research fields and having a wide range of applications including in the areas like; diagnostics, drug delivery systems, tissue engineering, imaging and optics. In recent days there are still many issues that affect drug delivery at which hydrogel may be one possible solution. Hence they are used in biomaterial preparation techniques and properties evaluation has extreme significance. There are many techniques which are used for the synthesis of hydrogels such as cross-linking of co-monomers using multifunctional co-monomer, which acts as a cross-linking agent and it also includes other technique like co-polymerization. For the treatment of major diseases we need large molecular weight proteins. As they are hydrophilic and possess polymeric network therefore they can incorporate large quantities of water. They are insoluble due to the presence of chemical and or physical cross-links such as crystallites etc. Natural hydrogels were gradually replaced by synthetic hydrogels due to their higher water absorption capacity, long shelf life, and wide range of raw materials. This article highlights and provides the information about all the aspects related to hydrogels including its structure, classification, synthesis, devices used for its delivery, advantages and disadvantages, application of these products etc.

Keywords: Hydrogels, Medical devices, Polymers, Cross linking agents, Polymerization, Drug delivery system.

9) EMERGING THERAPEUTIC STRATEGIES FOR THE TREATMENT OF UNGUAL ONYCHOMYCOSIS

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ABSTRACT

Dermatophytes frequently cause onychomycosis, which makes up 50% of all nail diseases, it affects approximately 2–8% of the worldwide population. It was generally thought of as a cosmetic issue, but recently attention has been drawn to it because it is chronic and difficult to cure owing to relapses. Treatment options are relatively restricted, mostly because of the deep-seated infection and impermeable nail. Onychomycosis is often treated with oral and topical therapies. Even though they are quite effective, oral antifungal medications are hepatotoxic and lead to drug interactions. Topical therapy has more patient compliance because it doesn't have these side effects, but it also has a drawback due to incorrect nail penetration. For many years, attempts have been made to improve topical administration for the effective treatment of onychomycosis. There have been uses of mechanical, physical and chemical approaches. Despite all the efforts undertaken, the nail delivery problems have not yet been fully resolved. For improved drug penetration and localised therapy, the emphasis has recently switched to innovative drug delivery technologies such as nanoparticles, microemulsions, polymeric films and nail lacquers. Their potential as viable treatment choices are being investigated through research conducted worldwide. This review attempts to investigate novel delivery techniques for treating a persistent fungus infection called onychomycosis.

Key words: nail penetration, Onychomycosis, localised therapy, novel approaches

10) Pharmaceuticals in the Environment and the Role of Ecopharmacovigilance

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ABSTRACT

Pharmaceuticals are widely used and has become inevitable in our lives. However the indiscriminate use of these compounds and their improper disposal inflicted severe damage on the environment. Pharmaceutical residues from human and animal wastes and flushed unused medications end up in water. Standard water treatment plants are not equipped to remove pharmaceuticals. A Membrane Bioreactor Plant is used to remove contaminants, bacteria and some pharmaceuticals. However it could not filter all, because there are so many different kinds. Every 5 years the Environmental Protection Agency (EPA) identifies up to 30 compounds that have no drinking water standards.

Ecopharmacovigilance can be defined as the science and activities concerning to detection, evaluation, understanding, and prevention of adverse effects of pharmaceuticals in the environment. Environment Risk-Assessment (ERA) has to be performed during the development of pharmaceuticals. This helps in minimizing the amount of medicinal wastes released into the environment by appropriate measures.

Keywords: Pharmaceutical residues, Membrane Bioreactor Plant, Environmental Protection Agency (EPA), Ecopharmacovigilance, Environmental Risk-Assessment (ERA).

11) LIPOSOMASAL DRUG DELIVERY SYSTEM

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ABSTRACT

When a lipid bilayer was hydrated, a self-forming enclosed lipid vesicle or liposome emerged. Liposomal drug delivery system has been crucial in development of powerful drugs that have improved therapeutics. Aiming to decrease toxicity and increase accumulation at the target region, liposome formulations have recently been developed. There are various novel techniques for making liposomes that are based regarding lipid medication interaction and liposome disposition mechanisms, such as how to slow down a liposome's quick clearance by regulating its particle size, charge, and surface hydration. The majority of therapeutic uses for liposomal drug delivery target tissue, wheather or not target recognition molecules are expressed on the lipid membrane. Liposomes are lipoidal vesicles that are actively being researched as medication carriers enhance the administration of medicinal medicines Several liposome-based medication formulations are currently undergoing clinical trials as a result of recent advancement in liposome technology, and some of them have recently received clinical use approval The chance to improve the therapeutic indices of numerous medication has arisen from the reformulation of pharmaceutical in liposomes.

Keywords: Lipid Medication, Lipoidal Vesicles, targeting site, hydration surface, liposomes,

12) NANOROBOTS – BRINGING SCIENCE FICTION TO REALITY IN DRUG DELIVERY

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ABSTARCT

Nowadays the medical field is shaping up with the most interesting discoveries. Nanotechnology is one such impressive technological tendency that has been highlighted by researchers in recent decades. Nanorobots are tiny biological machines that are expected to enable new treatments for patients suffering from different diseases and will result in a remarkable advance in the history of medicine. We can envision a day when you could inject billions of nanorobots that could float around in your body. Normally, drugs work through the entire body before they reach the disease-affected area and also may cause a release of the toxic compound while Nanorobots could solve this issue by making the drug protective to get delivered to the intended target site. Thus, the goal of getting the right dose is achieved without any side effects. Its presence in drug delivery has been accomplished by viewing the human body from a molecular standpoint, which provides a better understanding of the behavior of nanomachines in such an environment that would mimic the human biological system. The poster illustrates about how it works in real, with its various approaches, types and findings to face its biocompatibility challenges. A wide range of applications in diagnosis, prevention, and treatments through drug delivery like glucose monitoring in diabetes patients, worse heart attack, tissue reconstruction, nerve regeneration, cancer therapy, autoimmune diseases, Alzheimer's, targeted therapy, wherever required will be proposed. The chances for its avail in daily using cosmetic preparation and its current research status will also be explained.

Keywords: nanomachines, Nanorobots, biopcompatibility.

13) ROLE OF LIPOSOME AS A NANOCARRIER

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ABSTRACT

Now a days, Liposomes holds dominant position for acquisitions in the pharmaceutical industry as it is used as drug targeting agent of a particular tissue. The bilayer vesicles act as efficient carrier for drugs, vaccines, diagnostic agent and other bioactive agent which led to the rapid progress in the liposomal drug delivery system. The elucidation of the physiochemical properties, formulation methods, characteristics, mechanism of action and large-scale manufacturing of liposomal drug carriers are outlined in this paper. Liposome acts as a carrier for several classes of drugs including anti-viral, anti-fungal, anti-microbial, vaccine, anti-tubercular drug, anti-cancer, etc. It has structural similarity between its bilayer and cell membrane. It can easily penetrate and more effectively deliver the drug at the targeted site than the drug which is in free form. Liposomes consists of both hydrophilic and hydrophobic material which plays major role in drug delivery. These liposomal carriers provide targeted drug delivery which can lead to reduced toxic effect of drug. The use of liposomes in the treatment of various disease are discussed.

Keywords: bilayer vesical, anti fugal, anti microbial, anti cancer

14) A SURVEY ON THE DIABETES SCORE QUESTIONNAIRE FOR LIFESTYLE IMPROVEMENT IN TYPE II DIABETES PATIENTS

Kavuri sita mahalakshmi

ABSTRACT

This survey is for a community service initiative. The Diabetes Score is a one-page questionnaire with ten questions about lifestyle changes. We wanted to see if the Diabetes Score questionnaire was valid and acceptable for people with type 2 diabetes. An observational study was carried out on adult patients with type 2 diabetes living in the vicinity of Vengamukkapalem, Ongole, Andhrapradesh, India, using interviewer-administered questionnaires. The Diabetes Score questionnaire was used to assess adherence to food, exercise, and other lifestyle recommendations. The questionnaire produces an intuitive score ranging from 0 to 100 by adding each of the 10 elements that the interviewer rates as 0, 5, or 10. A score of more than 50 was deemed adequate. The study included 288 patients, 56% of whom were females, with a median age of 55 years (range: 23 to 87). The Diabetes Score was found to be associated with glycemic management, HbA1c, and blood glucose levels, demonstrating validity. Internal consistency and discriminant factor analysis were used to demonstrate reliability. According to multivariate modelling, a decrease in HbA1c corresponded to an improvement in the Diabetes Score. The Diabetes Score is a valid and dependable instrument for empowering patients with diabetes mellitus in terms of lifestyle and behaviour modification. This quick and free-to-use questionnaire could be used to survey diabetes in Ongole, A.P. and address behaviour modification. It has the potential to be the first-line solution for diabetes patients while also lowering the cost of diabetes care.

Key words: Diabetes score, survey, questionnaire, lifestyle change, Ongole

15) COMBINED ANTI-OXIDANT ACTIVITY AND ANTI-MICROBIAL ACTIVITY OF HERBAL DRUGS.

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ABSTRACT

The plant essential oils and extracts, considered as possible sources of natural bioactive molecules have been utilized globally in new antimicrobial compounds, food preservatives, and alternatives to treat infectious disease. There are many researches about the antibacterial and antifungal activities of plant extracts and essential oils. Human beings are either entirely or partially dependent on plants and plant products, both directly and indirectly. For example, medicinal plants are utilized in traditional medicine practices worldwide. Many plant species common to the Asir region are known to contain medically active constituents and are currently used by the region's inhabitants for disease treatment. *Zilla spinosa* (L.) Prantl., locally named shibrim or silla, is a perennial, spiny shrub belonging to the family Brassicaceae (Cruciferae), which comprises 321 genera and 3660 species distributed worldwide [5]. It is widespread throughout the Asir region and is familiar to local Hindawi Evidence-Based Complementary and Alternative Medicine inhabitants due to its prevalence in traditional medicine. The *Z. spinosa* has been widely employed in traditional medicine for treating several illnesses, including gastrointestinal disorders and diabetes, urinary tract pains, diarrhea, gall bladder, kidney stones, liver and pancreas pain, respiratory ailments, and rheumatisms. The plant is also found to have antimicrobial activity and anti-inflammatory, analgesic, and anticancer properties. A previous study has investigated the hepatoprotective effect of *Z. spinosa* extract against carbon tetrachloride-induced acute hepatotoxicity in rats and concluded that the hepatoprotective effect of the extract is attributed to the combined action of flavonoids. Similarly, El-Sharabasy and Mohamad investigated the chemical constituents and biological activity of chloroform extract of *Z. spinosa* aerial parts. They isolated and identified different compounds including three coumarin compounds, bergapten, psoralene, and umbelliferone, and two triterpenes, β -amyryn and friedelene, in addition to four phytosterols, campesterol, spinasterol, β -sitosterol, and stigmasterol, and examined their anti-inflammatory, analgesic, and antimicrobial activities. The obtained results showed significant anti-inflammatory and antimicrobial effects of *Z. spinosa* extract. Moreover, previous phytochemical studies of *Z.*

Keywords: Brassicaceae (Cruciferae), shibrim or silla, triterpenes, β -amyryn and friedelene,

16) REVEALING FACTS ABOUT CAR T-CELL THERAPY

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ABSTRACT

Chimeric antigen receptor (CAR) T-Cell therapy is a fast emerging treatment for several types of cancers and has several applications beyond oncology. It is a new emerging treatment targeting for a broad range of cancers. The objective of this review is to provide the trending information on CAR T-Cell therapies, basic principles involved in the CAR T- Cell therapy, structure of CAR T-Cell, and mainly various clinical applications in the field of oncology as well as beyond oncology, and major side effects of CAR T-cell therapy, methods to overcome the risk factors and to minimize the cost. FDA has approved the various drugs of CAR T-Cell therapy which proved the efficiency in phase I/II with 90% results. Although, the cost of treatment is enormous. Cost effectiveness can be done by understanding the demand informed by tertiary healthcare centers to manufacturing units to decrease the complexity of the procedure. But this therapy is associated with few toxicities. Monitoring of those toxicities and minimizing the severity is the main future prospective of CAR T-Cell therapy. The next stage in developing CAR T-cell therapy for malignancies is to limit exposure to specific cells because future CAR T-cells will target several antigens. The great success of this strategy in treating cancer could be further used to treating other diseases, as the number of potential targets susceptible to CAR-T cell therapy is increasing rapidly.

Keywords: CAR T- Cell therapy, Cancer, cytokine release syndrome, immunotherapy.

17) TITLE : DEVELOPMENT AND VALIDATION OF A HPLC METHOD FOR THE SIMULTANEOUS ESTIMATION OF AMLODEPINE AND TELMISARTAN IN PHARMACEUTICAL DOSAGE FORM

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University/Organization: SRI PADMAVATI MAHILA VISVAVIDYALAYAM (WOMEN'S UNIVERSITY) TIRUPATI.

ABSTRACT

To develop and validate a simple and rapid isocratic reversed phase high performance liquid chromatographic method (RP-HPLC) for the simultaneous estimation of amlodipine and telmisartan in combined dosage forms. The chromatographic separation was achieved by using mobile phase acetonitrile and 0.05M sodium dihydrogen phosphate buffer (60:40) adjusted to PH 6.0, C-18 column, perfectsil target ODS3 (150mm× 4.6 mm i.d., 5 µm). The mobile phase was pumped at a flow rate of 0.8mL/min and the eluents were monitored at 254nm. Retention times were 4.0 min and 8.2 mins for amlodipine and telmisartan respectively. The method was validated in terms of accuracy, precision, range, linearity, specificity, limit of detection and limit of quantification. Linearity for amlodipine and telmisartan was established in the range of 5-30 and 10-60µg/ml, respectively. The recoveries for the two compounds were above 96%. This method was found to be efficient, accurate, precise, specific, effective and economic and is suitable for routine quality control analysis.

Keywords: isocratic, amlodipine, telmisartan

18) Review on Alzheimer's Disease

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ABSTRACT

Alzheimer's disease, recognized as a progressive, multifaceted neurodegenerative disease, is the leading cause of dementia in late adulthood. Pathologically, it is characterized by intracellular neurofibrillary tangles and extracellular amyloid protein deposits that contribute to senile plaques. Over the past two decades, advances in pathogenesis have inspired researchers to explore novel pharmacological therapeutics that focus more on the pathophysiological events of disease. Currently available treatments, i. H. Acetylcholinesterase inhibitors (rivastigmine, galantamine, donepezil) and N-methyl-d-aspartate receptor antagonist (memantine), contribute to minimal impact on the disease and target late aspects of the disease. These drugs delay the progression of the disease, provide symptomatic relief, but do not achieve a definitive cure. While the neuropathological features of Alzheimer's disease are well known, the intricacies of the mechanism are not yet clearly defined. This lack of understanding of the pathogenic process may be the likely reason for the unavailability of an effective treatment that can prevent the onset and progression of the disease. Due to the important advances in the field of pathophysiology in recent years, new therapeutic targets are available that should make it possible to directly address the underlying disease process. In this review, the authors discuss the various aspects of the pathophysiological mechanisms behind Alzheimer's disease and its treatment by conventional drug therapy, including modern therapeutic testing strategies that have recently been completed and are ongoing.

Keywords: Alzheimer's disease, Acetylcholinesterase Inhibitors, N-methyl-d-aspartate receptor antagonist, beta amyloid, Neurofibrillary tangles

19) ASSESSING THE EFFECT OF PATIENT COUNSELLING IN QUALITY OF LIFE FOR HEART FAILURE PATIENTS WITH REDUCED EJECTION FRACTION- A SINGLE BLINDED, RANDOMIZED CONTROLLED TRIAL

(HF-PA Study)

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ABSTARCT

The incidence and prevalence of Heart Failure is increasing rapidly in recent years. Globally, at least 26 million people are suffering from Heart Failure. According to the AHA, the number of people diagnosed with HF is increasing and projected to rise by 46 percent by 2030, resulting in more than 8 million people with HF. 1-in-4 HF patients are readmitting to a hospital within 30-days of discharge, and almost half are readmitting within 6 months. The patients in recent days after CoVID-19 pandemic are heeding to acquire knowledge related to their disease or their family members suffering from, especially of life threatening diseases. This heed to learn and sufficient knowledge of Clinical pharmacist was utilized in this study to accomplish the positive outcome and better impact on the QOL of the patients. To determine the effect of patient counselling in quality of life for heart failure patients with reduced ejection fraction in a tertiary care hospital during CoVID-19 pandemic. A Single Blinded, Randomized Controlled Trial was done by recruiting 100 Participants, (50-interventional and 50-control group) who met the inclusion criteria from SRM MCH & RC, Katankulathur. The control group wasn't provided with any Patient counselling from the investigator and the Interventional group was provided with a 30 minutes patient counselling session. The findings from this study show that Patient counselling had an impact on overall Quality of life of the participants with HFrEF.

