National Conference on Drug Delivery System

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NIOSOMES AS A NOVEL DRUG DELIVERY SYSTEM

KHAJA PASHA, Professor, AZAD COLLEGE OF PHARMACY

Abstract:Niosome are non-ionic surfactant vesicles obtained by hydrating mixture of cholesterol and non-ionic surfactants. It can be used as carriers of amphiphilic and lipophilic drug. In niosomes drug delivery system, the medication is encapsulated in a vesicle. Niosomes are biodegradable, biocompatible non-immunogenic and exhibit flexibility in their structural characterization. The main object of this project work is the application of niosome technology is used to treat a number of diseases, niosome have good opportunity in research and beneficial for researcher and pharma industries. Niosome appears to be a well preferred drug delivery system over liposome as niosome being stable and economic also niosomes have great drug delivery potential for targeted delivery of anti-cancer, anti-infective agents. Drug delivery potential of niosome can enhances by using novel drug delivery concepts like proniosomes, discomes and aspasome. Niosomes also serve better aid in diagnostic imaging and as a vaccine adjuvant.Treatment of infectious diseases and immunisation has undergone a revolutionary shift in recent years. Not only a large number of disease-specific biological have been developed, but also emphasis has been made to effectively deliver these biological. Niosomes represent an emerging class of novel vesicular systems. Niosomes are self-assembled vesicles composed primarily of synthetic surfactants and cholesterol. Comprehensive research carried over niosome as a drug carrier. Various drugs are enlisted and tried in niosome surfactant vesicles. Niosomes proved to be a promising drug carrier and has potential to reduce the side effects of drugs and increased therapeutic effectiveness in various diseases.Thus, these areas need further exploration and research so as to bring out or to make for commercially available niosomal preparation.

PHARMACOGENOMICS AND PHARMACOGENETICS

SUMIA FATIMA, Associate Professor, AZAD COLLEGE OF PHARMACY

Abstract:Pharmacogenetics and pharmacogenomics involve the study of the role of inheritance in individual variation in drug response, a phenotype that varies from potentially life-threatening adverse drug reactions to equally serious lack of therapeutic efficacy. This discipline evolved from the convergence of rapid advances in molecular pharmacology and genomics. Originally, pharmacogenetic studies focused on monogenic traits, often involving genetic variation in drug metabolism. However, contemporary studies increasingly involve entire “pathways” encoding proteins that influence both pharmacokinetics—factors that influence the concentration of a drug reaching its target(s)—and pharmacodynamics, the drug target itself, as well as genome-wide approaches. Pharmacogenomics is also increasingly moving across the “translational interface” into the clinic and is being incorporated into the drug development process and the governmental regulation of that process. However, significant challenges remain to be overcome if pharmacogenetics-pharmacogenomics is to achieve its full potential as a major medical application of genomic science.The approval of new medicines has slowed significantly over the past years. In order to accelerate the development of new compounds, novel approaches in drug development are required. Translational medicine or research, an emerging discipline on the frontier of basic science and medical practice, has the potential to enhance the speed and efficiency of the drug development process through the utilization of pharmacogenetics and pharmacogenomics. The utilization of these methods in the drug development process may therefore identify patient sub-populations that exhibit more effective responses and/or an improved benefit/risk profile upon treatment.

POST COVID DIABETES

SAHEEL QURESHI , Assistant Professor AZAD COLLEGE OF PHARMACY

Abstract:A novel coronavirus, severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) (coronavirus disease 2019 (COVID-19]) is now at global pandemic levels causing significant morbidity and mortality. Patients with diabetes are particularly vulnerate and more likely to get severe complications when infected with this virus. Although the information continues to emerge, here we provide our perspective on initial outcomes observed in hospitalized patients with diabetes and the potential role played by the proinflammatory metabolic state in these patients that promotes fertile ground for the virus inflammatory surge, resulting in severe insulin resistance and severe hyperglycemia. The rapidly evolving renal failure, hypotension, pressor and steroid use, and variable nutritional support further complicates their management. Thus, timely implementation of glucose management protocols addressing these complex scenarios while also following COVID-19-related trajectories in inflammatory biomarkers and being cognizant of the health care provider exposure may substantially affect morbidity and mortal. people with diabetes have higher risks of various infections. Therefore, these diabetic patients might be at increased risk of COVID-19 and have a poorer prognosis. Up until now, little is known about critical role in the pathogenesis. This study aims to investigate the clinical characteristics of COVID-19 patients with diabetes and secondary hyperglycemia, as well as to explore the purported mechanisms. 80 confirmed COVID-19 subjects were classified into the euglycemia. group, secondary hyperglycemia group, and diabetes group. Severity of COVID-19 was defined based on the diagnostic and treatment guideline for SARS-CoV-2 issued by Chinese National Health Committee. According to the severity of the disease, patients of the mild type and common type were registered as mild cases (patients with minimal symptoms and negative CT findings), while patients of the severe type and critical type were enrolled as severe cases (patients with positive CT findings and different extent of clinical manifestations).

PRECISION MEDICINE: A NEW ERA FOR TREATMENT

VENKATA RAMANA MUTTAVARAPU, Professor, AZAD COLLEGE OF PHARMACY

Abstract:There is great potential for genome sequencing to enhance patient care through improved diagnostic sensitivity and more precise therapeutic targeting. To maximize this potential, genomics strategies that have been developed for genetic discovery — including DNA-sequencing technologies and analysis algorithms — need to be adapted to fit clinical needs. This will require the optimization of alignment algorithms, attention to quality-coverage metrics, tailored solutions for paralogous or low-complexity areas of the genome, and the adoption of consensus standards for variant calling and interpretation. Global sharing of this more accurate genotypic and phenotypic data will accelerate the determination of causality for novel genes or variants. Thus, a deeper understanding of disease will be realized that will allow its targeting with much greater therapeutic precision.Precision medicine describes the definition of disease at a higher resolution by genomic and other technologies to enable more precise targeting of subgroups of disease with new therapies. Prominent examples include cystic fibrosis and cancer.Clinical genomics exists at the intersection of sequencing-led discovery genetics in population cohorts and historical low-throughput approaches to genetic diagnosis in patients. As a result of the different aims of these two endeavours, technologies and algorithms that have been developed for discovery genomics need to be optimized before application to clinical medicine.Areas of need include the improvement of sequencing technologies. Current short-read approaches are limited in areas of the genome of low complexity (such as repeats), regions of high GC content, regions that are highly polymorphic or that include small-scale (indel) or large-scale (structural variant) disruption of the open reading frame.

REVIEW ON VETERNARY DRUG DELIVERY SYSTEM

MUBEENA SALAAR, Assistant Professor AZAD COLLEGE OF PHARMACY

Abstract:One of the challenges to the success of veterinary pharmacotherapy is the limited number of drugs and dosage forms available exclusively to this market, due to the interspecies variability of animals, such as anatomy, physiology, pharmacokinetics, and pharmacodynamics. For this reason, studies in this area have become a highlight, since they are still scarce in comparison with those on human drug use. To overcome many limitations related to the bioavailability, efficacy, and safety of pharmacotherapy in animals, especially livestock and domestic animals, polymers-based drug delivery systems are promising tools if they guarantee greater selectivity and less toxicity in dosage forms. In addition, these tools may be developed according to the great interspecies variability. To contribute to these discussions, this paper provides an updated review of the major polymer-based drug delivery systems projected for veterinary use. Traditional and innovative drug delivery systems based on polymers are presented, with an emphasis on films, microparticles, micelles, nanogels, nanoparticles, tablets, implants and hydrogel-based drug delivery systems. We discuss important concepts for the veterinarian about the mechanisms of drug release and, for the pharmacist, the advantages in the development of pharmaceutical forms for the animal population. Finally, challenges and opportunities are presented in the field of pharmaceutical dosage forms for veterinary use in response to the interests of the pharmaceutical industry.

ROLE OF FUNCTIONALISED GUM IN SOLID DISPERSION OF AN ANTIBIOTIC DRUG

MAHESH GOTTIPATI, Assistant Professor AZAD COLLEGE OF PHARMACY

Abstract: Solid dispersions have attracted considerable interest as an efficient means of improving the dissolution rate and hence the bioavailability of a range of poorly water-soluble drugs. Solid dispersions of poorly water-soluble drugs with water-soluble carriers have been reduced the incidence of these problems and enhanced dissolution. Since a solid dispersion is basically a drug–polymer two-component system, the drug–polymer interaction and performance.Poor water solubility is one of the major drawbacks for the various types of drugs and various approaches have been introduced for the enhancement of solubility of such drugs. The solubility behaviour of drugs is one of the most challenging aspects for formulation development. Solid dispersions are one of the most promising strategies to improve the oral bioavailability of poorly aqueous soluble drugs by reducing drug particle size to the absolute minimum, increasing surface area and hence improving drug wettability, bioavailability may be significantly improved. Solid dispersions are generally prepared with a drug which is having poor aqueous solubility and with a water-soluble hydrophilic carrier. This project work reviews the various preparation techniques for solid dispersion and compiles some of the recent technology transfers. The different types of solid dispersions based on the molecular arrangement have been highlighted. Some of the practical aspects to be considered for the preparation of solid dispersions, such as selection of carrier and methods of physicochemical characterization, along with an insight into the molecular arrangement of drugs in solid dispersions are also discussed. Finally, an in-depth rationale for limited commercialization of solid dispersions and recent revival has been considered.The focus of this project workon advantages, disadvantages and the method of preparation, and characterization of the solid dispersion.