CONCLUSION: Age, Gender, Literacy and lifestyle is not associated with QOL in HFrEF, it is the Knowledge they have on their disease and lifestyle requirements that produces improvement in QOL and reduces Rehospitalisation.

Keywords: HFrEF, Literacy, Sedentary lifestyle, Patient counselling. Quality of Life

20) Floating Microspheres of Cefdinir as Gastro Retentive Drug Delivery System

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ABSTRACT

Various approaches have been used to retain the dosage form in the stomach as a way of increasing the gastric residence time (GRT), including floatation systems; high-density systems; mucoadhesive systems; magnetic systems; unfoldable, extendible, or swellable systems; and superporous hydrogel systems. The aim of this study was to prepare and evaluate floating microspheres of cefdinir for the prolongation of gastric residence time. The microspheres were prepared by Capillary Extrusion method. A full factorial design was applied to optimize the formulation. The optimum batch of microsphere exhibited smooth surfaces with good flow and packing properties, prolonged sustained drug release, remained buoyant for more than 12 hrs, high entrapment efficiency upto 68%. Scanning electron microscopy confirmed the hollow structure with particle size in the order of 190 μm . The studies revealed that increase in concentration of gum Karaya increased the drug release from the floating microspheres.

Key words: Cefdinir, Microspheres, Gum Karaya, factorial design, in-vitro, Buoyancy

21) PHARMACOLOGICAL ACTIONS OF THE GYMNEMA SYLVESTRE

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ABSTRACT

Gymnema sylvestre is a woody climbing shrub that's native to be tropical forest of India, Africa, Australia. It's leaves has been used in the Ancient Indian Medicinal Practice Ayurveda for 1000 of years. It has been a traditional remedy for various ailments including Diabetes, Malaria and Snake Bites. This herb is thought to inhibit the sugat absorption and thus has become a popular study subject in western medicine. Gymnema sylvestre act on the taste buds in oral cavity and the absorptive surface to the intestine. Gymnemic acid, in Gymnema sylvestre can block the sugar receptors on tongue, decreasing the ability to taste sweetness, this can lead to reduced sugar cravings. It has been used in combination with other diabetic medications to lower the blood sugar. It is also called Gurmar which means "Destroyer of Sugar". Studies suggest that consuming 200-400mg of Gymnemic acid reduces the intestinal absorption of the sugar glucose. Gymnema sylvestre may stimulate insulinproduction n pancreas, promoting the regeneration of the insulin producing islet cells. This can helps in lower blood sugar level. It also serves other pharmacological properties like antiobesity activity, hypolipidemic activity, anti arrthic activity and antimicrobial activity.

Keywords: Gymnema sylvestre, Antidiabetic activity, Gymnemic acid

22) Gut Microbiome Dysbiosis due to Radiation Therapy Outcomes in Head and Neck Cancer.

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ABSTRACT

Radiation Therapy is majorly used with some chemotherapeutic agents for the treatment of cancers. Upcoming research provides a great existence of two way interaction between radiation exposure and the human Microbiota. Radiation therapy causes changes in the quantitative and qualitative changes of the gut microbiota composition and often leading to an increase hazardous or pathogenic microbes and also associated with decrease in commensal bacteria. The resulting dysbiotic microbiota changes the systemic immune response and becomes an important contributor to worsen the adverse events caused in patients by the inflammatory process triggered by the radiation therapy. Antibiotics, which are most commonly used as prophylactic agents in cancer treatment protocols are to prevent patient infections, which may affect the radiation/microbiota interactions through mechanisms involving both their antimicrobial activity, as a mediator of microbiota imbalances, and their dual capacity to act as pro- or anti-tumorigenic effectors. In this case it is important to introduce the use of probiotics and/or other agents that may stabilize the healthy microbiota before patients are exposed to radiation. Nowadays we have newly developed criteria which may facilitate performing personalized microbiota screenings on patients before radiation therapy as a proper way to identify which antibiotics may be used, if needed for the treatment plan.

Keywords: Gut Microbiome, Dysbiosis, Radiation Therapy, Microbiota Antibiotics.

23) NANO-TECHA BOON TO NOVEL DRUG DELIVERY

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ABSTRACT

Nanotechnology has been widely examined for use in the biomedical field. Now a days, nanoparticles have a superlative view and it is a rapidly developing field of science, where I is studied to serve as mean for therapeutics and diagnostic tools. Nanoparticles in drug delivery possess extensively positive impacts on therapeutic outcomes of various diseases. The combined view and research of nanotechnology with pharmacology and human physiology ways for well advanced and effective bio-action of drugs. In concern with some critical biological barriers, (i) in brain- the blood brain barrier blocks the drug entry and makes the drug less bioavailable, then here the role and difference in the action of using nanodrugs are discussed. (ii) Ocular the effective drug delivery is till remains challenge. Myriad barrier mechanism of eye makes the drug less bioavailable in ocular system. Also, here we can discuss the nanodrugs employed in several vital diseases and disorders. The purpose of this overview is to imply the importance of nano drug delivery and recent trends in nano-tech.

Keywords: nanotechnology, nanodrugs, myriad barrier

24) An overall review on *Annona muricata*: An evergreen plant

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ABSTRACT

Annona muricata Linn. is a tropical plant that has anticancer activity. This review aims to explore the literature for the pharmacognostical studies, phytochemical investigation and pharmacological profile of the *Annona muricata*. It is also known as Sourcop, Graviola and Guanabana, is an edible fruit tree belonging to the family Annonaceae. Review of pharmacognostical studies, phytochemical isolation and pharmacological activities have been compiled from the various published reports focusing on the medicinal benefits of the plant. Several investigations conclusively report that the plant possesses more than 200 chemical constituents such as acetogenins, alkaloids, phenols, etc. The plant was found to have a wide range of therapeutic effects including anti-tumor, antibacterial, antiviral, antifungal, analgesic, anti-inflammatory, anthelmintic, hypotensive, immune enhancing effects and anti-diabetic activity. The use of *Annona muricata* plant would be beneficial and was found to be effective and safe. The compiled data may be helpful for the researchers to focus on the significant areas of research yet to be discovered. Keywords: *Annona muricata*, Annonaceae, Pharmacognostical studies, Phytochemical

Keywords: gunabana, muricata, annonaceae, graviola

25) In-vitro growth of bone using bioreactor.

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ABSTRACT

Tissue engineering has emerged as a potential treatment alternative for bone injuries and defects. However, the common tissue engineering approach has some drawbacks for the development of functional tissues, such as insufficient nutrient and metabolite transport and non-homogeneous cell distribution. Because it improves mass transport in the culture system, culture of bone cells in three-dimensional constructs in bioreactor systems is a solution to these problems. Spinner flasks, rotating wall vessels, and perfusion systems have been investigated for bone tissue engineering, and variations that support cell seeding and mechanical stimulation have also been researched.. The purpose of this review is to provide an overview of the concepts, benefits, and future applications of bioreactor systems for bone tissue engineering, with a focus on the design of different perfusion systems and parameters that can be optimised.

Keywords: bioreactor, bone, tissue engineering, perfusion, shear stress

26) DESIGN, OPTIMIZATION AND CHARACTERIZATION OF CLOTRIMAZOLE LOADED INVASOME BASED GEL FOR TREATING FUNGAL INFECTIONS THROUGH FACTORIAL DESIGN

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ABSTRACT

To design, optimize, and characterize Clotrimazole loaded invasomal gel for enhancing transdermal permeation for treating the fungal infections by selecting factorial design. In this study, Box-Behnken design was selected for carrying optimization with 3 centre-points in 3 levels and total 15 runs were obtained. The independent variables that have been considered here are Lipid, Solvent and Terpene and dependent variables considered are Particle size, Entrapment efficiency, and Drug Release. Through this design, formulation F8 is considered as an optimized and is further loaded into a gel base and subjected to characterization for different parameters along with ex-vivo skin permeation studies. The optimized formulation is characterized for drug-lipid compatibility studies, pH, Viscosity, Spreadability, drug content and Ex-vivo skin permeation studies. As per the results, the optimised formulation is considered as compatible with the skin, shown no irritation, the particle size obtained is 196nm, entrapment efficiency of 92.6% and In-vitro drug release of 96.25%. The optimised formulation has shown an increased bioavailability and enhanced skin permeation compared to marketed formulation and pure clotrimazole gel. By following the results, the prepared Invasome is considered as a promising carrier to enhance the skin permeation and bioavailability of Clotrimazole compared to the marketed formulations.

Keywords: Invasomes, Transdermal drug delivery, Terpenes, Box-Behnken, Clotrimazole.

27) INTELLIGENCE IN PHARMACEUTICAL PACKAGING - EDIBLE FILMS FROM AGRO WASTE

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ABSTRACT

The pharmaceutical and food industries recognize edible packaging as a useful alternative packaging. It is helpful in reducing waste and to create novel applications for improving product stability, quality, shelf life and convenience for consumers. Edible film or coating is a thin layer of edible material formed as protective coating on food, can be directly coated to a product or made into film as a food wrap, to improve barriers, stability, antimicrobial, organoleptic properties and prolong shelf life of various products. Polysaccharides and proteins are commonly used biopolymers for production of edible films. Starch extracted from *Curcuma longa* have curcuminoids with antioxidant properties, used in formulation of biodegradable edible films. Fish gelatin has been most extensively studied protein source for high film forming capacity outer coatings to protect food against light and oxygen. Packaging is used in order to reduce synthetic packaging and can play a role as an eco friendly biodegradable package or protective coating on food surface. Two or multi component edible materials providing improved functional properties. Edible materials can be produced by wet or dry methods. The replacement of conventional synthetic polymers by biodegradable films should be highlighted as a desirable approach. This paper presents the concept of new film forming materials and management of food wastes from agro based industry.

Keywords. Edible film from agro waste, replacing synthetic polymers, prolong shelf life of food products.

28) EVOLUTION OF IN-VITRO ANTI-UROLITHIATIC ACTIVITY OF EUGENOL

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ABSTRACT

The aim of the present study is to evaluate antiurolithiatic activity of Eugenol in In-vitro assay systems of urolithiasis. Evaluation was carried out by three different In-vitro models namely Nucleation assay, Aggregation assay and Oxalate depletion assay. The inhibition of nucleation shown by Eugenol was 73.090 ± 3.987 % and Cystone was 81.1677 ± 3.237 % at 1000 ug/ml. Moreover, Eugenol and Cystone showed inhibition of crystal aggregation by 68.193 ± 4.171 % and 78.390 ± 1.255 % at 1000 ug/ml concentration, suggesting that Eugenol acting effectively compared to Cystone. Apart from this, Percent reduction in growth of Eugenol was found to be 73.090 ± 3.987 % while 81.677 ± 3.237 % with Cystone at 1000 ug/ml. The findings of in-vitro study revealed that Eugenol possesses significant antiurolithiatic activity against CaOx urolithiasis which could be attributed to its flavonoid content.

Keywords: Nucleation, Eugenol, Aggregation, Flavonoid, Urolithiasis

29) *Ophiorrhiza eriantha* Role in Apoptosis of Breast Cancer MCF-7 cell line

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ABSTRACT

Breast cancer is a collective term used to describe different types of neoplastic diseases affecting the mammary gland. Carcinoma of the breast is the second leading cause of cancer and is the fifth cause of death from cancer. Since many drugs used to treat cancer are obtained from plants, searching for new molecules which can battle cancer cells in a better way is a goal of researchers in the field. The presence of forty-seven species and nine varieties of the genus *Ophiorrhiza* was reported in the Indian subcontinent. *Ophiorrhiza eriantha* Wight is an erect subshrub belonging to the family Rubiaceae. After an extensive literature review, it was found that no other research works were conducted . *Ophiorrhiza eriantha* roots and aerial parts were separated, and sequentially extracted with petroleum ether, ethyl acetate, and ethanol. A preliminary anticancer screening study of all the 12 extracts was done on daltons lymphoma ascites (DLA) cell lines. Among them, the petroleum ether fraction of the aerial part of the *O. eriantha* Wight shows the maximum activity. 3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide (MTT) assay of petroleum ether fraction on Michigan Cancer Foundation-7 (MCF-7) cell lines was conducted and shows significant

Keywords: *Ophiorrhiza eriantha*, subshrub, Rubiaceae.

30) Human Monkeypox: Epidemiologic and Clinical Characteristics, Diagnosis, and Prevention

Kavuri sita mahalakshmi

ABSTRACT

Human monkey pox is a zoonotic disease caused by the monkeypox virus (MPXV), a double-stranded DNA virus from the Poxviridae family. Human monkeypox cases have increased in frequency and geographic distribution in West and Central Africa in recent years. Monkeypox has a clinical appearance comparable to smallpox in terms of symptom start, time of rash incidence, and rash distribution, but it is often less severe, with a lower fatality rate and scarification. The majority of reported Monkeypox cases are under 40 years old, with a median age of 31 years, representing a population born only after the smallpox vaccination campaign was discontinued, and may imply a lack of cross-protective immunity.

Keywords: Monkeypox virus, poxviridae family, western and central Africa, rash, zoonotic

31) METHOD DEVELOPEMNT AND VALIDATION OF OLANZAPINE IN STERILE DOSAGE FORMS BY UV SPECTROSCOPIC METHOD

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ABSTRACT

Present work describes a simple, accurate, precise, economical, and reproducible spectrophotometric method in the ultraviolet region that has been developed and validated for the assay of Olanzapine in bulk and pharmaceutical formulations in the diluent. Olanzapine exhibits absorption maxima at 259 nm in the diluent. Beer's law was found to be obeyed in the concentration range of 3-15 ug/ml. The optimum concentration of the Olanzapine was found to be 7 ug/ml. This concentration of Olanzapine was shown good absorbance values at respective wavelengths were found to be 0.523. Linearity studies were carried out and the range was found to be 3-15 ug/ml for Olanzapine in the diluent. The regression coefficient value of Olanzapine was found to be 0.999 which was not less than 0.995. The method is accurate, precise, and economical. In this proposed method, there was no interference from common pharmaceutical excipients. The results of the analysis were validated statistically as per the ICH guidelines. The proposed method was successfully used for the routine analysis of the Olanzapine in bulk and its sterile dosage form.

Keywords: Spectrophotometric method, Beer's law, Olanzapine, ICH guidelines.

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32) STABILITY INDICATING RP-HPLC METHOD FOR SIMULTANEOUS ESTIMATION OF ACEBROPHYLLINE, MONTELUKAST AND FEXOFENADINE IN BULK AND PHARMACEUTICAL DOSAGE FORMS

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ABSTRACT

The present work is aimed at the development of Reverse Phase High Performance Liquid Chromatography (RP-HPLC) method for the quantitative analysis of Acebrophylline, Montelukast and Fexofenadine in pharmaceutical dosage form. Chromatographic separation of Acebrophylline, Montelukast and Fexofenadine was achieved on Waters Alliance-e2695, by using Hyper clone 5 μ BDS C18 130A (250 x 4.6mm) column and the mobile phase with a mobile phase consisting of Methanol: Ammonium Formate adjusted to pH-6 and ortho phosphoric acid (70:30). The flow rate of 1.0 ml/min, Column temperature 25 0 C and detection wavelength 268nm using a photodiode array detector. The developed method was validated according to ICH guidelines and forced degradation studies are also performed. In relation to all the manifested validation parameters, the method proves to be suitable for the accurate identification and quantification of the three drugs, either alone or in combination. Furthermore, the method evidences to be appropriate to detect degradation of the compounds. Hence the method developed can be used for the routine analysis of these specific drugs in laboratories and quality control purpose

Keywords: RP-HPLC, Acebrophylline, Montelukast, Fexofenadine, Forced degradation

33) ARTIFICIAL INTELLIGENCE (AI) UTILITY IN PHARMACOVIGILANCE INDUSTRY

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ABSTRACT

Pharmacovigilance is a science that involves the ongoing monitoring of adverse drug reactions to existing medicines. The traditional system that applies pharmacovigilance is very expensive and often fails to monitor ADRs experienced by users if these are not reported to the authorities, pharmaceutical companies. The reporting of these ADRs is important because it may help to protect public health. The healthcare sector, especially the pharmacovigilance industry, recognizes the need to support the enhancing number of data acquired from individual case safety reports (ICSRs). To deal with this increase, more healthcare and qualified professionals are required to collect and analyse data. It will be necessary to adapt the embrace assistive technologies such as artificial intelligence (AI). Artificial intelligence through machine learning uses algorithms and prior learnings to make predictions. Recently, there has been interest to include more artificial intelligence in pharmacovigilance of products already in the market and pharmaceuticals in development. The US Food and Drug Administration (FDA) has been actively promoting the use of real-world data (RWD) in drug development. RWD can generate important real-world evidences reflecting the real world clinical environment where the treatments are used. Meanwhile, artificial intelligence (AI), especially machine/deep-learning (ML/DL) methods, have been increasingly used across many stages of the drug development process. Advancements in AI have also provided new strategies to analyze large multi-dimensional RWD. Machine learning algorithms have the potential to enhance drug professionals' decision-making processes and support more efficient and accurate case processing.