ROLE OF NANOCRYSTALS AND NANOSUSPENSION IN DRUG DELIVERY SYSTEM

MOHAMMAD TABASSU TANVEER HAYATH, Assistant Professor AZAD COLLEGE OF PHARMACY

Abstract:Rapid advancement in drug discovery process is leading to a number of potential new drug candidates having excellent drug efficacy but limited aqueous solubility. By virtue of the submicron particle size and distinct physicochemical properties, nanosuspension has the potential ability to tackle many formulation and drug delivery issues typically associated with poorly water and lipid soluble drugs.Nearly 40% of drugs coming to the market nowadays are having poor solvency related issues and 70% molecules in discovery pipeline are in effect fundamentally insoluble in water. Nanocrystals is an unmistakable instrument to tackle the issue identified with poor fluid solvency and helps in improving the bioavailability of various drugs as presented in the literature. The particle size reduction came about into temperamental nanocrystalline system and the phenomenon of ostwald ripening happens. These techniques are preparing to the improvement of nanosized objects, which can play out multiple technological tasks. There are a few couples of noteworthy benefits of nanocrystal formulations, for example, upgrade oral bioavailability, improved dose proportionality, reduced food effects, appropriateness for administration by all routes and probability of sterile filtration because of diminished particle size range. One of the most adequate preferences of nanocrystals is their wide scope of utilization, for example, ophthalmic delivery, oral delivery, transdermal delivery, pulmonary delivery, intravenous delivery and targeted delivery, especially for tumour and brain. The increment in commercial value of nanocrystals just as the measure of nanocrystal products in the market is picking up more of attention to be utilized as a strategy so as to get commercial advantages. In this project work a brief and accurate precis of nanosuspension is stated with specific spotlight on nanosuspension preparation methodologies, benefits and few major applications of nanosuspensions.

STEM CELL THERAPIES

IKRAM SARMAD MOHAMMAD MOHAMMAD ARSALAN, Assistant Professor AZAD COLLEGE OF PHARMACY

Abstract:Stem cell-based therapy, including human pluripotent stem cells (hPSCs) and multipotent mesenchymal stem cells (MSCs), has recently emerged as a key player in regenerative medicine. hPSCs are defined as self-renewable cell types conferring the ability to differentiate into various cellular phenotypes of the human body, including three germ layers. MSCs are multipotent progenitor cells possessing self-renewal ability (limited in vitro) and differentiation potential into mesenchymal lineages, according to the International Society for Cell and Gene Therapy (ISCT). This review provides an update on recent clinical applications using either hPSCs or MSCs derived from bone marrow (BM), adipose tissue (AT), or the umbilical cord (UC) for the treatment of human diseases, including neurological disorders, pulmonary dysfunctions, metabolic/endocrine-related diseases, reproductive disorders, skin burns, and cardiovascular conditions. Moreover, we discuss our own clinical trial experiences on targeted therapies using MSCs in a clinical setting, and we propose and discuss the MSC tissue origin concept and how MSC origin may contribute to the role of MSCs in downstream applications, with the ultimate objective of facilitating translational research in regenerative medicine into clinical applications. The mechanisms discussed here support the proposed hypothesis that BM-MSCs are potentially good candidates for brain and spinal cord injury treatment, AT-MSCs are potentially good candidates for reproductive disorder treatment and skin regeneration, and UC-MSCs are potentially good candidates for pulmonary disease and acute respiratory distress syndrome treatment.

VALIDATEDSPECTROPHOTOMETRIC DETERMINATION OF ACYCLOVIR BY DERIVATIVE METHOD

SARA BANU, Assistant Professor AZAD COLLEGE OF PHARMACY

ABSTRACT

A derivative spectrophotometric method was validated for quantification of acyclovir in poly (n-butylcyanoacrylate) (PBCA) nanoparticles. Specificity, linearity, precision, accuracy, recovery, detection (LOD) and quantification (LOQ) limits were established for method validation. First-derivative at 252 nm eliminated interferences from nanoparticle ingredients and presented linearity for acyclovir concentrations ranging from 5to 30.0 µg/mL (r = 0.9982). Precision and accuracy data demonstrated good reproducibility. Recovery ranged from 99.1 to 100.01. Thus, the proposed method proved to be easy, low cost, and accurate, and therefore, an useful alternative to quantify acyclovir in nanoparticles. Derivative UV-spectrophotometry is an analytical technique of enormous implication commonly in obtaining mutually qualitative and quantitative in order from spectra that are of unresolved bands, with respect to qualitative and quantitative analysis, it uses first or higher derivatives of absorbance .Derivative spectroscopy uses first or higher derivatives of absorbance with respect to wavelength for qualitative analysis and for quantification. The concept of derivatizing spectral data was first introduced in the 1950s, when it was shown to have many advantages. However, the technique received little attention primarily because of the complexity of generating derivative spectra using early UV-Visible spectrophotometers. The introduction of microcomputers in the late 1970s made it generally practicable to use mathematical methods to generate derivative spectra quickly, easily and reproducibly. This significantly increased the use of the derivative technique. In this application note we review briefly the mathematics and generation methods of derivative spectroscopy. We illustrate the features and applications using computer-generated examples.

A REVIEW ON POST COVID DIABETES

PRAKASH CHANDRA DASH, Assistant Professor AZAD COLLEGE OF PHARMACY

ABSTRACT

The raging COVID-19 pandemic is in its third year of global impact. The SARS CoV 2 virus has a high rate of spread, protean manifestations, and a high morbidity and mortality in individuals with predisposing risk factors. The pathophysiologic mechanisms involve a heightened systemic inflammatory state, cardiometabolic derangements, and varying degrees of glucose intolerance. The latter can be evident as significant hyperglycemia leading to new-onset diabetes or worsening of preexisting disease. Unfortunately, the clinical course beyond the acute phase of the illness may persist in the form of a variety of symptoms that together form the so-called "Long COVID" or "Post-COVID Syndrome". It is thought that a chronic, low-grade inflammatory and immunologic state persists during this phase, which may last for weeks or months. Although numerous insights have been gained into COVID-related hyperglycemia and diabetes, its prediction, course, and management remain to be fully elucidated.

EVALUATION OF PRELIMINARY PHYTOCHEMICAL AND ANTIMICROBIAL ACTIVITY OF CARICA PAPAYA LEAF AND SEED EXTRACT.

MANDADI PAVANI, Assistant Professor AZAD COLLEGE OF PHARMACY

Abstract:

The Carica papaya plant materials such as leaf, fruit (and seed) were collected and allowed to drying in dark place and ground in electric chopper. The powdered plant materials were filled separately in the thimble and extracted successively using a soxhlet extractor with distilled water, acetone, chloroform and ethanal. All the extracts were subjected to systematic phytochemical screening for the presence of phytochemical contituents. This indicates the presence carbohydrates, protein, vitamin C, tannin, alkaloids, flavanoids, steroids and saponin. Antimicrobial activities of all the extract were determined by well diffusion method. In this observation, the leaf of Carica papaya exhibits significant inhibitory activity against all test pathogens, in all plant material, ethanol extracts showed maximum activity.

DETERMINATION OF ANTI DIABETIC ACTIVITY AND BIOCHEMICAL PARAMETERS OF MURRAYA KOENIGII WHOLE PLANT IN DIABETIC INDUCED RATS

SHAIK GOUSIA TAYABA, Assistant Professor AZAD COLLEGE OF PHARMACY

Abstract:

The present study was carried out to evaluate the antidiabetic effect and histological parameters of Murraya Koenigii in Alloxan induced diabetic albino rats. The experimental rats weighed 200-250g were induced for diabetes with single dose of alloxan (120mg/kg body weight). Oral administration of chloroform extracts of Murraya leaf (250 and 500mg/kg body weight) for 30 days resulted in significant decrease of blood glucose from 296.62±20.12 to 80.22 ± 03.63 and decrease in the activities of enzymes of liver. To study the histology of Murraya Koenigii in Alloxan induced albino rats, sampling and staining of pancreas, spleen, liver and kidney tissues of diabetic and normal rats showed that strong antigenesity in beta-cells of the islets in control. Degenerative and necrotic changes and shrunken tissues in islets of langerhans were observed in diabetic induced group. Majority of the cells are protected from light degeneration when treated with 25 and 50 ml/kg/bw of Murraya and moderate antigenesity was noted in beta-cells of the islets of langerhans of the pancreatic tissue. Diabetic rats treated with murraya (25 ml/kg/bw) showed an improvement in the spleen histology and treated with Murraya (50 ml/kg/bw) shows a result similar to that of non- diabetic control. The results showed not only significant anti-hyperglycemic effect of Murraya extracts in experimental model of diabetes mellitus but also indicated a dose dependant activity of the extracts.

FORMULATION AND EVALUATION OF HERBAL SHAMPOO *CONTAINING* TRIGONELLA FOENUM-GRAECUM

RAO ARCHANA, Assistant Professor AZAD COLLEGE OF PHARMACY

ABSTRACT:

Abstract:

Hair dandruff is not a life threatening problem yet it often threatens your mental peace, you do not wish to be embarrassed by the white flaky dandruff powder all over shoulder. “Dandruff” is the mild form of seborrheic dermatitis is an inflammatory condition that is characterized by flaking and shedding of dead scalp at an abnormally high rate. Natural herbs are good solution for dandruff and “Fenugreek” i.e. Trigonella foenum-graecum is a natural herb which helps in killing a type of fungus i.e. Malassezia furfur and bacteria i.e. Staphylococcus which causes dandruff. Many scientist have confirmed that fenugreek contain a large amount of lecithin which is a natural emollient and give power to hair. A study shows the anti-fungal activity of fenugreek germinated seed extract at concentration of 0.35g/ml[1 ml of extract and 3 ml of water(1:4)]was found to be more effective in declining growth of dandruff causing fungus Malassezia furfur. Concluding that, the use of fenugreek seed extract was functional in inhibiting the growth of microorganism. Hence, the anti-dandruff shampoo containing Trigonella foenum-graecum L. seed extract is found to be effective in treatment of dandruff.