Keywords: Pharmacovigilance, Machine Learning, individual case safety reports, Adverse Drug Reactions.

34) DESIGN, DEVELOPMENT AND EVALUATION OF IBUPROFEN LOADED NANOSPONGES FOR TOPICAL APPLICATION

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ABSTRACT

The main perspective of study was to formulate ibuprofen loaded nano sponges for topical application. Emulsion solvent diffusion method was selected to prepare ibuprofen loaded nano sponges using different ratios of drug: polymer. The obtained nano sponges have been evaluated for physicochemical characteristics and in vitro release studies. The shape and morphology of drug loaded nano sponges were investigated and confirmed by SEM. FTIR results were in agreement with standard spectral studies and moreover it was identified that there was no interaction between drug and polymer. Entrapment efficiency of the NS was found to be around 70.41%. The production yield and in vitro release studies was also good. Overall this study resulted in porous nature of nano sponges which provides a channel for the release of the drug and the method is quick and reproducible.

Keywords: nanosponges, physiochemistry

35) A REVIEW ON BIOANALYTICAL METHOD DEVELOPMENT AND VALIDATION BY USING LC-MS/MS

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ABSTRACT

The method Development and validation of bioanalytical method is very important to understand the pharmacokinetics of any drug and its metabolites. Liquid chromatography- mass spectrometry (LC-MS/MS) is a technique that uses liquid chromatography (or HPLC) with the mass spectrometry. (LC-MS/MS) which is commonly used in laboratories for the qualitative and quantitative analysis of drug substances, drug products and biological samples. This article survey about various extraction techniques like liquid–liquid extraction, solid phase extraction and protein precipitation which has an important role in sample preparation, separation and detection by LC-MS/MS. Bioanalytical method validation includes all of the procedures that demonstrate about a particular method used for quantitative measurement of analytes in a given biological matrix, such as blood or serum, plasma and urine is reliable and reproducible for the use and its fundamental properties which includes selectivity, range, accuracy, linearity, precision, limit of detection, limit of quantification, robustness, recovery and stability.

Keywords: Liquid chromatography- mass spectrometry (LC-MS/MS, Bioanalytical

36) A NETWORK PHARMACOLOGY APPROACH TO EXPLORE THE PHARMACOLOGICAL TARGETS FOR “PCOS CARE” FORMULATION IN THE TREATMENT OF POLYCYSTIC OVARY SYNDROME

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ABSTRACT

Poly Cystic Ovary Syndrome (PCOS) is a metabolic disorder and more severe form of polycystic ovary disorder (PCOD) which can lead to anovulation where ovaries stop releasing eggs. The incidence rate at pcos was reported around 4-20% based on age of women (Ritu Deswal et al., 2020). The objective of the current study was to utilise the network pharmacology approach to explore the pharmacological targets for PCOS CARE, an ayurvedic Formulation in the treatment of PCOS. A Network pharmacology approach was applied to analyse the bioactive ingredients and components of targets available in the PCOS CARE formulation by using PubMed, Swiss ADME, Binding Database (Khanal et al., 2022). The DisGeNET database was utilised to screen disease target for PCOS. Shiny GO was used for the analysis of Gene Ontology [GO] biological analysis and Kyoto Encyclopaedia of Gene and Genomes [KEGG] pathway Enrichment. Cytoscape network version [3.7.1] was utilised to build a drug active ingredient- disease target network and drug active ingredient-KEGG pathway target network (Jain Xiong Ma et al., 2021). From the collected data, 178 active ingredients were screened by Swiss ADME and 118 targets for the selected active ingredients, were obtained from Binding Database. For PCOS, 989 targets were obtained from the DisGeNET Database and 63 common targets for phytoconstituents and disease were screened. From the Network constructed, we were able to identify VEGF A , EGFR, PTGS 2 , TNF AND PPAR- α as primary targets for therapeutic action shown by PCOS CARE formulation. Therapeutic benefit of the selected formulation, was due to the presence of active constituents like Isoleucin, Leucopelargonidin, Lupeol, Glycyrrhetic acid and Oxyacanthine. Further, in vitro and in vivo studies need to be performed for confirming the observations.

Keywords: Poly Cystic Ovary Syndrome (PCOS, DisGeNET, phytoconstituents

37) “Instant sprinkle formulations” - An Innovative Platform Technology for Paediatric and Geriatric patients with Dysphagia

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ABSTRACT

Oral delivery is regarded as the preferred method of administration, because it is non-invasive and well-tolerated by patients. The ease of administration, excellent physicochemical stability, and cost-effectiveness of solid dosage forms such as capsules and tablets make them the preferred oral formulation type. With the potential to be used for pediatric patients, this novel innovative oral formulation provides a patient-centered solution to the age-old problem of giving sustained-release medications to patients with dysphagia. Drug-containing pellets or granules known as sprinkle formulations can be combined with soft food before being consumed. When sprinkled on liquid or semi-solid vehicles, such as food or drinks, these formulations offer nearly the same dosage flexibility and convenience of consumption as liquid formulations. When assessing compatibility and acceptability not only should the attributes of the drug substance or drug product be considered but also those of the food, such as acidity and drug-binding/chelating capabilities. Additionally, the age of the target population must be taken into account while choosing the flavour, texture, and mouthfeel of the food vehicles because different age groups respond differently to these qualities. For instance, soft food vehicles are discouraged for new-borns who are only able to eat liquid foods since they can inadvertently chew some vehicles with a gritty texture. The sprinkle medication products are administered orally using a variety of dosage forms, such as tablets, powder, granules, immediate-release (IR) capsules, extended-release (ER) capsules, delayed-release (DR) capsules, and multiparticulate drug delivery systems (MDDS).

Keywords: sprinkle formulations, dysphagia, geriatric, paediatric

38) Ultra sound-controlled fluorescence for deep tissue imaging

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ABSTRACT

Although fluorescence imaging is a quick and effective real-time imaging technique, it has the drawback of not showing deep tissue with better spatial resolution because biological fluid and tissue exhibit high optical radiation scattering. To overcome this disadvantage of fluorescence imaging a novel imaging technique was developed which is known as ultra sound controlled fluorescence technique. Any aspects including good contrasting agent, a sensitive frequency domain imaging system and effective signal processing method are considered to boost the imaging resolution of the technique. It is possible to employ distinct coloured ultrasound-controlled fluorescence to distinguish between two fluorophores. These techniques have a number of drawbacks and challenges, which can be discussed as well. By additional study in the field of ultra sound controlled fluorescence technology will develop better diagnostic and therapeutic monitoring.

Keywords: fluorophores, therapeutic monitoring.

39) A REVIEW ON METHOD DEVELOPMENT AND VALIDATION OF HPLC

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ABSTRACT

Validation of an analytical procedure is to demonstrate that it is suitable for its intended purpose. Chromatographic methods play significant role in the pharmaceutical industry from the drug discovery, development, formulations and quality control. A validated analytical method ensures that it provides consistent, reliable and accurate data. So these methods help pharmaceutical analyst to ensure quality products are released for market. This review describes general approach towards validation process and validation parameters to be considered during validation of a HPLC method. It also refers to various regulatory requirements. The parameters described here are according to ICH guidelines and include accuracy, precision, specificity and limit of detection, limit of quantitation, linearity, range and robustness.

Keywords: Method development , Validation , HPLC

40) In-silico Molecular Modelling, MM/GBSA Binding Free Energy and Molecular Dynamics Simulation study of Some Novel Thiazetidines as Potential Inhibitors of Tuberculosis

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ABSTRACT

Tuberculosis, infectious disease caused by Mycobacterium tuberculosis (Mtb), is the leading cause of mortality worldwide, killing millions of individuals. It is important to identify small molecule inhibitors towards novel hypothetical proteins of the pathogen due to the frequency of multiple drug resistance (MDR) strains and persistent therapeutic interventions timeframes. 1, 3-thiazetidines include some important but also well biological and pharmacological properties. In this research, novel 1,3-thiazetidines containing pyridine substitutions (T 1 - T 16) were designed using an in-silico approach for potential anti-tubercular activities. Molecular modelling investigation of compounds T 1 - T 16 are performed against Mycobacterium tuberculosis protein PrpR (PDB Id – 6D2S) by using AutoDock Vina and Schrodinger suit 2016-2. The AutoDock Vina and Glide module, the QikProp module, and the Prime-MM/GBSA module of the Schrödinger suit 2016-2 are used to execute the molecular docking investigation for the designed compounds T 1 - T 16 . Based on the GLIDE score, the binding affinity of the designed molecules T 1 – T 16 towards the protein PrpR was evaluated. For the interactions between the Mycobacterium TB protein PrpR and one unique scaffold (T 13), molecular dynamics simulations were used to further confirm and recognize the determined binding affinities across a timeframe of 100 ns by using GROMACS software. Additionally, a machine learning-based algorithm was used to rank the aforementioned suggested compounds by predicting and evaluating the inhibitory effects of scaffolds. This study shows the feasibility of T 11 , T 13 and T 14 as potential inhibitor candidates and provides evidences for the treatment of TB when compared with standard drug Pyrazinamide. The studies reveal that there is evidence for considering appropriate 1,3-thiazetidine compounds as potential tuberculosis inhibitors. Moreover, in vivo and in vitro analysis might illustrate their pharmacological activities.

Keywords: Thiazetidine, Molecular Modelling, MM/GBSA, Tuberculosis

41) Evaluation of In-Vitro Anticancer activities of *Murraya koenigii* on Human Monoblastic Leukemia (U937) and Melanoma (A375) cell lines.

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ABSTRACT

The use of medicines from natural products has been increased and even highly demanded because of affordable prices and promising outcomes when compared to synthetic drugs having side effects. Hence, there is a need to develop alternative anticancer agent with minimal side effects. Objective: The main objective is - To evaluate the anticancer activities (cell lines U937 – Human monoblastic leukemia and A375 – melanoma) by in-vitro cytotoxicity method (MTT Assay) and apoptotic mechanism by analysis of DNA fragmentation through agarose gel electrophoresis. Results: The treated cell was observed by light microscope. The methanolic extract of *M.koenigii* (MEMK) inhibits proliferation of U937 and A375 cells in a concentration dependent manner. The IC₅₀ value of MEMK was found to be 14.55µg/ml and the standard drug cyclophosphamide was found to be 7.45µg/ml against U937 cell line. The IC₅₀ value of MEMK was found to be 57.28µg/ml and the standard drug cisplatin was found to be 5.82µg/ml against A375 cell line. Apoptosis assay using MEMK extract on U937 and A375 cell line reveals that there is a cleavage of DNA by nucleases at proper sites which leads to a ladder formation. Conclusion: Methanolic extract of *Murraya koenigii* possess anticancer activity against U937 and A375 cell lines. Further, in vivo studies and identification of active constituents from *Murraya koenigii* extract, and their exact mechanism of action could be valuable in designing novel anti-cancer agents.

Keywords: *Murraya koenigii*, U937, A375 cell lines, Cytotoxicity, apoptosis.

42) Surface alteration of 5-FU liposome gel comprising novel conjugate for treating actinic keratosis

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ABSTRACT

5-Fluorouracil (5-FU) is a potent chemotherapeutic agent frequently used in combination therapy for the treatment of diversified cancers. However, it possesses poor permeability and a short half-life. For the first time, the synthesis of gallic acid-stearyl amine (GA-SA) conjugate combined with 5-Fluorouracil (5-FU) for the treatment of actinic keratosis in A431 human epidermal carcinoma cell line by the development of surface modified liposome-based topical gel formulations for deeper skin penetration, higher retention in the targeted site and reduction in systemic toxicity. The synergistic combination of 5-FU and GA– SA conjugate in a ratio of 1:1 (1 µg/ml: 10 µg/ml) (v/v) is effectively cytotoxic against A431 cancer cell line, but it is safe against HaCaT normal cell line. Totally four different formulations were prepared by varying the proportions of soya lecithin and cholesterol viz. 9:1, 8:2, 7:3 and 6:4 respectively. The 5-FU bearing liposomal gel was prepared and it was then subjected to characterization, for determination of parameters like viscosity, spreadability, pH, and drug content. In ex-vivo skin permeation, the flux and skin deposition were determined and it was compared with the marketed formulation. The results of cytotoxicity activity indicate that the optimized gel formulation possesses an anti-cell proliferation activity of 50 % better than the plain 5-FU drug. The ability of the vesicle preparation to deposit skin was further confirmed by confocal laser scanning microscopy. The gamma scintigraphy images demonstrated that significant radioactivity was noted in the targeted area (skin) for the liposomal gel in comparison to the marketed one, in accordance with our distribution studies.

Keywords: 5-Fluorouracil (5-FU), gallic acid-stearyl amine (GA-SA)

43) Artificial intelligence in drug design

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ABSTRACT

All current drug discovery approaches suffer from the requirement of high amount of funding to lack of efficacy due to individual patient needs. Artificial Intelligence (AI) has been extensively employed in various drug discovery stages to overcome these issues. AI methods are applied in every step of the computer-aided drug design, and integrating these AI methods results in a high success rate of hit compounds. The critical point to consider the drug design is to use the available data resources and to find new and novel leads. Due to substantial progress in high-performance computing, the development of superior algorithms, and the accumulation of huge data, computer-assisted drug design (CADD) technology is playing a key role in drug discovery. This review mainly summarizes the applicability of AI methods to drug design areas such as the identification of binding sites in target proteins, structure based-virtual screening (SBVS) and of absorption, distribution, metabolism, excretion and toxicity (ADME/T) property prediction and explores and compares its advantages over conventional methods. The challenges and drawbacks of AI in drug design and discovery have also been discussed.

Keywords: Artificial Intelligence (AI), computer-assisted drug design (CADD)

44) A Review on “Mucuna pruriens Linn”- The Fascinating Herb

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ABSTRACT

Mucuna pruriens Linn is a popular Indian medicinal plant belongs to Fabaceae family. It is also known as velvet bean, monkey tamarind, cowage and lyon bean. Approximately 120 species have been reported from worldwide and 15 species from India. The roots, leaves and seeds of this plant is used in the treatment of parkinsonism, diabetes, tumour, male infertility and also as aphrodisiac, antimicrobial and anticholestrolemic. The whole herb is reported to have L- 3,4-dihydroxy phenyl alanine (L-DOPA) as a major constituent and mainly in seeds. Serotonin, oxitriptan, nicotine, N,N-dimethyl tryptamine and bufotenine are the other chemical constituents found in Mucuna pruriens in addition to L-DOPA. The demand for Mucuna is increasing day by day due to it's therapeutic efficacy. This review summarizes the overall research on Mucuna pruriens, its phytochemical, medicinal values and pharmacological activities in the recent years.

Keywords: Mucuna pruriens, Parkinsonism, L-DOPA, Aphrodisiac, Diabetes, Male infertility

45) A short review: Revolutionary of Heterocyclic Compounds for Selective Mono Amino Oxidase Inhibitors using QSAR and in - silico method

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ABSTRACT

Computer technology-based drug development is essential factor for the R&D growth and productivity. Moreover, an extensive variety of molecular structure library from natural and synthetic origin accessible for *in-silico* design of novel drugs. The computational development of human monoamine oxidase (MAO) inhibitors led to advancement in drug design and the treatment of many neurodegenerative diseases and neuropsychiatric disorders. Rational drug design implies usage of molecular modeling techniques such as pharmacophore modeling, molecular dynamics, virtual screening, and molecular docking to explain the activity of biomolecules, define molecular determinants for interaction with the drug target, and design more efficient drug candidates. Non-selective MAO inhibitors have many disadvantages. Selective inhibitors are more suitable for use in treatment instead of these inhibitors, which have the risk of side effects such as ‘cheese effect’. The two isoforms of MAO are designated as MAO-A and MAO-B, which are recognized by their distinct substrate and inhibitor selectivity. MAO-B preferentially catalyzes the oxidation of benzylamine and phenylethylamine and is inhibited by selegiline, whereas MAO-A preferentially catalyzes the oxidation of serotonin and norepinephrine and is inhibited by clorgyline. In this review, shows recent pharmacological advancements of selective heterocyclic moiety along with structure- activity relationship and in-silico evaluation method to provide better correlation among different structures and their receptor interactions. So its important to synthesis a novel heteroselective compounds against MAO inhibitors by using an in –silico method for further studies.

Keywords: Molecular Modelling, QSAR, In – silico, Monoamino inhibitors

46) AN OVERVIEW OF POMPE DISEASE

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ABSTRACT

Lack of lysosomal acid -glucosidase results in Pompe disease, an autosomal recessive, progressive, crippling, and frequently fatal neuromuscular condition (GAA). It is characterised by the buildup of glycogen in muscle tissue, which results in deteriorating muscle strength and function. It exhibits a wide range of clinical phenotypes, each with its own rate of development, timing of symptom onset, level of organ involvement, and severity. The collecting of data on this uncommon and clinically diverse disease is being done globally through the Pompe Registry. This study provides an overview of the Registry population during a five-year period from its beginning in September 2004 through September 2009 and covers the design, methods, and initial Registry findings. 70% (517/742) of the 742 patients from 28 countries in the Registry reported.

Keywords: lysosomal acid –glucosidase, Pompe

47) LIPOSOMASAL DRUG DELIVERY SYSTEM

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ABSTRACT

When a lipid bilayer was hydrated, a self forming enclosed lipid vesicle or liposome emerged. Liposomal drug delivery system has been crucial in development of powerful drugs that have improved therapeutics. Aiming to decrease toxicity and increase accumulation at the target region, liposome formulations have recently been developed. There are various novel techniques for making liposomes that are based regarding lipid medication interaction and liposome disposition mechanisms, such as how to slow down a liposome's quick clearance by regulating its particle size, charge, and surface hydration. The majority of therapeutic uses for liposomal drug delivery target tissue, wheather or not target recognition molecules are expressed on the lipid membrane. Liposomes are **lipoidal** vesicles that are actively being researched as medication carriers enhance the administration of medicinal medicines Several liposome-based medication formulations are currently undergoing clinical trials as a result of recent advancement in liposome technology, and some of them have recently received clinical use approval The chance to improve the therapeutic indices of numerous medication has arisen from the reformulation of pharmaceutical in liposomes.

Keywords: Lipid Medication, Lipoidal Vesicles, targeting site, hydration surface, liposomes, drug delivery.

48) A review Gut microbiota in human metabolic health and disease in the last decade

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ABSTRACT

The mortal gut microbiome plays an important part in mortal health. Trillions of microbes have evolved with and continue to live on and within mortal beings. Microbes help humans in digestion of else inedible complex substances, regulate our vulnerable system and synthesize vitamins. Also, in a simplistic way, salutary microbes cover humans from dangerous microbes. A variety of environmental factors can affect intestinal microbial imbalance, which has a close relationship with mortal health and complaint. Still, to explore and develop similar innovative strategies, a scrupulous appreciation of the natural base of these conditions is extremely important. Once decade has witnessed an enormous quantum of exploration disquisition and advancement in the field of rotundity, diabetes and metabolic pattern, with the gut microbiota entering a special focus in the triangle of nutrition, health and conditions. Major mortal conditions similar as contagious conditions, liver conditions, gastrointestinal cancers, metabolic conditions, respiratory conditions, internal or cerebral conditions, and autoimmune conditions. Multitudinous seditious biomarkers have been set up to be associated with rotundity, diabetes and threat of other associated adverse issues, thereby suggesting that a patient low- grade seditious response is a implicit threat factor. Also review important advances in ways associated with microbial exploration, similar as DNA sequencing, metabonomics, and proteomics combined with calculation- grounded bioinformatics. We also review important advances in ways associated with microbial exploration, similar as DNA sequencing, metabonomics, and proteomics combined with calculation- grounded bioinformatics. Current exploration on the mortal microbiota has come much more sophisticated and more comprehensive. Thus, we propose that exploration should concentrate on the host- microbe commerce and on cause- effect mechanisms, which could pave the way to an understanding of the part of gut microbiota in health and complaint, and give new remedial targets and treatment approaches in clinical practice. This review intends to bandy implicit attestations supporting the disturbance of the gut microbiota balance and the intestinal hedge permeability as a implicit triggering factor for systemic inflammation in the onset and progression of rotundity, type 2 diabetes and metabolic pattern.

Keywords: intestinal microbiota, metabolic syndrome, obesity, probiotics, type 2 diabetes.

49) Emerging and current therapies for GOUT

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ABSTRACT

In the western world, gout is the most prevalent inflammatory arthropathy. Every year, it has an impact on millions of people, resulting in considerable impairment, lost pay, and higher health care expenses. Despite being a fairly "curable" disease, it is frequently undertreated as a cause of the overall disease state and receives little care. In the past, managing acute flares has been the main focus of gout treatment. With gout patients who commonly have several comorbidities, approved treatments to treat acute flares have limits. Over the past ten years, it has become clearer how treating only acute flares might, despite being vital, lead to insufficient control of hyperuricemia, which can lead to a high urate burden, chronic arthropathy, and significant impairment. Gout can be successfully treated in several ways, including uricostatic drugs alone or in conjunction with uricosurics, preventive anti-inflammatory drugs like colchicine, and non-steroidal pain relievers. With a better understanding of the pathophysiology of gout, novel treatments for gout flare-ups and underlying hyperuricemia have been found. In addition to immediately improving the care of gout patients, novel medications that reduce serum urate levels or treat and prevent acute gouty flares can also serve as a forum for discussion and the education of both those who treat and those who are treated for this underdiagnosed condition. Hence, this article we discuss about the emerging and current therapies for GOUT patients

Keywords: uricostatic, non-steroidal pain.

50) AN OVERVIEW OF ALLERGIC RHINITIS

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ABSTRACT

A frequent illness that impacts up to 40% of individuals globally is allergic rhinitis (AR). The prevalence of allergic rhinitis, which affects people of all ages but is most prevalent in adolescence, is quite high. Guidelines help handle it effectively. Oral and intranasal H₁-receptor antagonists (antihistamines), intranasal and systemic corticosteroids, intranasal anticholinergic drugs, and leukotriene receptor antagonists are some of the medications used to treat allergic rhinitis. Antihistamines help with sneezing and hypersecretion but not blockage. Allergy rhinitis is not hazardous, although it can be uncomfortable. Traditional symptoms of the condition include sneezing, rhinorrhoea, nasal congestion, and nasal itch. A physical examination and allergy skin tests are required before an allergic rhinitis diagnosis may be made. Histamine is the main cause of sneezing and hypersecretion, and other mediators most likely also play a role in nasal blockage. Animals and home dust are the main factors contributing to seasonal allergic rhinitis, while pollen is the main factor contributing to chronic allergic rhinitis. Treatment options for allergic rhinitis should include medication, allergen immunotherapy, and allergen avoidance (when practical). Immunotherapy may be added if medicine is unable to manage allergic rhinitis. In this presentation, a summary of the pathophysiology, diagnosis, aetiology, prevention, and appropriate therapy choices for this condition are presented.

Keywords: allergic rhinitis, antihistamines.

51) AUGMENTED REALITY IN MEDICINE

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ABSTRACT

One of the emerging fields in recent times is augmented reality. This was developed in 1968 by computer scientist Ivan Sutherland, who is considered the father of computer graphics. Augmented Reality is a technology that combines the real world with virtual objects and also extends the user's reality using digital information. Google Glass was the first augmented reality platform. It was first used in an operation by Dr.Rafael Grossman. Augmented Reality is a promising technique in surgery that requires great precision to avoid further consequences, i.e., laparoscopy and endoscopy. Its ultimate goal is to estimate virtual objects' 3D positions in relation to the real world. Healthcare workers have to learn a vast amount of information about anatomy and the way the body functions. It is also widely used as a patient education tool, which improves patient accuracy and outcomes. Surgeons can use AR to view hidden organs inside the body as well as treat perception. There are many apps used by augmented technology that focuses on the health care system. Some of these are eye-deciding and anatomy 4d. It is not only used in surgery but also used for motivating people to understand the value of health by storing the data in an app. Overall, augmented reality is a boon to the medical field.

Keywords: Real world, virtual, surgeons

52) ANTIOXIDANT POTENTIAL OF HESPERIDIN ON METHOTREXATE INDUCED BONE DAMAGE IN RAT

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ABSTRACT

Intensive use of Methotrexate (MTX) in cancer chemotherapy is increasingly linked with long-term skeletal side effects such as osteopenia, osteoporosis and fractures. However, cellular mechanism by which chemotherapy affects bones integrity remains unclear. This study investigated the effects of Hesperidin in preventing bone defects in rats caused by methotrexate (MTX), a commonly used antimetabolite in childhood oncology. Rats received five daily MTX injections at 0.75mg/kg/day. HEP was orally gavaged daily for 7 days prior to , and during , five-day MTX administration. HEP at 10 mg/kg was found to preserved bone volume, and lowered the adipocyte density. HEP suppressed osteoclast formation ex vivo of bone marrow cells from the treated rats. These data suggest that MTX can decrease antioxidant enzymatic and non enzymatic cause bone loss, Hesperidin treatment was able to restore the antioxidant system and histopathologically proved that Hesperidin supplementation potentially prevent these bone defects. In conclusion present study revealed the antioxidant and cytoprotective of oxidative stress.

Keywords: Methotrexate (MTX), chemotherapy.

53) NOVEL DRUG DELIVERY SYSTEM

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ABSTRACT

Drug delivery is the procedure or technique of administering a pharmaceutical material so that it has a biopharmaceutical, pharmacokinetics, pharmacodynamics, and therapeutic effect in humans or animals. For the treatment of human diseases, the role of the nasal and pulmonary drug delivery systems is becoming increasingly important. These delivery techniques offer exciting alternatives to parenteral medication administration, especially for peptide and protein medicines. In order to address this issue, a variety of pharmaceutical delivery systems have been created and are now being studied for pulmonary and nasal delivery. Cyclodextrins, microspheres, gels, prodrugs, liposomes, and proliposomes are a few examples of these. Demanding requirements for nanoparticles include their ability to transfer into an aerosol, stability against forces induced during aerosolization, biocompatibility, and the power to target particular lung cell populations or locations. biodegradable polymers show they can meet by being created. On the basis of physical and biological principles, novel pharmaceutical delivery mechanisms are developed. Physical techniques include dissolution, osmosis, erosion, and diffusion, whereas biochemical mechanisms include controlled drug delivery systems. Technologies for various drug delivery and drug targeting methods are currently being created. One of the emerging and promising methods of delivering medications and enzymes is through drug-loaded erythrocytes. A revolutionary drug delivery system that is well-developed can significantly improve the ability to release a medicine at a specific location and pace. To administer pharmaceuticals to patients effectively and with fewer adverse effects, pharmaceutical companies are developing revolutionary drug delivery methods. The principles of cutting-edge medication delivery systems are covered in this article. This Novel drug delivery system can be used in monoclonal antibodies {antigen-antibody reaction}

Keywords: Novel drug delivery systems, Bio pharmaceuticals, Pharmacokinetics, Pharmacodynamic, parameters for the evaluation of drugs.

54) A SHORT REVIEW ON FECAL MICROBIOTA TRANSPLANTATION FOR CROHN'S DISEASE

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ABSTRACT:

Crohn's disease causes chronic inflammation of the gastrointestinal (GI) tract. Although its causes are not fully understood, abnormal activation of the GI immune system toward the gut microbiota could be playing a role. In addition, the high number of pro-inflammatory bacteria found in the intestinal microbiota of Crohn's patients could be triggering this abnormal immune response. A recent pilot trial is the first to evaluate the use of Fecal Microbiota Transplantation (FMT) in maintaining remission in Crohn's patients. The authors found a higher rate of steroid-free remission in Crohn's patients treated with FMT, as well as improved lesions and inflammatory biomarkers. However, further studies on a larger patient population are needed. The results of these pilot trials are promising for the many patients suffering from Crohn's disease. "Fecal microbiota transplantation to maintain remission in Crohn's disease: a pilot randomized controlled study".

Keywords: Pro-inflammatory bacteria, Transplantation, FMT, Steroid-free remission, Pilot trial.

55) A SHORT REVIEW ON BACTERIAL MENINGITIS AND NEUROLOGICAL COMPLICATIONS

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FACULTY OF PHARMACY

ABSTRACT

Bacterial meningitis is a leading cause of death from infectious disease worldwide. The neurological complications secondary to bacterial meningitis contribute to the high mortality rate and to disability among the survivors. Cerebrovascular complications including infarction and haemorrhage are common. Inflammation and increased pressure in the subarachnoid space result in cranial neuropathy. Seizures occur in either the acute or delayed phase after the infection and require early detection and treatment. Spreading of infection to other intracranial structures including the subdural space, brain parenchyma and ventricles increases morbidity and mortality in survivors. Hypothalamic pituitary dysfunction is also an uncommon complication after bacterial meningitis. Streptococcus pneumoniae and Neisseria meningitidis are the most common and most aggressive pathogens of meningitis. Clinical signs suggestive of bacterial meningitis include fever, headache, vomiting and altered level of consciousness. Being aware of these complications leads to early detection and improves mortality and outcomes in patients with bacterial meningitis.

Keywords: Bacterial meningitis, subarachnoid space, hypothalamic pituitary dysfunction, Streptococcus pneumoniae, Neisseria meningitidis.

56) A SHORT REVIEW ON CHEMOTHERAPY

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ABSTRACT:

Chemotherapy is used to treat cancer, since cancer cells grow and multiply much more quickly than most cells in the body. It is a drug treatment that uses powerful chemicals to kill fast-growing cells in your body. Chemotherapy usually takes between 3 to 6 months, although it can be more or less than that. It is most often given as an infusion into a vein (intravenously). Doxorubicin (Adriamycin) is one of the most powerful chemotherapy drugs ever invented. It has come to connote non-specific usage of intracellular poisons to inhibit mitosis (cell division) or induce DNA damage, which is why inhibition of DNA repair can augment chemotherapy. To a large extent, chemotherapy can be thought of as a way to damage or stress cells, which may then lead to cell death if apoptosis is initiated. The most common side-effects of chemotherapy: myelosuppression (decreased production of blood cells, hence also immunosuppression), mucositis (inflammation of the lining of the digestive tract), and alopecia (hair loss).

Keywords: Fast-growing cells, Doxorubicin, Intracellular poison, Apoptosis, Myelosuppression.

57) Antidiabetic effect of garlic (*Allium sativum* L.)

Hemnath S 1* Triveen Kumar S 2*

Mr.M. Vasanth Kumar, Associate Professor.