SYNTHESIS INVITRO ANTI INFLAMMATORY ACTIVITY AND MOLECULAR STUDY OF SOME NOVEL 2- SUSBTITUTEDS BENZIMIDAZOLE DERIVATIVES

SWATHI GADDAMIDI, Assistant Professor AZAD COLLEGE OF PHARMACY

ABSTRACT:

In this work, a series of benzimidazoles derivatives HW1-HW7 were synthesized and in vitro, in silico anti-inflammatory activity study was performed. All the synthesized compounds showed moderate to good anti-inflammatory activity in in vitro, in silico assay respectively. For the comparison diclofenac sodium is used as the standard compound for both in vitro, in silico study. It was found to be compound HW6 and HW5 shows very good anti-inflammatory activity (1.0 µg/ml and 1.2µg/ml) when compares with diclofenac sodium (0.5 µg/ml). Similarly in silico study of compound HW5 shows maximum binding energy of -10.36kcal/mol.

EVALUATION AND ANTI OBESITY ACTIVITY OF TERMINALIA CHEBULA FRUITS EXTRACT OF HIGH FAT INDUCED RATS

YELLU SAMARASIMHAREDDY, Assistant Professor AZAD COLLEGE OF PHARMACY

ABSTRACT:

This study was done to investigate the anti-hyperlipidemic activity of Terminalia bellerica against high fat diet induced hyperlipidemia and obesity. Terminalia bellerica commonly known as Baheda, one of the most common plants being used in India since early times in many disorders one of the ingredients in many herbal formulations like Triphala, etc., used for cardiac disorders. The ethanolic extract of the fruits of Terminalia bellerica 250 mg/kg and 500 mg/kg body weight was administered p.o. for 20 days to test anti-hyperlipidemic activity. The parameters for evaluation of anti-hyperlipidemic activity are the physical parameters and the biochemical estimations. The physical parameters were gross examination of heart, heart weight and body weight ratio, liver weight, atherogenic index and basal metabolic index. In biochemical estimations, various cardiac enzymes like lactate dehydrogenase, and the lipid profile were measured. The results of present study show that alcoholic extract of Terminalia bellerica (500 mg/Kg) has significant reduction in various lipid levels as well as the elevated physical parameters like heart weight, body weight ratio, body weight gain and BMI against high fat diet induced hyperlipidemia and obesity compared to clinically used drugs, Atorvastatin (10 mg/kg) and Orlistat (pure drug 10 mg/kg).

EVALUATION OF ANTI ULCER ACTIVITY OF ANACARDIUM OCCIDENTALE LEAVES EXTRACT IN ALBINO RAT

MOHAMMAD KHAN, Assistant Professor AZAD COLLEGE OF PHARMACY

ABSTRACT

Anacardium occidentale(AO) has been used to treat peptic ulcer disease in Ethiopian folk medicine, but its efficacy has not been validated. The present study was therefore carried out to evaluate the anti-ulcer activity of 80% methanol leaf extract of AO in rats. The effect of AO extract on gastric ulcer in rats in pylorus ligation-induced and ethanol-induced models was studied using single dosing (100, 200, 400 mg/kg) and repeated dosing (200 mg/kg for 10 and 20 days) approaches. Ranitidine (50 mg/kg) and sucralfate (100 mg/kg) were used as the standard drugs. Depending on the model, outcome measures were volume and pH of gastric fluid, total acidity, ulcer score, percent inhibition of ulcer score, ulcer index as well as percent inhibition of ulcer index. Data were analyzed using one-way analysis of variance followed by Tukey's post hoc test, and $P<0.05$ was considered as statistically significant. AO significantly ($P<0.001$) reduced gastric ulcer index by 55.82% and 62.11%, respectively, in pylorus ligation-induced and ethanol-induced ulcer models at the 400 mg/kg dose, which is comparable to the standard drugs. Ten and 20 days pre-treatment with AO 200 exhibited significant ($P<0.001$) ulcer inhibition by 66.48% and 68.36% (pylorus ligation-induced model) as well as 71.48% and 85.35% (ethanol-induced model), respectively. AO possesses both dose-dependent and time-dependent anti-ulcer effect in the two models. The oral median lethal dose (LD_{50}) is estimated to be higher than 2000 mg/kg for the crude hydroalcoholic extract, and secondary metabolites such as flavonoids, tannins, and saponins were present. The findings of this study confirmed that AO has anti-ulcer pharmacologic activity due to one or more of the secondary metabolites present in it. Therefore, this study validates its anti-ulcer use in Ethiopian folk medicine. Further investigations on isolation of specific phytochemicals and elucidating mechanisms of action are needed.

EVALUATING ANTI CANCER POTENTIAL OF METHANOLIC EXTRACT AND FRACTION OF AZADIRACHTA INDIA STEM BARK ANTI OXIDANT PROPERTY

BEGUM SABIHA, Assistant Professor AZAD COLLEGE OF PHARMACY

ABSTRACT:

Barks extracts of four different trees (*Azadirachta indica*, *Terminalia arjuna*, *Acacia nilotica*, and *Eugenia jambolana* Lam.) in three different solvents 80% methanol, 80% ethanol, and 80% acetone (solvent:water, 80:20 v/v) were evaluated for their antioxidant activity, total phenolic (TP), and total flavonoids (TF) contents. Antioxidant activity (AA) was determined by measuring reducing power, inhibition of peroxidation using linoleic acid system and 2,2′-diphenyl-1-picrylhydrazyl radical (DPPH) scavenging activity. Significant ($P < 0.05$) differences were observed in the TP, TF, inhibition of linoleic acid oxidation and $DPPH^{\cdot}$ scavenging activity of different bark extracts. Nevertheless, minute variation was observed in reducing power. All the bark extracts exhibited wide range of total phenolic, 7.8–16.5 gallic acid equivalents and total flavonoid contents, 1.59–4.93 catechin equivalents. Reducing power at 10 mg/mL extract concentration ranged from 1.34 to 1.87. Different bark extracts inhibited oxidation of linoleic acid by 44–90% while DPPH radical scavenging activity ranged from 49% to 87%. Extraction efficacy of components with antioxidative properties was lowering in the following order: ethanol > methanol > acetone. Good correlation was observed between TP and DPPH scavenging activity among the extracts. *A. nilotica* bark had the highest amounts of TP, ranging from 9.2 to 16.5 g/100 g, while the highest AA as measurement by inhibition of linoleic acid oxidation is offered by bark from *E. jambolana* Lam. The same tree showed the highest DPPH scavenging activity and reducing power. The correlation among the results of different antioxidant assays although revealed a strong relationship between some of the assays, however, a number of different methods may be necessary to adequately assess the in vitro antioxidant activity of a specific plant material.

FORMULATION AND EVALUATION OF BUCCAL PATCHES CONTAINING METOPROLOL TARTRATE.

PITTALA GIRIJA, Assistant Professor AZAD COLLEGE OF PHARMACY

ABSTRACT:

The aim of study was to prepare and characterize buccoadhesive tablets of Metoprolol tartrate using different Mucoadhesive polymers such as Carbopol 934, Sodium alginate and HPMC K4M in combination. Ten formulations were prepared with varying concentrations of polymers using combination of two polymers in each formulation. Formulations F1 to F5 were composed of Sodium alginate and HPMC K4M mixture in drug: polymer mixture ratios of 1:0.75 to 1:1.75 where as formulations F6 to F10 were composed of carbopol 934 and HPMC K4M mixture in same drug: polymer mixture ratios. The prepared tablets were evaluated for physicochemical parameters such as hardness, thickness uniformity, weight variation, surface pH, Ex-vivo residence time and moisture absorption studies. The prepared tablets were also evaluated for bioadhesive strength and in vitro drug release. In vitro bioadhesive strength and in vitro release studies showed that formulation F8 containing 1:1.25 ratio of drug and polymer combination showed optimum bioadhesive and exhibited optimum drug release (77.33±0.23). FTIR results showed no evidence of interaction between the drug and polymers.

FORMULATION AND EVALUATION OF HERBAL SHAMPOO CONTAINING RAMBUTAN LEAVES EXTRACT

ABDUL MUDASIR MOHAMMED, Assistant Professor AZAD COLLEGE OF PHARMACY

ABSTRACT

Rambutan (Nephelium lappaceum Linn.) can be found widely in Malaysia, belongs to the family Sapindaceae. The leaves of rambutan are traditionally used for hair care and many people experience a noticeable change in their hair quality in just a few weeks. However, there is no study has been reported in herbal shampoo preparation containing rambutan leaves extract. The present study was aimed to formulate an herbal shampoo containing rambutan leaves extract and to evaluate its physicochemical properties. The herbal shampoo was formulated by incorporating the methanolic extract of rambutan leaves. Several tests such as visual inspection, pH, percentage of solid contents, foam ability and stability studies were performed to determine the physicochemical properties of the formulated herbal shampoo. The conditioning performance was evaluated by administering a blind test to 11 volunteers. The majority of the volunteers rated that the tresses washed with formulated shampoo was found to be 2.18 ± 0.40. The results clearly indicate that the formulated shampoo is having a satisfactory conditioning performance level. All the ingredients used to formulate shampoo are safer and the physicochemical evaluation showed ideal results, but further research is required to improve its quality and identify the constituents that are responsible for the performance.

FORMULATION AND EVALUATION OF HERBAL SHAMPOO CONTAINING OLIVE LEAVES EXTRACT

ZAREENA BEGUM, Assistant Professor AZAD COLLEGE OF PHARMACY

Abstract:

The study aimed at formulating a herbal shampoo containing olive leaves extract and evaluating its physiochemical properties. Olive leaves extract in shampoo is commercially available in Palestine, but because the R&D departments do not get sufficient attention neither in the private nor in the public sector, most of those products are a reproduction of what has been produced in developed countries. Moreover, there are still few data available on their stability in literature. The herbal shampoo was formulated by incorporating the ethanolic extract of olive leaves standardized for Oleuropein, which has antioxidant, anti-inflammatory and hair protectant properties. Several tests such as visual inspection, pH, percentage of the active ingredient and foam ability were conducted. Stability studies were also performed to determine the physiochemical properties of the formulated herbal shampoo. Three formulas (F1, F2 and F3) containing the same concentration of olive leave extract (1.0% w/w) were prepared. All ingredients used to formulate the shampoo were found to be safe and the physiochemical evaluation showed ideal results. Stability studies showed a stable homogenous appearance during six months of storage at different temperatures (4-8 oC, 40 oC and at ambient temperature). However, formula 3 gave optimum sta

MICROWAVE ASSISTED SYNTHESIS, QSAR AND MOLECULAR DOCKING STUDIES OF 2,4-THIAZOLIDINEDIONE DERIVATIVES

ARSHIYA JABEEN, Assistant Professor AZAD COLLEGE OF PHARMACY

Abstract:

Synthetic organic chemistry involves selection and optimization of lead, synthesis and characterization of work for practical purposes. A series of new thiazolidinedione derivatives have been designed and synthesized through microwave-assisted technique. The synthesized compounds were screened by Insilco methods like molecular docking, QSAR studies in order to explore the anti-diabetic activity, synthetic assessability of compounds against the peroxisome proliferator-activated the receptor (PPARγ). Compounds which showed higher glide score than standard (Pioglitazone) were synthesized using the microwave. Compounds were characterized with the help of FTInfrared spectroscopy, Proton NMR, C-13 NMR spectroscopic studies and Lc-Ms.

Keywords: Anti-diabetic activity, Peroxisome proliferator-activated receptor (PPARγ), 2, 4-thiazolidinedione derivatives, pioglitazone, Molecular Docking.

SIMULTANEOUS ESTIMATION AND VALIDATION OF ARTEMETHER AND LUMEFANTRINE BY UV SPECTROPHOTOMETRY IN TABLET

MAHESH GAJJELA, Assistant Professor AZAD COLLEGE OF PHARMACY

Abstract:

A UV spectrophotometric method has been developed for the simultaneous determination of Artemether and Lumefantrine. The spectroscopic method for estimation of Artemether and Lumefantrine employed Area under curve method for analysis using Ethanol as solvent. Artemether has absorbance maxima 253.2 nm and Lumefantrine has absorbance maxima 235.2 nm and both these drugs obey Beer's law in concentration range of 4.24 -67.84 μg/ml for Artemether and 4.68 -28.08 μg/ml for Lumefantrine. The recovery studies ascertained the accuracy of the purposed method and the results were validated as per ICH guidelines. The results were found satisfactory and reproducible. The method was applied successfully for the estimation of Artemether and Lumefantrine in tablet dosage form without the interference of common excipients.

FACTORS LEADING TO FAILURE OF FIRST LINE ANTI RETROVIRAL THERAPY (ART); A RETROSPECTIVE STUDY IN INDIAN TERITIARY CARE GOVERNMENT SETTINGS

JONGONI SOWJANYA, Assistant Professor AZAD COLLEGE OF PHARMACY

Abstract:

Background: HIV is a lenti virus that causes HIV infection in humans in which progressive failure of immune system allows life threatening opportunistic infections and cancers to thrive. So it is important to study the factors that lead to failure of first line ART.

Aims and Objectives: To find out the factors leading to failure of first line ART like socio-demographic factors, clinical factors, immunological factors, virological factors etc.To assess the CD4 count in subjects using first line and second line ART. To assess the viral load in subjects who failed first line ART.

Methodology: Retrospective cohort observational study was conducted to assess the factors leading to the failure of first line ART. HIV patients who met inclusion criteria were informed consented and included in the study and relevant data was collected in a prior designed data collection form.

Results: In our study we found that controls were more among 30-40 yrs age. Males and females were equally distributed in cases and controls. Widowed females were found more among cases. Illiterates were found more among cases than controls. Cases children were more HIV seropositives than controls. Cases were more in WHO stage-4 clinical staging than controls. Cases had more number of drug substitutions, drug related adverse effects, low medication adherence, more number of LFUS and hospitalisations than controls. Cases were more in number who travels more than 60 minutes and more time gap between diagnosis and time of ART initiation and cases had raised RFTS, LFTS, and lipid profile at time of treatment failure. Cases had more serious opportunistic infections than controls.

MOLECULAR DOCKING STUDY ON DIPEPTIDYL PEPTIDASE-4 INHIBITORS

RAMAVATH AKSHATHA NAIK, Assistant Professor AZAD COLLEGE OF PHARMACY

Abstract:

Dipeptidyl peptidase (DPP)-IV inhibitors are a new approach to the treatment of type-2 diabetes. DPP-IV is a member of a family of serine peptidases that includes quiescent cell proline dipeptidase (QPP), DPP8, and DPP9. DPP-IV is a key regulator of incretin hormones, but the functions of other family members are unknown. To determine the importance of selective DPP-IV inhibition for the treatment of diabetes, we conducted molecular docking studies on clinical inhibitors of DPP-IV.

ASSESSMENT OF HEALTH RELATED QUALITY OF LIFE IN HYPERTENSIVE PATIENTS IN RURAL POPULATION OF GUNTUR DISTRICT IN SOUTH INDIA

NALLAMETLA SAI KUMAR, Assistant Professor AZAD COLLEGE OF PHARMACY

Abstract:

Background: Hypertension is considered as one of the leading causes of death and disability, and its prevalence is rapidly increasing in developing countries. Adequate treatment of high blood pressure lowers the cardiovascular risk and other complications like vascular disease, and chronic kidney disease. However, the major problem for controlling hypertension is compliance with treatment.

Aim and Objectives: To study and assess the quality of life in patients suffering from hypertension.

Methodology: A prospective observational cohort study was conducted for a period of 6 months in a rural area of Guntur. A total of 300 hypertensive patients who are newly diagnosed or suffering from hypertension since 3 years were recruited. Blood pressure was measured by using a sphygmomanometer and other demographics were collected. Health related quality of life was assessed by using 36-item short form (SF-36) and respective scores were calculated.

Results: By using SF-36 questionnaire Physical health (49.4) was the component mostly effected in hypertensive patients followed by Vitality (61.75), emotional aspects (69.06), pain (67.3), social functioning (78.54), appear to be least affected.

Conclusion: Proper treatment and awareness about hypertension is necessary to improve patient's quality of life. Good compliance not only improves the clinical outcomes, it is also having a great impact on improving quality of life and reducing health care costs which are due to complication and co-morbidities of hypertension.

NEED OF INNOVATION IN DOCTOR OF PHARMACY EDUCATION IN INDIA: STRATEGIES FOR A HIGHER DESTINY

TARANNUM FATIMA, Assistant Professor AZAD COLLEGE OF PHARMACY

Abstract:

A Doctor of Pharmacy (PharmD; Neo-Latin Pharmaciae Doctor) is an expert doctorate degree in pharmacy. In certain countries, it is a first professional degree and necessary for licensing to exercise the pharmacy career or to transform into a clinical drug specialist. The Clinical pharmacy has emerged as one of the newest branches of pharmacy in 21st Century. The clinical Pharmacists role in patient care is expanding, and the profession must prepare its graduates for direct patient care. In India there is accelerated work load on doctors who are unable to appear over usual healthcare services, hence here is an opportunity for PharmDs to explore their clinical knowledge which may improve the overall health care of society. Therefore, PharmD student should be trained to fabricate, disseminate, and apply new knowledge to determine cutting-edge research within the pharmaceutical, social, and clinical sciences; collaborate with other health professionals and to strengthen the quality of life through improved health for the people of our society and also because the global community. This article focuses on the possibility of innovative or imaginative ecosystems and trademark organization, as the rapidly developing pharmaceutical sector endeavors to turn into a global centre of unique medication examination and assembling, PharmD graduates with the proper training and knowledge have significant potential to power the clinical pharmacy growth in India.

DEVELOPMENT AND VALIDATION OF RP-HPLC METHOD FOR QUANTITATIVE ESTIMATION OF VINPOCETINE IN PURE AND PHARMACEUTICAL DOSAGE FORMS

TEJAKUMAR REDDY KONATHAM, Assistant Professor AZAD COLLEGE OF PHARMACY

Abstract:

A simple, precise, specific, and accurate reversed phase high performance liquid chromatographic (RP-HPLC) method was developed and validated for determination of vinpocetine in pure and pharmaceutical dosage forms. The different analytical performance parameters such as linearity, accuracy, specificity, precision, and sensitivity (limit of detection and limit of quantitation) were determined according to International Conference on Harmonization ICH Q2 (R1) guidelines. RP-HPLC was conducted on Zorbax C_{18} (150 mm length × 4.6 mm ID, 5 μm) column. The mobile phase was consisting of buffer (containing 1.54% w/v ammonium acetate solution) and acetonitrile in the ratio (40 : 60, v/v), and the flow rate was maintained at 1.0 mLmin^{-1}. Vinpocetine was monitored using Agilent 1200 series equipped with photo diode array detector (λ = 280 nm). Linearity was observed in concentration range of 160–240 μgmL^{-1}, and correlation coefficient was found excellent (R^2 = 0.999). All the system suitability parameters were found within the range. The proposed method is rapid, cost-effective and can be used as a quality-control tool for routine quantitative analysis of vinpocetine in pure and pharmaceutical dosage forms.

FORMULATION AND EVALUATION OF OPHTHALMIC DELIVERY OF FLUCONAZOLE FROM ION ACTIVATED IN SITU GELLING SYSTEM

FASIUDDIN AHMED, Assistant Professor AZAD COLLEGE OF PHARMACY

Abstract:

Fungal keratitis is a sight threating ocular infection that most frequently occur as a infection of candida species. The present work describes the formulation and evaluation of an ophthalmic delivery system of an antifungal agent, fluconazole, based on the concept of ion-activated in situ gelation. ocular in situ gels can increase the drug residence time thus increasing the bioavailability. Gelrite was used as the gelling agent in combination with HPMC E-50(Hydroxy Propyl methyl Cellulose) that acted as a viscosity-enhancing agent. Formulations were evaluated for physical parameter like clarity, pH, drug content, rheological studies, sterility test, in vitro drug release studies. the formulations were therapeutically efficacious, stable and provide sustained release of drug over a period of 8 Hrs. These results demonstrate that developed system is a best alternative to conventional ophthalmic drops.