ABSTRACT

There is a potential hypoglycemic effect of garlic (*Allium sativum* L.) and a potential hypoglycemic effect of garlic in type 2 diabetic patients. Type 2 diabetes mellitus is characterised by chronically elevated blood glucose (hyperglycemia) and elevated blood insulin (hyperinsulinemia). When the blood glucose concentration is 100 milligrams/deciliter, the bloodstream of an average adult contains about 5–10 grammes of glucose. In both healthy and streptozotocin-induced diabetic rats, the antidiabetic properties of garlic ethanol extracts of *Allium sativum* were studied. In the present study, they examined the effects of oral route administration of garlic extract for 14 days at dosages of 0.10, 0.25, and 0.50g/kg body weight on the level of blood sugar. In diabetic mice but not in control mice, oral doses of their garlic extracts frequently increase blood glucose hormones such as insulin while decreasing blood glucose, total cholesterol, triglycerides, urea, uric acid, creatinine, and AST and ALT levels ($p < 0.05$). The effects of garlic extract and the well-known anti-diabetic medication glibenclamide (600 microg/kg) were compared. Ethanolic *allium sativum* samples have anti-diabetic effects in streptozotocin- and alloxan-induced diabetic mice and rabbits by increasing insulin release from pancreatic parietal cells. Another clinical trial looked at the antidiabetic benefit of taking 900 mg of *allium sativum* per day in patients who had type II diabetes and hyperlipidemia, and they reported that it reduced serum glucose levels, cholesterol, and serum lipids. Moreover, allicin, cysteine sulfoxide, S-allyl cysteine sulfoxide, allyl propyl disulfide, and cysteine sulfoxide reduced blood sugar by preventing liver-caused insulin activation, separating insulin from bonded forms, and trying to improve cell sensitivity to insulin exhibited an effect similar to that of alliin in reducing diabetic mellitus in mice. In diabetic mice, garlic oil has been shown to decrease the serum levels of amylase, alanine, and aspartate transferases, as well as alkaline and acidic phosphatases.

Keywords: Garlic, allicin, S-allyl cysteine, ajoene, Allyl mercaptan, diabetes, animal studies, human studies, patent

58) A review on muscular dystrophy: A siddha perspective

Hemnath S 1 * Triveen Kumar S 2 *
 Mr.M. Vasanth Kumar, Associate Professor.

ABSTRACT

A series of diseases known as muscular dystrophy cause a progressive loss of muscle mass, which further contributes to a loss of strength. Dystrophies have been classified according to their mode of heritage into X- linked, autosomal and mitochondrial heritage. They're several types similar as Duchenne muscular, Becker muscular dystrophy, Scapuloperoneal or scapulohumeral muscular Dystrophy, Myotonic muscular, branch belt muscular, Facioscapulohumeral muscular dystrophy(FMD), natural muscular dystrophy. Opinion by Creatine kinase, Electromyography(EMG), Muscle vivisection, inheritable testing, Heart monitoring, Lung. Duchenne Muscular Dystrophy(DMD) is one among the most common muscular diseases. The most prevalent non-age muscular dystrophies include DMD, an inherited condition (X-linked sheepish) characterised by progressive muscle deterioration. Treatment in Ayurveda is aimed at keeping the case independent for as long as possible and precluding complications That affect from weakness, reduced mobility, and cardiac and respiratory difficulties. In Ayurveda the Concept of Dosha- dhatu- Mala proposition is unique in the treatment of colorful conditions. In this complaint the main Vitiated dosha is Vata, due to indecorous dhatvagni and which may lead to Mamsadhatukshaya . Hence in this Disease the main treatment principle is correction of the dhatvagniand pacifying the Vata. Treatment may Involve a combination of approaches, including medicine remedy, Purva air and Panch air remedy, Pranayam and Yogatherapy.Duchenne muscular dystrophy is a neuromuscular complaint There's no any satisfactory treatment for the DMD in other pathies except Ayurveda where as in Ayurveda have lots of description of Etiopathology and operation of mansagata drushti which can be co related with the DMD. This composition is an attempt to pressing on details of DMD and its Ayurvedic operation.

Keywords: Duchenne Muscular Dystrophy (DMD), Developmental Disorders, Ayurvedic management,Adhi bala pravritta vyadhi, Panchkarma.

59) DIAGNOSIS AND TREATMENT OF HYPOPITUITARY DISORDER AND TUMOR

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ABSTRACT:

Hypopituitary is a chronic endocrine illness that caused by varied etiology. Clinical manifestation of hypopituitarism is varied often in Sidious in onset and department on the degree and severity of hormones deficiency. However, it is associated with increase mortality and morbidity. Therefore, early diagnosis and prompt treatment is necessary. Hypopituitary can be easily diagnosed by measuring basal pituitary and target hormone levels except. Growth hormones (GH) and adrenocorticotrophic hormone (ACTH) deficiency. Dynamic stimulation tests are indicated in equivocal basal hormone levels and GH/ACTH deficiency. Pituitary adenomas result in clinical sequelae and accelerated mortality due to central mass effects or pituitary hormones hypersecretions and in suffering. The low annual incidence and prolonged natural history of these rare tumors has hindered efforts to evaluate long-term clinical outcomes. Care of these patients is often provided my larger tertiary specialist referral centers A novel evidence -based computerized pituitary tumor registry was develop to systematically evaluate epidemiological ,biochemistry ,and clinical outcomes data.

Keywords: the analysis of this primarily Hypopituitarism, Thyrotropin deficiency, Gonadotropin, Growth Hormone.

60) ZOLLINGER-ELLISON SYNDROME(ZES)

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ABSTRACT:

Zollinger-Ellison syndrome (ZES) is a rare disorder occurring from tumours and ulcers in digestive system associated with duodenal gastrinoma or pancreatic is characterized by gastric acid hypersecretion, which leads to gastroesophageal reflux disease, chronic diarrhea and recurrent peptic ulcers. gastrinomas produce gastric in large amount, which is produced in stomach. however, hypergastrinemia might recognize several causes, which should be ruled out in order to make a final diagnosis Two main variants of ZES are sporadic and others found in association with parathyroid and pituitary tumors, a genetic disorder known as Multiple Endocrine Neoplasia-1 (**MEN-1**). The mainstays of treatment include management of hypersecretory state with medical suppression of gastric acid production and surgical resection of primary tumor for the prevention of malignant transformation and metastatic complication. For the localized stage, the combination of proton pump inhibitory therapy, which usually resolves symptoms, and surgery, whenever feasible, with curative intent represents the hallmark of gastrinoma treatment. new treatment strategies including improved control of gastric acid secretion and role for surgery, and the new approaches to patients with advanced disease, the role of surgery in patients with ZES, especially those with multiple endocrine neoplasia type 1 (MEN1). An endocrinopathy characterised by gastrin secreting tumor responsible for causing multiple recurrent and an often refractory ulcers in the GI tracts. whereas, the reviewed available literature about gastrinoma-associated ZES with a specific focus on differential diagnosis, providing potential diagnostic and therapeutic algorithms.

Keywords: Zollinger-Ellison syndrome, Gastrinoma, hypergastrinemia, gastrin, pituitary tumour, Hallmark of gastrinoma treatment

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61) STUDY OF ACHALASIA

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ABSTRACT

Achalasia is a major esophageal condition that affects both sexes equally and people of all ages and involves both the lower esophageal sphincter and the body of the oesophagus. The pathophysiologic mechanism of the disease involves the loss of the myenteric plexi, which are necessary for esophageal peristalsis but whose genesis is yet unknown. Achalasia can spend years without being identified due to its gradual, initially oligosymptomatic course and relatively low frequency of disease.

Esophageal manometry is the industry standard for diagnosing achalasia from a medical standpoint. Its function in monitoring patients after treatment, however, is still debatable. In addition to being suggested for detecting pre-clinical symptomatic recurrence, radiological tests support the original diagnosis of achalasia. Endoscopy is helpful for excluding secondary causes of achalasia even if it is thought to have poor sensitivity and specificity in the diagnosis of achalasia.

Key words: Esophageal, Myenteric plexi, Radiological, Paristalsis

62) HANTAVIRUS

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ABSTRACT

Hantavirus is a rare viral disease and can be transmitted to humans and causes two severe disorders, such as Haemorrhagic Fever with Renal Syndrome [HFRS] or Hantavirus Pulmonary Syndrome that occurs in Asia and Europe and Hantavirus Cardio Pulmonary Syndrome [HCPS] that occurs only in America. It is mainly transmitted through inhaled air of rodent urine, faeces that contain aerosols, droppings or saliva and may be transmitted by rodent bite. The disease that manifests initially as flu-like symptoms such as pulmonary oedema, hypotension, fever, hypoxia, fatigue and muscle cramp before quickly developing. It may results in potentially fatal lungs and cardiac conditions. This disease cannot be cured by any kind of treatment or vaccine. If we suffer from Hantavirus, we are generally admitted to hospital's critical care unit and supplied with oxygen and mechanical ventilation to assist our breathing and drain the fluid from the lungs. There are two types involved in the mechanisms of Hantavirus. Firstly, it is directly affecting the microvascular endothelium and secondly, it amplifies the host immune system. This virus can be prevented by avoiding direct contact with rodent where they are living and clean our surrounding from rodent by using snap traps.

Keywords: Rodent, Hantavirus Pulmonary Syndrome, Hantavirus Cardio Pulmonary Syndrome.

63) AIR POLLUTION ASSESSMENT IN THE TRAFFIC SIGNAL USING IOT

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ABSTRACT

The Environmental Protection Agency and the World Health Organization have established regulations and policies to control and enhance air quality and acknowledged the significant impact that air quality has on human health. However, there is a critical need for low-cost approaches that integrate mobile computing technologies, are modular, scalable, portable, and have simple installation and configuration features to monitor and regulate air quality. The suggested method enables mapping and measurement of air quality levels while taking into account spatial and temporal data. Many Internet of Things (IoT)-related technologies have been created to assess and monitor various metrics of air quality in order to lessen the issues caused by air pollution. In order to reduce air pollution, this study explores the essential properties of IoT, compares and contrasts RFID, M2M, and sensor networks, and an intelligent and multipurpose monitoring platform. Environmental problems like the greenhouse effect and diseases have been brought on by the rapid growth of infrastructure, industries, and vehicles. To avoid such instability in nature, we need an environmental pollution monitoring system. In this paper a solution for overseeing air pollution levels in the environment is proposed. The solution includes the technology Internet of Things (IoT) which is a revolutionary way of design and configure the systems and services based on metamorphic changes. Here the sensing devices are interfaced to the computing system to monitor the fluctuation of parameters from their normal levels. This model is adaptable for any infrastructural environment that needs continuous monitoring, controlling and behaviour analysis.

Keywords: World Health Organization, Internet of Things (IoT).

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64) A SHORT REVIEW ON ANAESTHESIA

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ABSTRACT:

Anesthetic, also spelled anaesthetic, any agent that produces a local or general loss of sensation, including pain. There are four main categories of anesthesia used during surgery and other procedures: general anesthesia, regional anesthesia, sedation (sometimes called "monitored anesthesia care"), and local anesthesia. It is a state of controlled, temporary loss of sensation or awareness that is induced for medical and veterinary purposes. It may include some or all of analgesia (relief from or prevention of pain), paralysis (muscle relaxation), amnesia (loss of memory), and unconsciousness. An animal under the effects of anesthetic drugs is referred to as being anesthetized. They may be given by injection, inhalation, topical lotion, spray, eye drops, or skin patch. They cause you to have a loss of feeling or awareness. The provision of anesthesia without the use of muscle relaxants has become increasingly popular during spine surgery

Keywords: Loss of sensation, Veterinary purposes, Anesthetic, Inhalation, Muscle relaxants.

65) PHARMOCOVIGILANCE

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ABSTRACT

Pharmacovigilance is also known as drug safety . It is the branch of pharmacy science that deals with the “collection ,identification ,assessment, monitoring and prevention “of side effects associated with the pharmaceuticals .Particularly it is a long term adverse effects of medicines. Pharmacovigilance benefits include time savings ,superior quality, lower costs and higher efficiency with safer and more effective medications. Pharmacovigilance also lead to the “THALIDOMIDE DISASTER” was first synthesized and discovered by McBride in 1953 ,and it was heavily advertised in 1956. However, many developing countries are still learning about pharmacovigilance. Due to the global nature of pharmaceutical cooperation , there are significantly more employees in this sector of the industries,especially in USA and other European countries .The current status of pharmacovigilance is the 20th World Health Assembly in 1971 served as the official ground breaking for the WORLD HEALTH ORGANISATION(WHO) international drug monitoring programme . A report released in 1972 served as the foundation for the current global pharmacovigilance system.

KEYWORDS: Pharmacovigilance, drug and monitoring, WHO(World Health Organisation), ADR.

66) BIOMEDICAL APPLICATIONS OF GOLD NANOPARTICLES

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ABSTRACT

There are various operations are involved the gold nanoparticle, but their drug assiduity was the most significant. Due to the good harmony with the mortal body, low bane, acclimate stabilities, small size, and implicit for interacting with a variety of substances, they've got parcels that are suitable in control drugs delivery, carcinoma treatments, biomedical opinion, numerous other operations and imaging . In addition to having optical characteristics, they also absorbed infrared radiation. Also, gold nanoparticles had showed a significant eventuality of being used as medicine delivery systems due to their extensive face and capacity to the coated the range of remedial agents. The biomedicine, gold nanoparticle is extensively shovelled, and recently studies had showed that they can pass through the blood- brain hedge and may interact the DNA and it's yield. The further popular styles the creating of gold nanoparticle are the naturally and chemically. Still, the chemical system has the advantage of allowing for further control over the sizes and shapes of the nanoparticle. There constantly employed in photodynamic remedy the capacity to produce heat, which allows them to target and annihilate malice. The most popular styles for creating gold nanoparticle are naturally and chemically. Still, the chemicals system has the advantage of allowing for further control over the size and shape of their nanoparticle. The main uses of gold nanoparticle in the biomedical sector are mooted in this studies, included in the construction of the specialised sun decks and drug delivering systems, their treatment for cancer, impediments of amyloid-analogous as fibrillogenesis, transplacental treatment, and transplacental remedy.

Keywords: nanoparticle, photodynamics, fibrillogenesis.

67) Properties of lavender oil- a review

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ABSTRACT

Lavender oil is important oil made from the lavender plant. lavender is an associated herb native to northern Africa and therefore the mountainous regions of the Mediterranean. The oil has cosmetic uses and is believed to possess some healthful uses. Proof doesn't nevertheless support victimization lavender to treat depression, high vital signs, emission pain, nausea, or disease of the skin among different conditions. Lavender oil is believed to possess antiseptic and anti-inflammatory properties, which might facilitate to heal of minor burns and bug bites. in a very more modern study, researchers found that applying lavender oil to the backs of mice helped to push hair growth over the course of four weeks. Lavender oil isn't approved by the food and drug administration and will not be taken in situ with approved and prescribed medicines. Analysis of performance discovered that lavender created a major decrement in performance of memory and impaired reaction times for each memory and a spotlight primarily based on takes compared to manage.

Keywords: lavender, cosmetic, anti-inflammatory property, antiseptic property.

68) Autologous bone marrow transplantation for acute lymphocytic leukemia

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ABSTRACT

Acute lymphocytic leukemia (ALL) is one of the types of blood and bone marrow cancer that affects tissues inside the bones where the blood cells are formed. Since the illness advances quickly and produces immature blood cells instead of mature ones, acute lymphocytic leukemia gets its name from that characteristic. Bone marrow transplantation (BMT) can treat individuals with acute lymphocytic leukemia (ALL), including elderly patients. Bone marrow transplantation, also known as stem cell transplantation, Blood stem cells are the most commonly used treatment for ALL. Allogeneic and autologous stem cell transplantation are used in all treatments. A patient receives their own cells back through an autologous stem cell transplant. Autologous bone marrow transplantation was created to increase the apparent therapeutic potential of myeloablative therapy combined with allogeneic bone marrow transplantation for leukemia patients. Stem cell transplantation produces possible adverse effects such as sores in the mouth, nausea, vomiting, bleeding, graft versus host disease, etc.

Keywords: Acute lymphocytic leukemia, Stem cell transplantation. Autologous bone marrow transplantation

69) sutillem setebaiD nI nilusnI fo eloR A – weiveR A

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TCARTSBA

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Keywords: sutillem setebaiD, aimecylgrepyh cinorhc, aigahpylop,

70) MULTIFUNCTIONAL GOLD NANOPARTICLES IN CANCER DIAGNOSIS AND TREATMENT

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ABSTRACT

One of the most serious threats to human health today is cancer, which is the second biggest cause of mortality worldwide after cardiovascular disease. The physical characteristics of gold nanoparticles (AuNPs) make them desirable for use in medicine. For instance, gold nanoparticles are used in computed tomography imaging and as adjuvants in radiotherapy because they attenuate X-rays. The utilisation of modern medical technology, such as surgery, radiotherapy, and chemotherapy, is extending the life of cancer patients. In this chapter, we learned how gold nanoparticles can be used as a contrast agent for both optical and X-ray cancer imaging. Larger structures that transport significant payloads for improved diagnostic applications, such as polymeric nanoparticles or liposomes, can include AuNPs. The physical characteristics of gold nanoparticles (AuNPs) make them appealing to scientists for improved diagnostic applications and effectively encapsulate medications for concurrent therapy for additional imaging labels. Due to their numerous unique features, such as customizable size and shape variations and practical physiochemical properties, gold nanoparticles (AuNPs) in particular have attracted considerable attention. These applications necessitate a thorough and in-depth examination in order to fully realise the potential of AuNPs. With a focus on reports of multifunctional AuNPs, this review discusses fundamental concepts and recent developments in gold nanoparticle applications for imaging, treatment, and diagnostics.