ASSESSMENT OF INDIVIDUAL SLEEP DISTURBANCES IN TYPE-2 DIABETES MELLITUS: AN INTERVENTIONAL STUDY

THOKANOLA LALAPPA, Assistant Professor AZAD COLLEGE OF PHARMACY

Abstract:

Background: Diabetes mellitus is a widespread disease, associated with rapid social and cultural changes, such as aging of population, urbanization, dietary changes, reduced physical activity, and unhealthy behaviours, leading to lower quality of life and decreased survival of affected individuals. This study aims to evaluate the sleep quality in patients with type 2 diabetes mellitus (T2DM), and to assess the relevance of other factors to sleep quality.

Methods: A cross-sectional study was carried out at the Government general hospital, Ananthapuramu, during the period from December 2020 to May, 2021. A total of 384 patients with T2DM were recruited. Data were collected using the Pittsburgh sleep quality index (PSQI) and ESS to assess the sleep quality with a cutoff point of PSQI ≥ 8. Participants' demographic background data were also recorded. Statistical analysis was conducted by using graph pad prism.

Results & Discussion: Using Scale scores with cutoff point global PSQI ≥ 8 for sleep evaluationin our study, we found that 77.6% of T2DM patients suffer from poorsleep quality.Our study found that poor sleep quality was higher in employed diabeticpatients, as compared to unemployed patients.This study showed that diabetic patients on insulin treatment were 2.17times more likely to complain of poor sleep quality compared to patients receiving OHA only.

Conclusions: Effectiveness of patient counselling by clinical pharmacist which improves the sleep quality. Thus patients reporting with sleep difficulties should be screened for diabetes. Type 2 diabetes patients with poor glycaemic control should be assessed for sleep disorders and if present it should be corrected to achieve optimum control of blood sugar levels.

IMPACT OF MEDICATION ADHERENCE IN HYPERTENSIVE PATIENTS IN RURAL POPULATION OF GUNTUR DISTRICT IN SOUTH INDIA.

PADMA GUNTI, Assistant Professor AZAD COLLEGE OF PHARMACY

Abstract:

Aim and Objectives: To study and assess the impact of medication adherence in patients suffering from hypertension.

Methodology: A prospective observational cohort study was conducted for a period of 6 months in a rural area of Guntur. A total of 300 hypertensive patients who were newly diagnosed or suffering from hypertension since 3 years were recruited. Blood pressure was measured by using a sphygmomanometer and other demographics were collected. Medication adherence was assessed using the HILL-BONE compliance to high blood pressure therapy scale (HILL-BONE CHBPTS).

Results: Hill-Bone scores were analyzed in the aspects of medication compliance, salt usage, and appointment keeping and observed a modest improvement in all aspects with an average of 8.49.

Conclusion: Proper treatment and awareness about medication and their usage will improve medication adherence. Good medication adherence not only improves the clinical outcomes, it is also having a great impact on improving the quality of life and reducing health care costs which are due to complications and co-morbidities of hypertension. Clinical pharmacists play a vital role in improving the adherence by providing periodic counselling, which in turn helps to reduce the burden of illness.

FORMULATION AND EVALUATION OF OPHTHALMIC DELIVERY OF FLUCONAZOLE FROM ION ACTIVATED IN SITU GELLING SYSTEM

KULSUM SUBHIYA, Assistant Professor AZAD COLLEGE OF PHARMACY

Abstract:

Fungal keratitis is a sight threating ocular infection that most frequently occur as a infection of candida species. The present work describes the formulation and evaluation of an ophthalmic delivery system of an antifungal agent, fluconazole, based on the concept of ion-activated in situ gelation. ocular in situ gels can increase the drug residence time thus increasing the bioavailability. Gelrite was used as the gelling agent in combination with HPMC E-50(Hydroxy Propyl methyl Cellulose) that acted as a viscosity-enhancing agent. Formulations were valuated for physical parameter like clarity, pH, drug content, rheological studies, sterility test, in vitro drug release studies. the formulations were therapeutically efficacious, stable and provide sustained release of drug over a period of 8 Hrs. These results demonstrate that developed system is a best alternative to conventional ophthalmic drops.

RP-HPLC method development and validation for estimation of rivaroxaban in pharmaceutical dosage forms

BEGUM NAUSHEEN, Assistant Professor AZAD COLLEGE OF PHARMACY

Abstract:

Rivaroxaban, an anti-clotting medication, acts at a crucial point in the blood-clotting process and stops the formation of blood clots. In this study, RP-HPLC method was developed for the determination of rivaroxaban in tablets (Xarelto® (10 mg)). Phenomenex Luna 5 µm C18 100 Å LC Column (250 x 4.6 mm) was used at 40 ºC. Isocratic elution was performed with ACN:Water (55:45 v/v) mixture. The flow rate was 1.2 mL min-1 and UV detection was at 249 nm. Internal standard (Caffeine) and rivaroxaban were eluted within 2.21 and 3.37 minutes, respectively. The developed method was validated according to the ICH guidelines and found to be linear within the range 0.005 - 40.0 µg mL-1. The method was accurate, precise, robust and rapid. Thus, it was applied successfully for the quality control assay of rivaroxaban in tablet dosage form.

SPIRONOLACTONE INDUCED GYNECOMASTIA: A CASE REPORT

KOTA RADHIKA , Assistant Professor AZAD COLLEGE OF PHARMACY

Abstract:

Gynaecomastia is generally caused by increased ratio of free circulating oestrogens/androgens or altered effects of these hormones on their correspondent intracellular receptors in the mammary tissue. The pathologies influencing the levels of circulating sexual hormones (i.e. testicular or adrenal neoplasias, hepatic cirrhosis, hyperthyroidism hypogonadism obesity, refeeding syndrome. The active principles known for most frequently causing gynecomastia are exogenous oestrogens, antiandrogens, 5 alpha reductase inhibitors, spironolactone and cimetidine. Medical history plays a fundamental role in the diagnosis of drug induced gynecomastia. A large variety of drugs have been implicated in its pathogenesis and they may induce gynecomastia by decreasing testosterone production ,increasing peripheral conversion of testosterone to estradiol and displacing estradiol from sex hormone binding globulin. We present a case report of 41 old male patient affected by spironolactone induced gynecomastia and discuss its pathogenetic mechanism.

A PRACTICAL APPROACH TO RP HPLC ANALYTICAL METHOD DEVELOPMENT

KALLEM SRIKRISHNA GOUD , Assistant Professor AZAD COLLEGE OF PHARMACY

Abstract:

High performance liquid chromatography is one of the most widely used tools to identify and quantify potency in drug substances and drug products. Analytical method development and validation are two very critical processes performed before release of a method for use in Quality Control department. This article focuses on stepwise practical approach towards developing a RP HPLC assay method. The various contributing parameters and its effect on the performance of the RP HPLC analytical method being developed are described simply, such that a new chromatographer is able to develop a method with the understanding of the RP HPLC method development process and its parameters.

APPLICATION OF SIMULTANEOUS EQUATION METHOD FOR THE DETERMINATION OF AZITHROMYCIN AND CEFIXIME TRIHYDRATE IN TABLET FORMULATION

MANI TEJA VENKATA TENNETI, Assistant Professor AZAD COLLEGE OF PHARMACY

Abstract:

A simple, accurate, and precise uv-spectrophotometric method has been developed for the simultaneous estimation of azithromycin (AZI) and cefixime trihydrate (CEFI) in tablet formulation. The method was based on employing simultaneous equation method for the analysis of both drugs. AZI and CEFI have shown absorbance maxima at 222 and 289 nm in methanol, respectively. The linearity was obeyed in the concentration range of 10-50µg/ml for both drugs, with a significantly high correlation coefficient (r2 = 0.999). The limits of detection for AZI and CEFI were 0.81 and 1.52 µg/ml, respectively, and the limits of quantitation for AZI and CEFI were 2.40 and 4.60 µg/ml, respectively. The suitability of the developed method for quantitative determination of drugs was proved by validation. The method was successfully used to analyze a tablet formulation.

"A REVIEW: POLYHYDROQUINOLINE ACT AS BIOLOGICAL ACTIVE MOLECULES"

NAGENDRA BABU MOKARA, Assistant Professor AZAD COLLEGE OF PHARMACY

ABSTRACT: 1,4-Dihydropyridine (1,4-DHP) and polyhydroquinoline have a six membered aromatic rings. Pyridine ring system represents the major class of nitrogen heterocycles and its analogues exhibited diverse biological and physiological activities. Polyhydroquinolines, which are structurally related to DHPS, are another important group of nitrogen containing heterocycles that have attracted much attention because of their diverse therapeutic and pharmacological properties, such as their ability to modulate calcium channels. Polyhydroquinolines have been synthesized under mild conditions augmented by conventional heating, microwave irradiation, and uitrasound. Different polyhydroquinoline derivative synthesis were studied by using the reaction of dimedone, ethyl acetoacetate, substituted salicylaldehyde and ammonium acetate in ethanol in the presence of differ catalyst. All the synthesized derivatives evaluated were biologically active they showed anticancer activity, antibacterial activity, antifungal activity, antimalarial activity, antituberculosis activity, antihypertensive activity, anticoagulant activity. Multicomponent reactions to produce a particular product were performed by the one-pot MCR’s methodology that offers significant advantages over usual bimolecular reactions.

MOLECULAR IMPRINTING

PAVAN NAKKA, Assistant Professor AZAD COLLEGE OF PHARMACY

ABSTRACT: Molecularly imprinted polymers have been used in a variety of analytical procedures in analytical separation science, including liquid chromatography, capillary electro- chromatography and capillary electrophoresis, immunoassay, and elective sorbent in chemical sensors. The ability to create sorbents with selectivity pre-determined for a specific substance or group of structural analogues of environmental and biological materials is a benefit of imprinted polymers. Imprinted polymers' increased selectivity over traditional sorbents may result in clearer chromatographic traces in subsequent analytical procedures. In addition, problems like peak broadening and tailing that are often related to imprinted polymers in chromatography are not present in the solid phase extraction application. As chiral stationary phases for enantiomer separations, imprinted polymers have been the subject of the majority of liquid chromatographic experiments. In capillary electro-chromatography, the use of imprinted polymers as selective sorbents has also been demonstrated. A method for producing artificial recognition sites on polymer matrices that complement the template in terms of size, shape, and spatial arrangement of functional groups is known as molecular imprinting. Molecularly imprinted polymers (MIP) have a high selectivity and affinity for the target molecules employed in the moulding process, which makes them an ideal polymer for use with molecular imprinting techniques.

STEREOCHEMISTRY

VINAY KUMAR PERKA, Assistant Professor AZAD COLLEGE OF PHARMACY

ABSTRACT: The study of the static and dynamic features of the molecules' three-dimensional forms is known as stereochemistry. It has long offered a base for comprehending both structure and reactivity. At the same time, stereochemistry is a legitimately fascinating area of study in and of itself. Simply said, the visual beauty of chemical structures and the exciting way that this area of study combines chemistry, geometry, and topology to investigate three-dimensional shapes intrigue many scientists. Additionally, stereochemistry has a number of extremely significant practical implications. Because the components of life—amino acids, nucleotides, and sugars— are chiral and manifest in nature in enantiomerically pure forms, nature is intrinsically chiral. Therefore, any materials developed by humans to engage with or alter nature interact with a chiral environment. For bioorganic chemists, this is a crucial topic, and for pharmaceutical chemists, it is a practical one. To ensure that both enantiomers of a medicine are safe, the Food and Drug Administration (FDA) now mandates that it be produced in enantiomerically pure forms or subjected to stringent testing. This study, thus focuses on the various aspects of stereochemistry that can improve and modify the chemical activities and reactivity.

STUDY OF NEW SYNTHESIZED DERIVATIVES OF PYRAZOLES

RADHIKA VADDEPALLI

GALVA BHARGAVI, Assistant Professor AZAD COLLEGE OF PHARMACY

ABSTRACT: Five-membered heterocyclic molecules known as pyrazoles have contributed significantly to the theory of heterocyclic chemistry. These substances are widely used as the primary structural component of a wide range of substances with biological properties like antifungal, anticancer, antiviral, antibacterial, anti-tubercular, and antiphrastic, in addition to important medicinal and agrochemical activities. An effort was made to create a simple and practical method of synthesising substituted pyrazolines by reacting aromatic aldehyde phenyl hydrazones with 4-methoxy cinnamonitrile while Chloramine-T was present. Using D-glucose as the starting point, this could prove to be a methodology for the synthesis of glucosyl pyrazole derivatives. The proposed microwave-mediated solvent-free techniques produced good reaction rates and yields, indicating that these steps can be regarded as simple, efficient, and environmentally sustainable synthetic approaches to produce pyrazole derivatives. Compared to the conventional process, this one avoids utilising very dangerous substances while yet offering an efficient way to make sugar-heterocyclic derivatives. The EATOS software, particularly in relation to the novel "one-pot" approach, validated this.

STUDY OF RECENTLY SYNTHESIZED DERIVATIVE OF QUINOLINE

KHAJA PASHA, Professor, AZAD COLLEGE OF PHARMACY

ABSTRACT: Quinolines and their fused heterocyclic derivatives, which have been tested for a variety of pharmacological functional groups, are a crucial class of compounds for the development of new drugs. As a result, numerous experiments have synthesised these compounds as target structures and assessed their biological activities, which include anti-cancer, anti- bacterial, anticonvulsant, anti-malarial, anti-inflammatory, and cardiovascular activities. A class of synthetic, broadly acting antibacterial medications is known as quinolines. Although the majority of quinolones used in medicine are fluoroquinolones, derivative chemicals work against bacteria by inhibiting bacterial DNA from unwinding and replicating within bacterial cells. Numerous techniques have occasionally been developed for the synthesis of quinoline and its derivatives by microwave-assisted, ultrasound-promoted, or heterogeneous acid-catalyzed methods because they have a wide range of pharmacological activities and are also used as ligands in various biologically-modelled transition metal complexes. Other others, under UV light or solvent-free circumstances. Most of these techniques that have been described in the literature have been compiled by us here. The researcher working in this topic will find this review to be of great use. And it would assist them in creating a fresh, cost-effective, efficient way.

STUDY OF NEW SYNTHESIZED DERIVATIVES OF PYRAZOLES

SUMIA FATIMA, Associate Professor, AZAD COLLEGE OF PHARMACY

ABSTRACT: A five membered ring system known as pyrazoles are the important members of heterocyclic compounds. Pyrazole analogues have been known to exhibit antimicrobial, analgesic, anticancer, anti-tubercular, anti- inflammatory, antidepressant, anticonvulsant, ant hyperglycemic, antipyretic, antihelmintic, antioxidant and herbicidal properties. Various methods have been performed for preparation and synthesis of substituted pyrazoles by the reaction of 1,3-diketones with hydrazine's 1,3-dipolar cycloaddition of diazole compounds with alkynes and the reaction of a ß-unsaturated aldehydes and ketones with hydrazine's. A facile and convenient route of synthesis for substituted pyrazolines based on the reactions of aromatic aldehyde phenyl hydrazones with 4-methoxy cinnamonitrile in the presence of Chloramine-T has been developed. Using D-glucose as the starting material a protocol for the synthesis of glucosyl pyrazole derivatives was made.The proposed microwave- mediated solvent-free techniques produced good reaction rates and yields, indicating that these steps can be regarded as simple, efficient and environmentally sustainable synthetic approaches to produce pyrazole derivatives. Compared to the conventional process, this one avoids utilizing very dangerous substances while yet offering an efficient way to make sugar- heterocyclic derivatives. This is confirmed by the EATOS software, especially with regards to the new "one-pot" method.

INSULIN AS A PRIME DRUG FOR THE TREATMENT OF DIABETES

SAHEEL QURESHI, Assistant Professor AZAD COLLEGE OF PHARMACY

ABSTRACT

Diabetes Mellitus is a metabolic disorder characterized by hyperglycaemia, glycosuria, and hyperlipidemia. At present, India is considered as the diabetic capital of the world. There are approximately 3.5 crore diabetics in India, and this figure is expected to increase up to 5.2 crore by 2025. Two major types of diabetes mellitus are IDDM and NIDDM. Insulin is a hormone. And like many hormones, insulin is a protein. Insulin is secreted by groups of cells within the pancreas called islet cells. Discovery of Insulin is appropriately attributed to Banting and Best. It is made up of 51 amino acids having two chains. Chain A have 21 and Chain B have 30 amino acids. The more commonly used types of insulin are Rapid-acting (aspart or Lispro), Short-acting (regular insulin), Long-acting (ultralente insulin), Insulin glargine and insulin detemir. Insulin delivery systems that are currently available for the administration of insulin include syringes, insulin infusion pumps, jet injectors and pens. Insulin syringe is the most commonly used, and the most economical of all the delivery devices. Insulin pump is known as continuous subcutaneous insulin infusion therapy. A jet injector is a type of medical injecting syringe that uses a high-pressure narrow jet of the injection liquid instead of a hypodermic needle to penetrate the epidermis. Pen is reusable and prefilled device. Many insulin delivery devices are under process. The purpose of this review is to focus more light on the insulin as a prime drug for the treatment of diabetes from historical era to present time.

SYNTHESIS OF NEW SUBSTITUTED ALDEHYDEDERIVATIVES

VENKATA RAMANA MUTTAVARAPU, professor, AZAD COLLEGE OF PHARMACY

Abstract: the aim of this research is to prove benzimidazole is a good bioactive molecule hence, it is worth to synthesis some new benzimidazole derivatives for better Anti-microbial activity by inhibiting the bacterial neucleic acid and proteins synthesis. This ability of benzimidazole is due to their structural similarities with the purine. In recent years, benzimidazole moiety have attracted much attention for their excellent biological properties, such as antimicrobial, anti-inflammatory,Antitubercular, anthelmintics, and Antitumor activities. Nitrogen containing heterocyclic important compound is a benzimidazole constitute an important class of biologically active e.g. antimicrobial, antiviral, and anti-inflammatory agent's.in this research chemicals used are O-phenylenediamine, benzaldehyde, ammonium chloride, ethyacetate, hexane, ethanol, silica gel-254. In Proposed scheme for reaction O-phenylenediamine is reacted with benzaldehyde to give 2 phenyl 1-H benzimidazole. Purity of 4-hydroxybenzaldehyde was cheked by TLC method when it was run under the solvent system of ethyacetate, hexane (1;2), Rf value was found to be 0.65.several other derivatives of substituted benzimidazole can be prepared and evaluated for their antimalarial activity. Same derivatives can also be evaluated for other activities like anti tubercular, anticonvulsant. Structutal based drug design in order to optimize the pharmacological profiles.

GREEN SYNTHESIS OF BENZIMIDAZOLE

MUBEENA SALAAR, Assistant Professor AZAD COLLEGE OF PHARMACY

Abstract: Green chemistry is the new and rapidly emerging field of chemistry. It involves The utilization of a set of principles that reduces or eliminates the use or generation of Hazardous substances in the design, manufacture and application of chemical products. In Recent decades, a large number of reports related to synthesis of Nitrogen, Oxygen and Sulphur containing heterocyclic have appeared owing to awide variety of their biological Activity. In recent years, numerous reports concerning the synthesis of heterocyclicCompounds under various conditions like solvent-free, reactants immobilized on solid Support, microwave irradiation condition, green catalyst and green solvent have appeared.benzimidazole is a heterocyclic aromatic organic compound. It is an iimportan Pharmacophore and privileged structure in medicinal chemistry. It plays a very important role With plenty of rational therapeutic activities such as antiulcer, antihypertensive, analgesic,Anti-inflammatory, anti-viral, antifungal, anticancer, and antihistaminic. Because of its Importance, the methods for their synthesis have become a focus of Synthetic OrganicChemists. Therefore in the present review I tried to compile the chemistry of differentDerivative of substituted benzimidazole and some of the important methodologies used for theSynthesis. Conventional methods of syntheticreactions need longer heating time, elaborateAnd tedious apparatus set up which result in higher cost and environmental pollution inContrast to greener methods which are ecofriendly and economical.