Keywords: gold nanoparticles, multifunctional, cancer, chemotherapy, cancer imaging.

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71) ANALYSIS AND SURVEILLANCE OF INFECTIOUS DISEASES BASED OF ARTIFICIAL INTELLIGENCE

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ABSTRACT :

Artificial intelligence is defined as the Human-like behavior that was displayed by a machine or scientific system. In simple terms, computers are programmed to mimic human behavior using extensive data from previous samples of consistent behavior. Due to the advancement of information and communication technology, public health monitoring data has been using artificial intelligence since the 21st century. The spread of microorganisms including viruses, bacteria, fungus, parasites, and others can directly or indirectly cause infectious diseases. The spread of viral disease in 2019 which is named COVID -19, causes major health issues and a high amount of deaths all over the world. This AI provides new confidence to prevent and control the spread of infectious diseases. The development of AI can assist scientists in understanding the behavior of microbes, forecasting infectious diseases to stop the spread of pandemics, and discovering drugs more quickly to treat sickness. Then, the analysis of the precautions, treatments, medications, and strategies to stop the spread of diseases aids in resolving pandemic scenarios. Future government agencies, medical professions, and health service providers will be able to respond to sickness more effectively based on the AI's ability, which is to analyze vast amounts of infectious disease and Surveillance data. This article gives the potential applications and implications of AI which can help the health institutions and the global health community to fight against the rise of infectious diseases.

Keywords: Machine, Technology, Diseases, Data.

72) ANTI-INFLAMMATORY DRUGS AND THEIR MECHANISMS OF ACTION

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ABSTRACT

Nonsteroidal anti-inflammatory drugs (NSAIDS) it produce the therapeutic activities through inhibition of cyclooxygenase cox the enzyme that makes prostaglandins PGS. The side effects including gastric and renal toxicity cox-1 is constitutive and makes PGS that protect the stomach and kidney from damage cox-2 is induced by inflammatory stimuli such as cytokines and produces PGS that contribute to the pain and stomach. cox-2 inhibitors should be anti-inflammatory without side effects on the kidney and stomach of course selective cox-2 inhibitors may have other side effects and perhaps other therapeutic potential in addition the well-known protective action of aspirin on colon cancer may be through an action on cox-2 which is expressed in this disease. The NSAIDS delay the progress of Alzheimer's disease. The selective cox-2 inhibitors may demonstrate new important therapeutic benefits as anticancer agents as well as in preventing premature and perhaps even retarding the progression of Alzheimer's disease. The efficacy in reducing pain and inflammation. Non-steroidal anti-inflammatory drugs NSAIDS in a part from analgesic ,anti-inflammatory and antipyretic efficacies NSAIDS are diverse critical disorders including cancer and heart attacks .The adverse effects of NSAIDS in gastrointestinal, cardiovascular, hepatic ,renal ,cerebral ,and pulmonary disorder. The side-effects which would be beneficial in evaluating the risk-benefit threshold while using NSAIDS at safety dose and duration.

Key words: Anti-inflammatory, Cyclooxygenase-1,Cyclooxygenase-2, NSAIDS, Therapeutic use

73) New Therapies for Asthma and Chronic Obstructive Pulmonary Disease

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ABSTRACT

There is a general agreement that chronic obstructive pulmonary disease (COPD) is a worldwide epidemic that primarily affects developing nations. We all agree that, despite having access to the most recent medical technology, COPD is still poorly managed in at least two ways: people continue to smoke, and those who already have the disease are not receiving effective therapy. Patients still experience COPD-related death and suffering. None of our medicines have significantly slowed the disease's progression or fatality. Similar to asthma, which causes severe symptoms, significant time missed from work or school, as well as mortality, a significant section of the population worldwide suffers from it. Although there are effective treatments for asthma, the condition is not sufficiently controlled in many patients. The overlap syndrome between asthma and COPD combines the morbidity and mortality of both diseases and may call for combination therapy. In this perspective, we concentrate on the medications being created to meet these unmet requirements. In fact, the same medication classes are frequently being developed concurrently for severe COPD and asthma due to the numerous overlapping pathways of chronic inflammation. The need for medicines that target individuals who have severe diseases despite using current therapies is the largest need in asthma, aside from improving adherence. Treatments for COPD that focus on smoking cessation and the underlying progressive disease process that can continue to harm the airways and parenchyma long after smoking cessation are most urgently needed. Hence in this article, we discuss the new therapies for asthma and chronic obstructive pulmonary disease.

Keywords: chronic obstructive pulmonary disease (COPD), asthma, pulmonary disease.



74) MEDICINAL SIGNIFICANCE OF FOLKLORE PLANT - CAPSICUM SPP

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ABSTRACT

Capsicum, also known as red pepper or chili pepper, is an herb. Its fruit is commonly applied to the skin for arthritis pain and other conditions. The fruit of the capsicum plant contains a chemical called capsaicin. Capsaicin is what seems to help reduce pain and swelling. A particular form of capsicum causes intense eye pain and other unpleasant effects when it comes in contact with the face. This form is used in self-defence pepper sprays. Capsicum is commonly used for nerve pain and other painful conditions. Capsicum annum is a botanical genus that includes several varieties of peppers commonly found in many kitchens and gardens: bell peppers, cayenne peppers, jalapenos, and other hot peppers. Capsaicin is the ingredient that gives hot peppers their heat, and this substance is beneficial for medical uses as well as flavour. The hot members of Capsicum annum have been used by various cultures to treat a wide range of afflictions, including bronchitis, arthritis, diabetes, fatigue, and sore throats. They have also been used to relieve the symptoms of migraines, colds, psoriasis, and kidney disorders. Like all members of Capsicum annum, they have powerful antioxidant properties. Antioxidants destroy the free radicals that promote aging and degenerative diseases. The antioxidant constituents in Capsicum annum promote eye health since their effectiveness at removing free radicals helps prevent macular degeneration. In traditional medicine, chili has been used against various gastrointestinal complaints such as dyspepsia, loss of appetite, gastroesophageal reflux disease, gastric ulcer, and so on. In chili, more than 200 constituents have been identified and some of its active constituents play numerous beneficial roles in various gastrointestinal disorders such as stimulation of digestion and gastromucosal defense, reduction of gastroesophageal reflux disease (GERD) symptoms, inhibition of gastrointestinal pathogens, ulceration and cancers, regulation of gastrointestinal secretions and absorptions. However, further studies are warranted to determine the dose ceiling limit of chili and its active constituents for their utilization as gastroprotective agents. This review summarizes the phytochemistry and various gastrointestinal benefits of chili and its various active constituents.

Keywords: Capsicum, self-defence pepper sprays, gastroesophageal reflux disease (GERD), Phytochemistry.

75) BIOACTIVITY OF MEDICINAL PLANT-SENNA.

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ABSTRACT

The Cassia leaves and pods extracts have been used in traditional or herbal medicines in ancient Times. Senna is an Arabian name but it is native to Sudan. It is a small herb growing to a height of 2- 3 Feet. The pods and Leaves contain anthraquinone glycosides that have a significant Laxative effect. In this study, anthraquinone was extracted from Senna (*Cassia acutifolia* Delile) pods and the active Constituents Were checked to confirm the presence of both Anthraquinone compounds (senna sides A and B). Effervescent Tablets were formulated using the senna extract as the active ingredient in addition to their tableting constituents. The Formulated tablets were then subjected to the known official Monographs requirements like resistance to crushing (hardness Test), weight Variation, disintegration time/effervescent time, Friability test, content uniformity test and pH. The Results Obtained were: 7.4 kg/cm², 10%, 59.01 s, 0.74%, 97.30% and 5.4 for resistance to crushing, Weight variation, Disintegration time, friability test, content uniformity test and pH respectively. The Values obtained indicate the effervescent compliance with the pharmaceutical standards set by British Pharmacopoeia (BP) and the United States Pharmacopoeia (USP). These tablets can be used as an Alternative source of laxative Medicine in Sudan due to the abundance of *Cassia acutifolia* as a wild plant. Senna is a (FDA) approved medicine.

Keywords: Senna, Sudan, United States Pharmacopoeia (USP), British Pharmacopoeia (BP).

76) Plant based drugs with antidepressant properties

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ABSTRACT

Depression is mood disorder which affects the behaviour, mood, and feelings of a person. The person loss interest in things, also will have change in behaviour, feelings, thoughts etc., depression is caused by low levels of monoamines which are noradrenaline, dopamine and serotonin. Herbal drugs are products that are obtained from plants that are used to treat any kind diseases. Any part of plant can be used to produce any type of phytomedicines. The recently used drugs for depression shows adverse effects that can compromise the therapeutic treatment. These synthetic drugs show adverse effects like drowsiness, nausea, weight gain, risk of suicide. As to improve the advantage and benefits, we can look through plants with antidepressant properties that can cause less side effects. These plants should have properties that inhibits monoamine oxidase or inhibits the reuptake of these monoamines. Plants that show antidepressant properties includes saffron, Lavandula angustifolia, magnolia officinalis, hypericum perforatum.

Keywords: depression, herbal plants, antidepressant, phytomedicines.

77) EFFICACY OF THE KETOGENIC DIET AS A TREATMENT OPTION FOR EPILEPSY

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ABSTRACT

The ketogenic diet was formally introduced into practice in the 1920s although the origins of ketogenic medicine may date back to ancient Greece. The evidence base for efficacy of the ketogenic diet was assessed among pediatric epileptic patients by application of a rigorous statistical meta-analysis. Pediatric epileptic seizures occupy a significant place in the current nosology of neurological syndromes. Most effected population with seizures is children and elderly and less effected are adults. Role of diet is plays an important part in reducing the severity of symptoms, most significant diet is ketogenic. Composition of ketogenic diet includes highest ratio of fat, moderate ratio of protein and lowest ratio of carbohydrates. This high-fat, low-carbohydrate diet induces ketone body production in the liver through fat metabolism with the goal of mimicking a starvation state without depriving the body of necessary calories to sustain growth and development. This restriction triggers a systemic shift from glucose metabolism toward the metabolism of fatty acids yielding keton bodies, such as acetoacetate and -hydroxybutyrate as substrates for energy by elevate the levels of ketone bodies and reduction of blood glucose levels.

Keywords: ketogenic diet, epileptic seizures, ancient Greece.

78) SYNTHESIS OF SILVER NANOPARTICLES USING *BACILLUS SUBTILIS* USING BIOREDUCTION

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ABSTRACT

Biological synthesis of nanoparticles is an inexpensive, pollution free, and eco-friendly method. The present work was undertaken to investigate the use of *Bacillus Subtilis* extract for the synthesis of silver nanoparticles.

In the present investigation, biological extract of *Bacillus Subtilis* was used for the biosynthesis of silver nanoparticles. Biosynthesis of silver Nano particles (AgNPs) from AgNO₃ in the presence of the extracts of *Bacillus Subtilis* was observed by the resultant reddish brown colour. The colour change arising from the excitation of surface Plasmon vibration. Biogenic silver nanoparticles were characterized by using ultraviolet-visible (UV-Vis) spectrophotometry, Fourier transform Infrared spectrometry (FT-IR), Scanning electron microscopy (SEM). The UV-Vis absorption peaks of silver nanoparticles were observed at 420 nm for biological extract of *Bacillus Subtilis*. Fourier transform infrared spectroscopy revealed the possible biomolecules involved in bio reduction, capping and stabilization of nanoparticles. The SEM images revealed that the silver nanoparticles are spherical in shape and mono dispersed. The size of silver nanoparticles ranges from 80 to 100 nm.

The biosynthesized silver nanoparticles using *Bacillus Subtilis* extract tested for the anti-bacterial activity on bacterial species viz., *Staphylococcus*, *Proteus vulgaris* and *Escherichia coli*.

The present investigation confirms the greater antimicrobial activity of biogenic silver nanoparticles synthesized by *Bacillus subtilis* extract. Synthesis of nanoparticles using microbial culture extract is eco-friendly approach. This green approach towards the synthesis of silver nanoparticles reduces discharge of toxic metabolites and energy consumption.

Keywords: Bio reduction, Green synthesis, Silver Nanoparticles, *Pseudomonas aeruginosa*, Anti-microbial activity

79) DESIGN OF BIO FERTILIZERS FOR SUSTAINABLE CROP PRODUCTION

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ABSTRACT

Biofertilizers are biological preparations of effective microorganisms that enhance nutrient uptake and encourage plant development. By fixing atmospheric nitrogen, saturating soil with phosphorus, and promoting plant development, they raise soil productivity. Numerous microorganisms, including as nitrogen-fixing cyanobacteria (*Anabaena*), nitrogen-fixing soil bacteria (*Rhizobium*, *Azotobacter*), fungus, and phosphate solubilizing bacteria, are frequently utilized as biofertilizers are produced by solid-state fermentation or immobilization of the enzymes and substrates As a preliminary study, biofertilizer is synthesized by using vegetable waste. In a laboratory scale bioreactor, composting was done. The compost was turned twice a week in order to aerate it. pH, Organic Matter, Nitrogen, and Carbon were measured at 5-day intervals until the composting exercise was complete. The final inoculant has minimum of 10^8 viable cells of bio inoculant/g of carrier on dry weight. In the field trials with Maize, the effectiveness of biofertilizer as organic fertilizer was more thoroughly examined. Quality control tests such as Pre - culture test, Broth test, Peat test, Cell morphology are performed to assess the quality of biofertilizer

By increasing the plants' resistance to abiotic stress, nano-fertilizers can be used in conjunction with bio fertilizers to produce nano-biofertilizers, which have advantages over nano-fertilizers. Therefore, nano-fertilizers are viewed as a gateway for fresh ideas about the development of sustainable agriculture today. The way that agricultural techniques are being changed highlights the importance of biological inoculants in future years and makes biofertilizers an essential component of modern crop production.

Keywords: Biofertilizer, crop production, agriculture and nitrogen fixation

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80) EVALUATION OF NOOTROPIC ACTIVITY OF AGMATINE SULFATE IN DIFFERENT EXPERIMENTAL ANIMAL MODELS

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ABSTRACT

Agmatine has been recently emerged as a novel candidate to assist the conventional pharmacotherapy of depression. Agmatine (AG) is formed by the enzymatic decarboxylation of L-arginine. It has been discovered recently in mammals where it is expressed in the central nervous system. Agmatine is chemically manufactured in the brain and stored in the synaptic vesicles which are then used in releasing important peptide hormones. It also helps in the production of Nitric Oxide while reducing the growth of enzymes like Nitric Oxide Synthase. Consumption of this substance can also help to improve the mood as it has certain antidepressant and anti-anxiety properties. The main objectives of study was to evaluate the beneficial effect of Agmatinesulfate for its nootropic activity in different experimental animal models. The methods used for present study were Scopolamine induced short-term memory deficit model, Time induced Long-term memory deficit model. Agmatine sulfate exhibited procognitive like effects dose dependently by reversing the time-induced long-term episodic memory deficits in NORT. Further, scopolamine-induced short-term episodic memory deficits were also prevented by prior treatment with the Agmatine sulfate at both the tested doses in a dose dependent manner.