PHYTOCHEMICAL STUDIES OF CLOVE

MAHESH GOTTIPATI, *Assistant Professor AZAD COLLEGE OF PHARMACY*

Abstract:The aim of present study was to investigate the phytochemical screening and to compare the antimicrobial activity of oils of Clove bud and Cardamom.

Clove bud was successively extracted by steam distillation and isolated with Dichloromethane. The phytochemical analysis revealed the presence of alkaloids, glycoside, steroids, carbohydrates, terpenoids, tannins and phenolic compound.

The dichloromethane extract was chromatographed over silica Gel (60-120) and eluted with pure toluene, toluene: Dichloromethane (9:1), toluene: Dichloromethane (8:2), toluene: Dichloromethane (7:3), fraction were monitored by T.L.C. similar fractions were combined and concentrated .eleven fractions were obtained and were labelled as f1, f2, f3 to f11. Cardamom fruit was successively extracted with petroleum ether. The phytochemical analysis revealed the presence of alkaloids, glycoside, steroids, protein, carbohydrates, terpenoids, tannins and phenolic compound. The Petroleum ether extract was chromatographed over silica Gel (60-120) and eluted with pure Benzene, Benzene: chloroform (9:1), Benzene: chloroform (8:2), Benzene: chloroform (7:3), Benzene: chloroform (6:4), Benzene: chloroform (5:5), Benzene: chloroform (4:6), and with pure chloroform. Fractions were monitored by T.L.C. similar fractions were combined and concentrated.

Fourteen fractions were obtained were labelled as fcd1, fcd2 to fcd14. Antimicrobial activity was performed by Disc diffusion method on the staphylococcus aureus (+ve), Escherichia coli (–ve), Pseudomonas

aerugenosa (-ve) bacteria and was found that cardamom and clove extract both were similar active for Pseudomonas aerugenosa (-ve) but cardamom was more active for E. coli than clove extracts.

SYNTHESIS, PHARMACOLOGICAL EVALUATION AND MOLECULAR DOCKING STUDIES OF 1-ACETYL 5-SUBSTITUTED PHAENYL 3-AMINO PHENYL 2-PYRAZOLINES

MOHAMMAD TABASSU TANVEER HAYATH, Assistant Professor AZAD COLLEGE OF PHARMACY

ABSTRACT

The five-membered heteorocyclic group of pyrazoles/pyrazolines play s important role in drug discovery. pyrazoles/pyrazolines present a wide range of biological activities. The synthesis of the pyrazoles/pyrazolines derivatives was accomplished via the condensation of the appropriate substituted aldehydes and aceto phenones, suitable chalcones and hydrazine hydrate in absolute ethanol in the presence of drops of glacial aceticacid. The compounds are obtained in good yields 68.99% and that it structure was confirmed using IR, Hl-NMR, C13-NMR and elemental analysis. Molecular docking studies for pyrazoline derivatives were studied and reported.

Molecular docking studies reduce the time and costs involved in drug discovery process and have no adverse effect on the environment. Pyrazoles have been the recent target of numerous methodologies, mostly due to their prevalence as scaffolds in synthesis of bioactive compounds and reactions in different media. In this review, an attempt is made to provide an up to date developments in the synthetic strategies, biological activities associated with these classes of compounds. The chemical and biological applications shown by the pyrazolin analogues in recent years were discussed

STUDY TO INVESTIGATE PHYTOCHEMICAL AND ANTIMICROBIAL ACTIVITY OF ECLIPTA ALBA (LEAF) SOLANUM ZANTHOCARBUM (SEED METHONALIC EXTRACT COMBINATION)

IKRAM SARMAD MOHAMMAD MOHAMMAD ARSALAN, Assistant Professor AZAD COLLEGE OF PHARMACY

ABSTRACT:

Objective: This study aims to phytochemical and antimicrobial study of Eclipta Alba.
Materials and Methods:
Antimicrobial activity of flavonoids (free and bound) of Eclipta Alba L. was determined by disc diffusion assay against four bacteria (*Escherichia coli*, *Pseudomonas aeruginosa*, *Proteus mirabilis*, and *Staphylococcus aureus*) and four fungi (*Aspergillus flavus*, *Aspergillus niger*, *Trichophyton mentagrophytes*, and *Candida albicans*). Minimum inhibitory concentration (MIC) of the extract was evaluated through micro broth dilution method, while minimum bactericidal/fungicidal concentration was determined by subculturing the relevant samples. Total activity (TA) of extracts against each sensitive pathogen was also evaluated.

Results: Out of fungi; *A. flavus*, *A. niger*, and *T. mentagrophytes* were found to be resistant, against which none of the tested extracts showed activity. Bound flavonoids extract of root showed best activity against C. albicans (inhibition zone (IZ) 27.66, MIC 0.039, minimum fungicidal concentration (MFC) 0.039). TA of free flavonoid extract of root was found to be the same for *P. mirabilis* and *S. aureus* (192.30 ml/g). Two flavonoids quercetin and kaempferol were identified in the bound flavonoids of stem extract which showed activity against all the microorganisms.
Conclusion: Results of the present investigation indicate that *Eclipta Alba* has good antimicrobial activity with low range of MIC, hence can be exploited for future plant-based antimicrobial drugs.

DEVELOPMENT AND STANDARDIZATION OF POLY HERBAL OIL AND CLINICAL SIGNIFICANCE OF ITS HAIR GROWTH STIMULATION

SARA BANU, Assistant Professor AZAD COLLEGE OF PHARMACY

ABSTRACT

Background: Oil formulation is a one of the topical formulations and it gives better absorption on the skin and less adverse effect comparable to other formulation. When the plant formulated a soil it gives better absorption through skin and gives maximum therapeutic. There view of Murray akoenigii, Phyllanthus emblica, Azadira chtaindica, and Mentha spicata plants shows good medicinal value. All the plants provide hair growth activity. Among topical formulation, the oil formulation is more suitable for topical application and produce cooling effects.

Aim & objectives: To develop and standardization of Poly Herbal Oil and clinical evaluation of its hair growth stimulation.

Materials and methods: The Phytochemical investigation of a plant involves authentication and extraction of plant material; qualitative and quantitative evaluations; separation and parallel to this may be the assessment of pharmacological activity.

Results and discussion: Preliminary phytochemical screening was carried out for all the plants and its extracts to determine the presence of active principle in plants. Fluorescence analysis was carried out to detect the presence of chromophore present in the powder and extracts. Qualitative estimation of total flavonoid contend and total Phenolic content were determined by spectro photometrically all the extract showed significant amount of flavonoid and phenolic compounds.

Conclusion: It is concluded that the prepared poly herbal oil containing *Murrayakoenigi.i, Phyllathusemblica, Azadirachtaindica* and *Menthaspicata* proved hair growth activity.

SYNTHESIS CHARACTERIZATION AND ANTI MICROBIAL SCREENING OF 1,3,4-THIADAZOLE PHENOL DERIVATIVES

PRAKASH CHANDRA DASH, Assistant Professor AZAD COLLEGE OF PHARMACY

ABSTRACT

Objectives: Pathogenic microbes are causal agents for various types of severe and even lethal infectious diseases. Despite of development in medication, bacterial and fungal infections still persist to be a vital problem in health care. Bacteria and several fungal species have shown resistance to antibiotics used in treatment to current medications. Therefore, it is a considerable field of interest in the design and development of novel compounds with antimicrobial activity.

Methods: The compounds bearing a heterocyclic ring play an imperative role among other organic compounds with pharmacological activity used as drugs in human for control and cure of various infections. Thiadiazoles containing nitrogen–sulfur atom as part of their cyclic structure which shown wide-ranging application as structural units of biologically active molecules and are very useful intermediates in Medicinal Chemistry.

Results: The effectiveness of the thiadiazole nucleus was established by the drugs currently used for the treatment of various infections. 1,3,4-Thiadiazoles and some of their derivatives are widely studied because of their broad spectrum of pharmacological activities.

Conclusion: In the present work, a series of 1,3,4-Thiadiazole derivatives were synthesized by cyclization of a group of various benzaldehyde with thiosemicarbazide in the presence of various reagent like $FeCl^3$, HCHO by losing a molecule of water. These derivatives were found to possess prominent antimicrobial activity.

DESIGN, SYNTHESIS AND *INVITRO* ANTI MICROBIAL ACTIVITY OF BENZIMIDAZOLE DERIVATIVES.

MANDADI PAVANI, Assistant Professor AZAD COLLEGE OF PHARMACY

ABSTRACT:

Benzimidazoles possess one of the most, useful biological activities. Benzimidazoles are utilizedin many therapeutic applications such as anti inflammatory, anti anxiety and anti microbial compounds.

We have developed a simple methodology for the preparation of substituted Benzimidazoles derivatives (HW1 –HW7). The direct condensation of 0-phenlenediamine (1 mmole) and appropriates aliphatic aromatic carboxylic acid (1 mmol) gave the required 2-substituted 1H Benzimidazoles (HW1 –HW7) in 60 to 85 % yields. All the synthesized compounds were characterized by using spectral techniques such as IR ^{H}NMR^{13C}NMR and MS. The advantages of this method are extremely mild technique and compliance with green chemistry protocols.