Keywords: Agmatine, Nootropic activity, NORT, scopolamine

81) Agrobacterium Mediated Gene Transfer of CT-B Antigen In Transgenic Banana Callus

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ABSTRACT

Plant biotechnology was promoted to express the foreign antigen in plant tissues as edible vaccine. Vaccination was the best known and most successful application of immunological principles to human health. ¹Recombinant DNA technology had already radically altered the field of vaccines. They understand better how our body interacts with microbes at the molecular level. Molecular biology also facilitates the development, production and delivery of safe and effective vaccines

In this study, CT-B gene was cloned into plant expression vector. The plasmid PCAMBIA was constructed by inserting the coding region for CT-B from PRK2013 together with pBluescript II KS between the Bam H1 and EcoRI in the sites of PGA643 plant transformation vector and expressed in the plasmid (PCAMBIA). Here the study is to investigate the possibilities of cholera toxin B subunit to be used as a carrier of peptide vaccine by genetic approach. *Agrobacterium tumefaciens* is capable of infecting intact cells and introduces one of several copies of the transformed DNA in to the plant genome. *Agrobacterium tumefaciens* strain (LBA4404) is carrying the plasmid (pCAMBIA 1301) and will be used for the transformation studies. Constructed plasmid which contains the gene was transferred from its host *E.coli* strain (DH5 α) in to *Agrobacterium tumefaciens* (LBA4404) by triparental matting method. In triparental matting *E.coli* harbouring plasmid (PRK2013) will be used as a helper. The result revealed the presence of 11.6 kDa CT-B antigen in constructed plasmid and experimentally confirmed. The transformed gene expression was used for the edible vaccine preparation in Banana Callus.

Keywords:Cholera, Vaccine, P CAMBIA, Gene Transfer,

82) BIOREMEDIATION AND DETOXIFICATION OF TANNERY EFFLUENTS BY *PSEUDOMONAS PUTIDA* (MTCC 2445)

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ABSTRACT

Tanning industries are the major Chromium (Cr) consuming industry and present through out India. Its effluents are easily mixed with drinking water and cause more environmental pollution. As a consequence of Chromium toxicity, the accumulation of chromate [Cr (VI)] in drinking water poses a serious risk to human health. Conventional approaches to groundwater remediation and the regeneration of potable water supplies are expensive and limited in their effect. Hexavalent chromium [Cr (VI)] is a priority toxic, mutagenic and carcinogenic chemical, whereas it's reduced trivalent form [Cr (III)] is much less toxic and insoluble. Hence, the basic process for chromium detoxification is the transformation of [Cr (VI)] to [Cr (III)]. *Pseudomonas putida* (MTCC 2445) produces the chromium (VI) reductases enzyme and it has the ability to reduce [Cr (VI)] to [Cr (III)] in the presence of oxygen. In the present study the effluents were collected from five different industries and treated with *Pseudomonas putida* (MTCC 2445) strain for 48 hours and analyzed for [Cr (VI)] content. The result clearly showed the remarkable decrease of [Cr (VI)] to almost 0% in effluent. It is due to the treatment with *Pseudomonas putida* (MTCC 2445) [Cr (VI)] is converted to [Cr (III)] and freed from Chromium's toxicity. The treated water can also be used for irrigation purpose and never produce harmful effect to the plants as well as humans. It is speculated that the direct application of [Cr (VI)] reductases may be a promising approach for bioremediation of [Cr (VI)] in a wide range of environments.

Keywords: Chromium, *Pseudomonas putida*, bioremediation

83) DIFFICULTIES PREVAILING AROUND ORPHAN DISEASE AND ORPHAN DRUG POLICIES IN EUROPE

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ABSTRACT:

An orphan disease is a disease whose occurrence is a very low. Although there are huge number of orphan diseases, only very minimal orphan drugs to treat orphan disease have been marketed in the EU. The EU has maintained an implemented policies significantly developed to enhance the development of orphan drugs. While decisions on orphan designation and the marketing authorization of orphan drugs are made at the European Union level, decisions on drug reimbursement are made at each country level in the union. The specific qualities of orphan diseases and orphan drugs make them a significant problem for policy makers. The aim of this article is to identify and discuss several issues surrounding orphan disease and drug policies in Europe. The present system of orphan designation allows for drugs for nonorphan diseases to be designated as orphan drugs. The commercial factors underlying orphan designation can be asked in some cases, as a low occurrence of a certain indication does not equal a low return on investment for the drug across its indications. Due to the very low number of patients minimal evidence about the clinical added value of orphan drugs is available at the time of marketing authorization. Hence, there is a need to establish a balance between ethical and economic concerns. To this effect, there is a need to initiate a societal dialogue on this issue, to clarify what society wants and accepts in terms of ethical and economic deliverables. Indications can be extended for an orphan drug and the total occurrence across indications is not considered. Nevertheless, cooperation needs to be incurred withing the member states, particularly through a standardized approach to the creation and use of registries. These issues require further considerations from academics, agencies, health professionals, patients and pharmaceutical companies with an emphasis to enhance orphan disease and drug policies in the member states

Keywords: Orphan Disease, Orphan Drugs, Health authorities and Marketing authorisations

84) Identification of Medicinal Products (IDMP): A US & EU Understanding and Implementation

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ABSTRACT

During development of medicinal products there is a vast exchange of information between regulatory agencies and the industry. However, inconsistencies in data formats, languages and terminology are seen. The lack of harmonized approach leads to reduced pharmacovigilance oversight, makes it difficult to exchange data across agencies and industry and increases the administrative burden which results in a significant demand for resources to handle different regional requirements. As part of the solution the Identification of Medicinal Products (IDMP) standards were created, to define the medicinal product information throughout the life cycle of a medicinal product. ISO IDMP consists of five different standards. It was created by ISO with contribution from regional health authorities, the pharmaceutical industry and the national competent authorities. The ISO IDMP standards specify data elements, formats and terminologies for the unique identification and exchange of medicinal products. The New data requirements has increased significantly in comparison to today's requirement that is XEVMPD, which is why IDMP requirement will take a iterative approach, with the experiences gained upon the earlier stages to refine and ensure robust processes are in place in submitting the IDMP data.

Keywords: Drug Substance; Drug Product; Impurities; Nitrosamine; Regulatory challenges, XEVMPD & ISO IDMP.

95) Stem cells- A cell based therapies for various diseases

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ABSTRACT

Stem cells are defined as cells that have clonegenic and self-renewing capabilities and differentiate into multiple cell lineages. Embryonic stem cells (ESCs) are derived from mammalian embryos in the blastocyst stage and have the ability to generate any differentiated cell in the body. Adult stem cells are part of tissue-specific cells of the postnatal organism into which they are committed to differentiate. No area of medicine can avoid being affected by developments resulting from stem cell research. In recent years, research has dramatically revealed that stem cells possess an unlimited potential to transform themselves into a variety of cell types within the body, theoretically dividing endlessly to replenish other cells as long as its host is still alive. As a cell divides, each new cell resulting from that division has the ability to develop another type of cell with a more specialized function within the body (blood, organ, muscle, nerve). Stem cell research has already proven of high value to biologists and researchers worldwide in better understanding a variety of complex medical conditions, such as birth defects and cancer, as well as the potential to correct their causes. In addition, stem cells offer the possibility of a steady source of cells and tissues to aid in the study and treatment of a variety of illnesses, disabilities, and conditions in the fields of cardiovascular disease, arthritis, CNS, and diabetes.

Keywords: Stem cells, disabilities, birth defects.

86) FORMULATION, CHARACTERISATION, AND IN-VITRO EVALUATION OF POLYMERIC NANOPARTICLES USED IN THE TREATMENT OF EPILEPSY

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ABSTRACT

The main objective of this work is to prepare and evaluate PEG-PLGA, PLGA Nanoparticles (NPs) of Lamotrigine, an antiepileptic drug loaded by emulsification-solvent evaporation method. The prepared NPs were characterized by FT-IR, DSC, drug loading, entrapment efficiency, particle size, surface morphology, particle shape by Transmission electron microscopy (TEM), and in-vitro studies. FT-IR and DSC studies indicated that there was no interaction between the drug and the polymer. The morphological studies performed by TEM showed uniform and spherical-shaped discrete particles without aggregation and smooth surface morphology with a nano-size range of 233-318 nm. The NPs formed were spherical in shape with zeta potentials (-17 to -27 mV). In vitro release studies were carried out by the dialysis bag method. The drug release followed zero-order kinetics and a Fickian transport mechanism. Nanoparticles obtained a high encapsulation efficiency of 69 and 85%. Drug released from Tiagabine Hydrochloride loaded PEG-PLGA, PLGA NPs (65.24% and 72.63%) was for 24 hours. It is concluded from the present investigation that PEG-PLGA and PLGA NPs of Lamotrigine may effectively deliver the drug for the treatment of epilepsy.

Keywords: Nanoparticles, PEG-PLGA, Lamotrigine, Epilepsy, Sustained release, Target delivery.

87) Pharmacological Activity of South Indian Plants for Diabetes Mellitus -A

Short Review

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Abstract:

Medicinal plants used to treat diabetic conditions are of considerable interest and a number of plants have shown varying degrees of hypoglycaemic and antihyperglycaemic activity. An ethnic-medico-botanical survey was carried out among the Kani and Paliyar tribals in the southern Western Ghats of Tamil Nadu for the exploration of antidiabetic herbal medicines. They frequently use ten species of plants for the treatment of diabetes either single or in combination with some other plant parts. The wealth of tribal knowledge on medicinal plants points to a great potential for research and the discovery of new drugs to fight diseases including diabetes, obtaining new foods, and other new uses. The rapidly increasing incidence of diabetes mellitus is becoming a serious threat to mankind's health in all parts of the world. Moreover, during the past few years, some of the new bioactive drugs isolated from plants showed antidiabetic activity with more efficacy than oral hypoglycemic agents used in clinical therapy. Traditional medicine performed a good clinical practice and shows a bright future in treating diabetes mellitus. The paper reviews natural medicines with their mechanism of action and pharmacological test results. Many studies have confirmed the benefits of medicinal plants with hypoglycemic effects in the management of diabetes mellitus. The effects of these plants may delay the development of diabetic complications and correct metabolic abnormalities. WHO has pointed out that this prevention of diabetes and its complications is not only a major challenge for the future but essential if health for all is to attain. Therefore, in recent years, considerable attention has been directed toward the identification of plants with antidiabetic ability that may be used for human consumption. Further, it strongly emphasizes the optional and rational uses of traditional and natural indigenous medicines. The present ethno-botanic study enables the proper transfer of knowledge of plant-based treatments (our natural inheritance) to future generation

Keywords: Diabetic Mellitus, South Indian Plants, hypoglycaemic, Ethno-botanical

88) IMPROVING DRUG DELIVER FOR ALZHEIMER DISEASE THROUGH NANOMEDICINE

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ABSTRACT

The goal of today's Alzheimer's disease (AD) treatments is to lessen the symptom progression and enhance the patient's quality of life. The difficulty of passing the blood-brain barrier limits the use of licenced medications, which are often administered orally (BBB).Therapeutic agents have been delivered to the brain using nanoparticles, improving drug delivery to the brain in a secure and efficient manner . provided a summary of the special characteristics of nanoparticles for the detection and therapy of brain disorders such amnesia, amyotrophic lateral sclerosis, brain tumors, and ischemic stroke. Nanoparticles' small size—typically less than 100 nm—allows them to pass across the BBB and deliver therapeutic agents and diagnostic probes to the brain parenchyma . The nanoparticle toxicity and bioaccumulation in clinical settings in order to quicken clinical translation. Additionally, because of the unsatisfactory results of standard oral medication therapy, active and passive immunization against AD are by far the most researched alternative AD therapies. For AD patients and their caregivers, ODDS of licensed medications appear promising in moving this study from "paper to practice." This review provides an overview of recent research on NTDS as a potential treatment for AD.It is anticipated that it will increase as civilization becomes older. Misfolded proteins like synuclein, amyloid, and tau are found in both PD and AD, which are categorized as proteinopathies. An important factor in disease is abnormal cell-to-cell dissemination innovative method for manipulating materials, tissues, cells, and DNA with at least one dimension with a size between 1 and 150 nm is the synthesis of these NPs for drug delivery. This multidisciplinary approach offers new insights . Numerous sectors, such as medicine, pharmacy, chemical/biological detection, and optics, have benefited from nanomedicine's significant advancements . The current study aims to provide an overview of how nanotechnology has transformed AD treatment/imaging and the knowledge of cellular function by concentrating primarily on the most cutting-edge nanomedicine-based AD treatment techniques.

Keyword: pathogenesis of Alzheimer's disease, neuroinflammation,systemic inflammation ,Treatment of Alzheimer's diseases, Nasal drug administration.

89) A REVIEW ABOUT COLON - TARGETED DRUG DELIVERY SYSTEM

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ABSTRACT:

Colon-specific drug delivery systems (CDDS) are desired for the treatment of a variety of local disorders, including ulcerative colitis, Crohn's disease, irritable bowel syndrome, chronic pancreatitis, and colon cancer. Furthermore, a number of medications used to treat disorders other than colon problems may be absorbed into the system through the colon. Medications like proteins and peptides that are known to break down in the acidic gastric environment can be systemically absorbed by the colonic mucosa if they are given to the patient intact. The proposed delivery method must particularly target the delivery of the medications into the colon in order to produce good therapeutic results. Drugs can be administered locally or systemically through the colon. Topical therapy for inflammatory bowel disease is possible with local administration. However, if the medications could be administered directly into the colon, minimising any systemic side effects, the course of treatment could be rendered more effective. This article review gives a detailed description of the criteria for selection of drugs for CDDS, drug adsorption in the colon, its advantages and limitations.

Keywords: Local disorder, gastrointestinal track, transcellular route, absorption.

90) THE USE OF DEFEROXAMINE IN THE TREATMENT OF ACERULOPLASMINEMIA

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ABSTRACT

Aceruloplasminemia (ACP) is an inherited neurodegenerative autosomal recessive disorder affecting iron metabolism originally called familial apoceruloplasmin deficiency. Aceruloplasminemia is also known as hereditary ceruloplasmin deficiency. The exact cause is an accumulation of iron in the brain and other organs. Aceruloplasminemia may have symptoms such as retinal degeneration, neurological symptoms, and diabetes mellitus. Deferoxamine is a treatment for more severe aceruloplasminemia, which acts as a chelating agent used to remove the excess iron accumulation in the brain and other organs. This reduces the damage caused to various organs and tissues, such as the liver, pancreas, etc. Deferoxamine commonly produces fewer side effects when compared to deferasirox.

Keywords: Aceruloplasminemia , Autosomal recessive disorder , Deferoxamine.

91) NATURAL TREATMENT FOR MENSTRUAL DISORDER

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ABSTRACT:

Menstruation often leads to a variety of uncomfortable thoughts and feelings. Moderate cramps and exhaustion are among the most typical problems, however these disappear as we period starts. Adolescent girls frequently experience menstrual problems. Particularly in the early years following menarche, periods can be irregular, heavy, and/or painful. Although serious pathology is infrequent, menstruation disorder can significantly affect everyday activities. A menstrual cycle that is excessively heavy, too light, or totally lacking can all be signs of problems that can result in an irregular cycle. For the treatment of menstruation problems, allopathic medications have demonstrated numerous notable effects. Thus, focus has been shifted towards domestic remedies. Medicinal plants are crucial in the treatment of menstruation disorders including as either amenorrhea or dysmenorrhea. The present review gives detailed information about various medicinal plants and some home remedies used in the treatment of the disease.

Keywords: Dysmenorrheal, amenorrhea, medicinal plants, Natural therapies.

92) ANTILEPROTIC ACTIVITY OF CHAUL MOOGRA OIL

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ABSTRACT

The Chronic Infectious disease Leprosy(Hansen's disease)is caused by Mycobacterium Leprae bacillus. For a very long time, it was believed to be an incurable illness. Brazil, where nearly 30,000 new cases of Leprosy were detected in 2005, has the second-highest number of Leprosy patients worldwide. There are more than 5 million Mycobacterium Leprae infections worldwide. More cases of Hansen's disease occur in Asia, Africa, Latin America, and the Pacific Islands. Additionally, Chaulmoogra oil is used in conjunction with other antibiotics. For instance, thioacetazone in Chaulmoogra suspension and DDS injections in ethyl chaulmoograte both showed efficacy against M. Leprae, proving their effectiveness in the management of Leprosy. Since Chaulmoogra oil was the least aggressive kind of treatment and had the fewest adverse effects on patients, doctors generally approved of its use. Chaulmoogra oil is made from the seeds of a semi-evergreen tree that thrives in tropical woods in Southeast Asia, India, and portions of Africa. Traditional Chinese and Indian medicine used Chaulmoogra oil to successfully treat Leprosy. For the treatment of Leprosy, chemists have been busy creating derivatives of Chaulmoogra, heavy metal salts, and numerous synthetic medications. Even before the discovery of specific medications, Europeans searched for the most varied therapies during the 18th and 19th centuries in an effort to lessen the suffering of those who had Leprosy. The two eminent authors of this volume continue by delving into "one medicine that has been quite widely known for many years as of value in leprosy, namely Chaulmoogra oil."

Keywords: mycobacterium leprae, Hansen's disease, leprosy, chaulmoogra oil, effects of leprosy, benefits of chaulmoogric oil.

93) BIOTERRORISMS: IN CLINICAL AND PUBLIC ASPECTS OF ANTHRAX

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ABSTRACT

The deliberate use of bioweapons (bacteria, viruses, or fungi or their poisons) to endanger humans, animals, domesticated plants, or the environment of a nation is known as bioterrorism. Due to its effects, there may be significant disruptions to the economy, social order, and political life. Infectious agent terrorism requires a different paradigm than bioterrorism involving chemical or nuclear weapons. 1 In 600 BC, the Assyrians used rye ergot, a fungus, to contaminate their adversaries' drinking water. Tartar soldiers sent plague-infected corpses into enemy settlements during the Middle Ages, starting an epidemic. In 1710, the Russians repeated it against Swedish forces. In the 18th century AD, British forces in America used blankets that had been exposed to smallpox viruses from native Indians and French forces. The German Army created cholera, glanders, and anthrax as bioweapons during World War I. The causative agent of anthrax, *Bacillus anthracis* (*B. anthracis*), is a Gram-positive, spore-forming, non-motile bacteria. Here, we examine briefly the medical and public aspects of anthrax.

Key words: Bioterrorisms , Anthrax , Bioweapon , *Bacillus anthracis*

94) Cervical cancer prevention at present

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ABSTRACT

Almost all cervical cancer is caused by human papillomavirus (HPV). There are about 40 varieties (genotypes) of HPV that infect the human genital tract; however, 7 types cause approximately 70% of occurrences of cervical cancer, which account for 87% of cases. Most women contract HPV shortly after starting to engage in sexual activity because it is widespread and easily spread. Two treatments are currently available to treat it:

Screening — visual inspection of the cervix with acetic acid (VIA), with or without magnification. Cytological testing (Pap test), HPV DNA testing for high-risk strains of the HPV virus, and VIA are among of the screening procedures available.

DNA testing—There are 2 types of HPV DNA testing: one which requires a laboratory to read the sample and another that can be read on site by a health care.

Keywords: human papillomavirus (HPV), cervical cancer

95) Effect of UV-B Radiation on *Trigonella foenum-graecum* plant

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ABSTRACT

The potential impacts of an increase in solar UV-B radiation reaching the Earth surface have been investigated by numerous research groups during the past decades. Much of this research has focused on the effects of plant growth and physiology under artificial UV-B irradiation supplied to plants in growth chambers or greenhouse. UV-B radiation has been shown to cause alterations in physiological and biochemical processes as well as in plant morphology. *Trigonella foenum graecum* is the medicinal plant has got greater medicinal values and used as traditional medicine. The present study is to evaluate the sensitivity and respond of *Trigonella foenum- graecum* against UV-B radiation. The response of the above medicinal plant was enhanced under UV-B radiation over 10 days under field condition. The period of study was carried out by using the leaves on 3rd, 5th, 8th & 10th day. The enhanced UV-B was 30% more when compared to ambient solar radiation. On studying the various physiological functions of the plant, the enhanced UV-B radiation has produced large impacts on chlorophyll content, photosynthetic pigments, carotenoids, saponin glycosides, alkaloid and flavonoids content around 5 to 10% and more. The enhanced UV-B radiation has significantly increased the vegetative growth such as leaf area (10%), shoots length (8%) and root length (12%) also. Present study proves that the UV-B enhanced radiation brings positive changes on morphological, physiological characters and the amount of chemical constituent's also increased.

Keywords: UV, Radiation, *Trigonella foenum- graecum*, alkaloid, Flavonoids

96) ROLE OF PHARMACOVIGILANCE IN INDIA : A REVIEW

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ABSTRACT

Through evaluation, the discovery of connections between amongst drug and their side effects, pharmacovigilance (PV) plays a significant role in the healthcare system. Pharmaceutical medicine are intended to protect, assist, or cure disease .But there are risks involved in ADRs(adverse drug responses) particularly can caused harmful effect in human .comparable to marketing, which includes drug development, preclinical trials, and marketing inspection they are the identification, evaluation, appreciation, and avoidance of adverse drug reactions. Increasing the numbers of people are being admitted to hospitals due to adverse drug effects, making it difficult to pin point the exact cause .When a patient is continuously given different drugs, ADRs occur .In the audit, we will look into the many types of evaluation scale to assess the ADR and identify its responsible parties .Pharmacogenetics and pharmacogenomics are the essential factors of preclinical exploration. Variation of the newly discovered PV to identify the reason for varying responses to specifics and vulnerability to conditions in the mortal genome. Also, PV has historically participated Analysing robotic information collected by systems the exploration attention is shifting toward the use of information generated outside of the mainstream, similar to data conversion from case reports in online health, medical results, and biomedical. Pharmacovigilance system teams gather fresh data bases, support the scientifically informative in their early records and enhancing their educational value. Due to this is an extreme need for virulent regulations of the procedure for medicine protection and pre-and post-protection warnings of unwelcome goods, particularly in India. This bill provides a concise summary of PV-related specifics and methods, as well as an analysis of pharmacovigilance in India, its challenges, and its future prospects.

Keywords: Pharmacovigilance, Adverse drug reaction, Clinical trials, Pharmacogenomics, Data mining, Indian Pharmacopoeia Commission.

97) CONGENITAL ABNORMALITIES BY TERATOGENICITY, ITS DIAGNOSIS AND PREVENTION: A REVIEW

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ABSTRACT :

One of the main causes of child death globally is congenital developmental disorders (CDDs), congenital abnormalities, or birth defects. Environmental variables, genetic factors, mechanical influences, the fetus's delayed development, foetal disorders, etc. all contribute to these birth abnormalities. In this review, we talk about teratogenicity, which is an environmental cause of CDDs and its many manifestations with historical instances. Because each molecule has a unique toxicological profile and some of them have specific effects on the embryo or foetus of an unborn child, teratogenicity plays a significant role in toxicological investigations of drugs. Teratogens are the substances that induce foetal abnormalities, teratogenesis is the process through which teratogens transform into foetal deformities. The study of these foetal abnormalities caused by teratogens is known as teratology, and the phenomenon of the development of an abnormal foetus through teratogenic processes is known as teratogenicity. Drugs that act as teratogens are known as teratogenic drugs. Congenital defects affect quality of life and drive up the cost of specialised treatment, which supports the designation of teratogenicity as a public health concern. More than 65 to 70 percent of all congenital malformations are categorised as having an unknown aetiology, despite the fact that this issue has been the subject of several research studies using molecular biology, genetics, and advanced diagnostic methods. Additionally, there is a chance that bioelectronics and nanotechnology could have an impact on a fetus' growth. Because of this, it is important to screen drugs for toxicity before using them, harmful drugs shouldn't be used during pregnancy, and various preventive measures must be explained to people along with the various risks of foetal development in order to raise awareness to prevent foetal abnormalities in the future.

KEYWORDS: Congenital abnormalities, Teratogenicity, Teratogens , Toxicological investigations , Nanotechnology.

98) ANTIDIABETIC MEDICINAL PLANTS HAVING INSULIN MIMETIC PROPERTY

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ABSTRACT

Diabetes is one of the most common diseases in the world, affecting approximately 2.8 million people. Population and it is anticipated to cross 5.4 million people by early 2025. Medicinal drugs have a largely recognised source of drugs. Thus, they've become a growing part of ultramodern, high- tech drug. The factory shows that hypoglycemic substantially belongs the families Leguminosae, Liliaceae, Lamiaceae, Asteraceae, and Moraceae. The much more active species is *Gymnema sylvestre*. It was discovered that newly bioactive drugs and insulated composites work in the same way as beta-blockers. Leucocyandin 3-O-beta-d-galactosylleucopelargonidin-3-O-nasence-L glycyrrhetic acid, Dehydrotrametenolic acid, pyrazol-1-ylalanine Isostrictinin and christinin-A are important. Insulin mimetic And antidiabetics exert further efficacy than normal calicum disorder (hypoglycaemic) agents. Therefore, From the poster The presence of polyphenols, coumarins, and other ingredients that show to reduce blood sugar situations is attributed to the presence of antidiabetic exertion of medical shops. This poster also discusses the operation characteristics of diabetic used shops and their active principles In conclusion, this paper has presented a catalogue of anti-diabetic products used in the cure of diabetic mellitus. It showed the shops having hypoglycaemic goods and can be used to cure various types of secondary complications of diabetes mellitus. Shops have a very good source of drugs. They cure a colourful variety of complaints. There are still numerous shops and active compounds attained from shops that haven't been well characterized. It's always believed that a factory is safe, but so numerous factory accoutrements aren't safe for mortal beings. That is why toxin study of these shops should also be illustrated before consumption of these factory accoutrements.

Keywords: Diabetes, Insulin mimetic, Hypoglycemic, Diabetic mellitus, Medicinal plants.

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99) Formulation development of methylprednisolone dispersible tablets using quality by design approach

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Abstract:

The objective of this study was to enhance the solubility of Methylprednisolone by choosing micronized form of drug and to enhance patient compliance by formulating it as dispersible tablets using quality by design (QbD) approach. Dispersible tablets of Methylprednisolone were developed by 2^3 factorial design. In this study independent variables were concentrations of MCC 102, CCS and Magnesium stearate and dependent variables were disintegration time, hardness and dissolution. The resulting data was fitted into Design Expert Software (Trial Version) and analyzed statistically using analysis of variance (ANOVA). The response surface plots were generated to determine the influence of concentration of MCC 102, CCS and magnesium stearate on responses. The tablets were prepared by direct compression method by choosing micronized form of drug and formulations were evaluated for the standard of dispersible tablets. Results showed that no significant drugpolymer interactions in FTIR studies. According to QbD suggestion the formulation O₁ (Desirability- 0.73) with MCC-38mg, CCS-3.5mg and magnesium stearate-2.5mg was formulated and evaluated. The disintegration time was found to be 69 seconds, hardness was found to be 64N and *in vitro* dissolution within 30minutes. Optimized O₁ formulation was within the limits of standards of dispersible tablets with increased water solubility and better patient compliance. Stability study on optimized O₁ formulation showed that there is no significant changes during study period. Thus, O₁ formulation was found to be stable. The study indicates that formulation of Methylprednisolone dispersible tablets by using QbD approach is a promising formulation development method.

Keywords: Dispersible tablets, Methylprednisolone, Direct compression, Quality by Design and ANOVA.

100) COMMUNITY PHARMACIST PERCEPTION IN AMR: A SURVEY USING APPRECIATIVE INQUIRY THEORY

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ABSTRACT

Community pharmacists must tackle AMR as part of their professional responsibility. The purpose of this study was to assess the awareness of antibiotic resistance and attitudes toward encouraging the proper use of antibiotics among part-time and full-time working community pharmacists in the Rayalaseema region. In 2020, an online survey was done. The online survey was disseminated over social networks using a non-randomized sample method. In total, 387 community pharmacists took part in the survey. Of those, 59 out of 77 showed awareness of antimicrobial resistance (mean score: 82.69%) and favorable attitudes toward the responsible use of antibiotics (mean score: 73.12 percent). Only 13% of pharmacists have master's degrees. Their attitudes were positively impacted by postgraduate education, training clerkships, preceptors, and antimicrobial stewardship training. To encourage ASU practice, community pharmacists put forward recommendations based on the Appreciative Inquiry Theory. Among these were educational programmes consisting of professional conduct, social responsibility and business administration knowledge, up-to-date legislation, and substitutional strategies to compensate business income losses.

Keywords: Antibiotics, Antibiotic stewardship, Antimicrobial resistance, Community pharmacist.

101) CENTRAL COMPOSITE DESIGN SCREENED MASTIC GUM ABETTED MUCOADHESIVE MICROSPHERES OF AMOXICILLIN TRIHYDRATE FOR EXTERMINATING *H. PYLORI*

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ABSTRACT

Searching for a new polymer that can be used in pharmaceutical formulation is a laborious and cost oriented practice. To resolve this, researchers are in search of a cost-effective and reliable excipient. Synthetic polymers are costly, whereas natural ones are abundant and economical. In the same way, discovering a new drug is a horrendous process with time, cost, and approval. The study's goal is to investigate Mastic gum's mucoadhesive properties by incorporating it into mucoadhesive microspheres with Amoxicillin trihydrate as a model drug. Nine interpretations of mucoadhesive microspheres were made with carbomer 934P and varying proportions of mastic gum (MG). A central composite design with design expert software is used to check the impact of independent variables (mastic gum and carbomer 934 P levels) on entrapment efficacy and muco-adhesion time as the responses. As part of congeniality studies, microspheres were examined for amoxicillin trihydrate (ATH) content and liberation. Good quality microspheres were formed that showed suitability with the excipients and possessed appreciable outcomes for the tests conducted. The study expressed the equation for amoxicillin trihydrate entrapment as $+82.70+0.1333A+6.40B+0.0500AB+0.0000A^2-2.80B^2$ and the muco-adhesion time as $+13.10+0.2500A+1.42B-0.0500AB+0.1500A^2+0.1500B^2$. These equations indicate the impact of independent variables on the response studies. These equations discovered that ATH entrapment increased with an increase in MG levels in the formulations and that the muco-adhesion time was greater in formulations with higher MG levels. In formulations containing higher levels of MG, the drug release is slightly reduced. The study summarized that amoxicillin trihydrate is capable of good stomach-specific drug delivery by carbomer 934P and enhanced by mastic gum when prepared as mucoadhesive microspheres that are cost-effective, operational, and stable. This approach also resolves the gastric retention of ATH to eradicate *H. pylori* and the mastic gum has proved an anti-ulcer possession.

Keywords: Amoxicillin Trihydrate, Design, *H. pylori*, Mastic Gum, Microspheres, Mucoadhesive

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102) IMPLEMENTATION AND EVALUATION OF DRUG RELATED PROBLEMS IN CARDIO VASCULAR PATIENTS

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ABSTRACT

Drug related problems contribute to patient's morbidity, mortality and decreased quality of life. Drug related problems can occur at any stage of prescribing, transcribing, dispensing and administration of medications. Identifying and resolving the drug related problems will improve the patient's safety and therapeutic outcomes. To study the rate, types, pattern, and clinical significance of drug related problems in cardio vascular patients. A prospective Interventional study was conducted in the medicine and cardiology wards of a tertiary care hospital over a period of eight months. Necessary demographic and clinical data was collected from the medical records. A total of 246 cardiovascular patients were included in our study as per inclusion and exclusion criteria, a total identified DRPS were 1567. MI was the most commonly observed cardiovascular disease followed by DCMP, ICMP, IHD. The most frequently observed DRPs were 85 drug interactions were observed in our patients, followed by untreated indications 137 (8.7%), Drug use without indication 46(2.9%) and least DRP'S identified were subtherapeutic dose 3(0.2%) and overdose 2(0.1%). Our study concluded that the clinical pharmacist plays an important role in early identification of DRP'S and their associated risk factors help to prevent, assessment and management of undesired outcomes due to the use of drugs in cardiovascular patients.

Keywords: Drug Related Problems, Adverse Drug Reaction, Cardio Vascular Diseases, Drug Interaction.

103) ARTIFICIAL INTELLIGENCE IN HEALTH CARE: PAST, PRESENT AND FUTURE-A SHORT REVIEW

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Artificial intelligence (AI) will be used more and more in the healthcare industry as a result of the complexity and growth of data in the sector. Popular AI approaches include natural language processing for unstructured data and machine learning methods for structured data like the traditional support vector machine and neural network as well as the newer deep learning. Two case studies are given to show how to forecast when an epileptic seizure will occur and how to fill a bladder that isn't working properly. As with AI itself, it may be said that applications of AI in biomedicine are still in their infancy. Fast developments are anticipated in the near future as new advancements and discoveries expand the frontier and the application of AI. Two case studies are given to show how to forecast when an epileptic seizure will occur and how to fill a bladder that isn't working properly. We conclude with discussion about pioneer AI systems, such as IBM Watson, and hurdles for real-life deployment of AI.

Keywords: Artificial intelligence, Health, Life, Data



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