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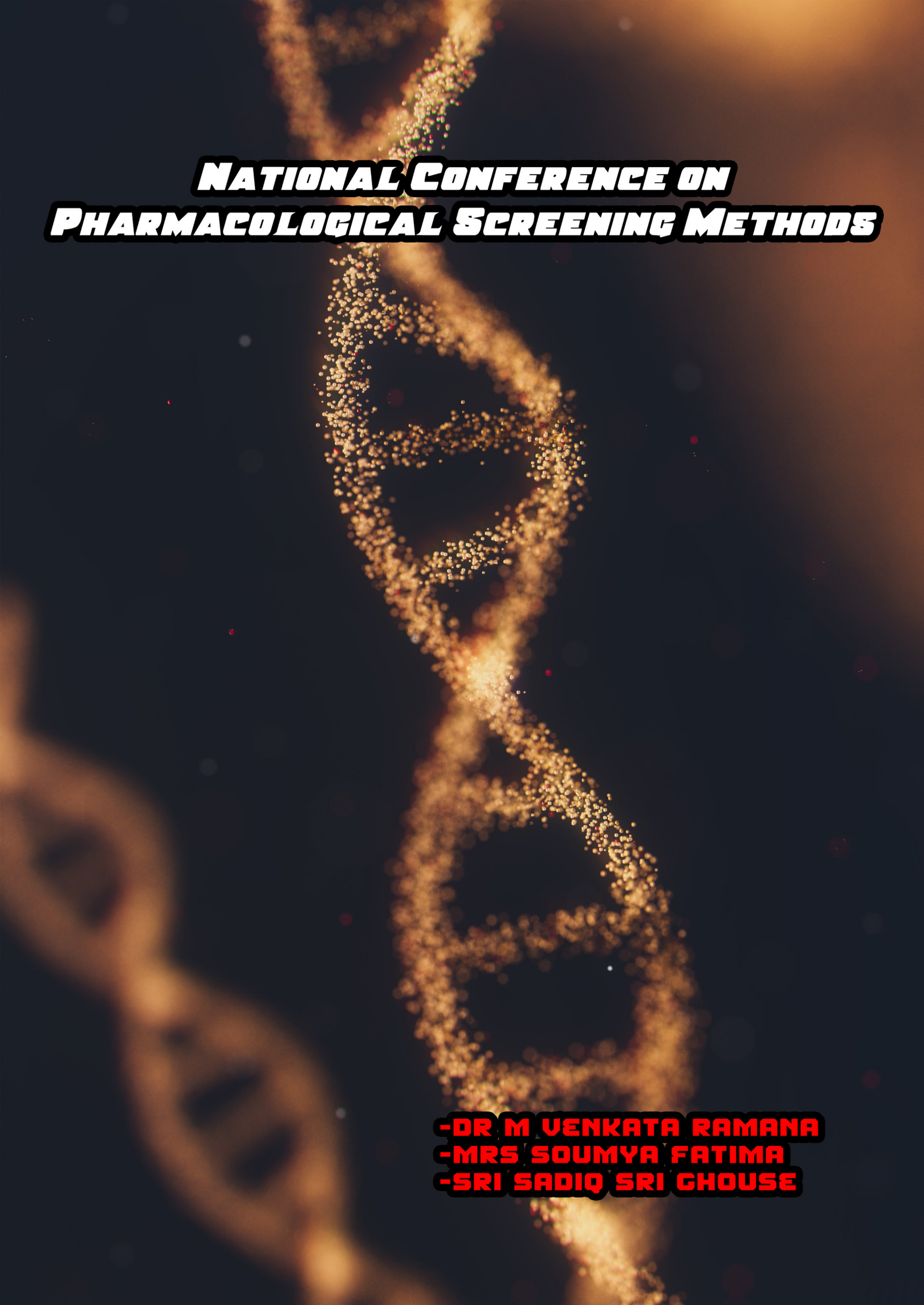
National Conference on
Pharmacological Screening Methods
-DR M VENKATA RAMANA
-MRS SOUMYA FATIMA
-SRI SADIQ SRI GHOUSE

National Conference on Pharmacological Screening Methods

Editors

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FORMULATION AND EVALUATION OF CAPTOPRIL FLOATING MICROSPHERES

SHAIK GOUSIA TAYABA, Assistant Professor AZAD COLLEGE OF PHARMACY

ABSTRACT

To develop and evaluate captopril floating microspheres using polymers like HCMC K100M, HPMC K4M and ethyl cellulose. However the captopril has short half life (2 hrs) and hence requires frequent administration and it has degradation in the intestinal PH. Therefore the possible way by which this can be overcome is by formulating gastro retentive system a controlled release formulation (CRF). Floating microsphere of captopril was prepared by solvent evaporation technique. In the present study nine formulations were formulated by using HPMC K100M, HPMC K4M and ethyl cellulose in various proportions. The prepared Captopril sustained release floating microsphere were then subjected to micro metrics properties FT-IR, SEM particle size and size distribution, percentage yield drug content, entrapment efficiency, drug loading microspheres *invitro* dissolution studies, *invitro* buoyancy release kinetics were performed. The FT-IR spectra revealed that there was no interaction between polymers and captopril. Captopril floating microspheres was spherical in nature, which was confirmed by SEM. The *invitro* performance depends on the polymer concentration. The developed sustained released floating microsphere showed improved *in-vitro* drug release of captopril when compared with other formulation.

STUDY ON PREVALENCE OF ANEMIA AMONG PREGNANT WOMEN ATTENDING ANTENATAL CLINIC AT RURAL HEALTH TRAINING CENTRE (RHTC) CTM CROSS ROAD, MADANAPALLE

RAO ARCHANA, Assistant Professor AZAD COLLEGE OF PHARMACY

ABSTRACT

INTRODUCTION

Anemia is not one disease, but condition which results from a number of different pathologies. It can be defined as a reduction from normal of the quantity of haemoglobin it blood. The world health organization defines anemia in adults as hemoglobin levels less than 13g/dl for males and less than 12g/dl for females. However, there are apparently normal individuals with levels less than this. The low hemoglobin level results in a corresponding decrease in the oxygen-carrying capacity of the blood.

AIM:Study on prevalence of anemia among pregnant women attending antenatal clinic at Rural Health training Centre{RHTC}CTM cross road Madanapalle Annamayya district.

METHODOLOGY:A community based cross sectional study was carried out in Antenatal Clinic at Rural Health Traning Centre ctm cross road Madanapalle, Annamayya district. Our study was carried out for period 4 months from march-2022 to June 2022 after getting approved by Institutional Ethics committee [IEC].

RESULTS: AGE:-Out of 269 pregnant women enrolled in these study Maximum pregnant women present between 22-24 years.

ANEMICSTATUS:- Out of 269 pregnant women. In our study Most of the pregnant women were belongs to mild anemic condition.

BODY MASS INDEX (BMI):-ln our study most of the pregnant women were belongs to normal weight.

EDUCATIONAL STATUS:- In our study most of the pregnant Women were belongs to Secondary educational level· So education as we consult as part 1c1 pants.

OCCUPATION:-In our study most of the pregnant women's belongs to homemaker.

GRAVIDA STATUS:-In our study majority of the pregnant women's were belongs to the G2 gravida status.

TYPE OF FAMILY: In this study 25 (464601:) (53.33%) Joint Family. In our study majority of the pregnant women were belongs to joint family.

FOOD HABIT: In our study 6(2.23%>) belongs to vegetarian, 263 (97.760/o) belongs to mixed. In our study most of the pregnant women were belongs to mixed.

DURATION OF PREGNNACY: In this study majority of the Pregnant women were belongs to duration of pregnancy in between 13-24 weeks.

BIRTH INTERVALS:. In this study most of the pregnant women were belongs to birth intervals in between l-3 years.

AGE AT MARRIAGE OR EQUAL TO 18 YEARS: In our study. Most of the pregnant women were belongs to married at age between 19-24years.

TAKING OF IRON SUPPLEMENTS:-In this study most of the pregnant women's were belongs to taking of iron supplements.

KNOWLEDGE ON IRON SUPPLEMENTS:-In our study most of the pregnant women were belongs to knowledge on iron supplements.

DISCUSSION: WHO reports shows that 35-75°/o of pregnant women in developing countries are an mic and Indiah as the highest prevalence rate of anemia. In the present study, a prevalence rate of (73.3%) was observed. Similarly R.G.Viveki (74.1%), Agarwal (73.7%) of prevalence rate was seen in contrastvery high prevalence observed by Gowthamet.al (96.8%) (137) and low prevalence 1n Nepal (42.5%) is observed by prashantD et.al.

CONCLUSION: The study concludes that high prevalence rate of anemia are pregnant women (73.3%) states clearly that anemia is a major health problem in rural area.

THE EFFECT OF METFORMIN ON CULTURE CONVERSION IN PATIENTS WITH TUBERCULOSIS USING STANDARD ATT AND SUFFERING FROM TYPE 2 DIABETES MELLITUS A RETROSPECTIVE COHORT STUDY

SWATHI GADDAMIDI, Assistant Professor AZAD COLLEGE OF PHARMACY

ABSTRACT

Background: Patients with diabetemcllitus (DM) and tuberculosis (TB) have high risk of Treatment failure. However we have examined the effect of metfirmin and TB treatment especially with DM.

Aim: To assess the impact of metformin conversion in TB patients with type-2 diabetemellitus.

Methods: This retrospective cohort study included patients with culture-positive pulmonary TB TB diagnosed between 2021 and 2022.The primary study outcome was sputum culture conversion after 2 months of treatment.

Results: Out of 870 patients, 586 patients were diagnosed with culture proven pulmonary TB 196 patients were diagnosed with DM (33%) among them 110 (56%) were treated with metformin. Baseline characteristic, except CKD, statin has significant difference between the metformin and non-metformin users.

Conclusion: Though a greater number of metformin users achieved a negative conversion than non-metformin users. We are not able to clearly say metformin usage is the only reason for that conversion. Some other factors like statin usage, having a history of TB may also affect the study result. So, there is a good scope for conducting this study a san RCT which is of a higher scientific value to prove metformin is a good antibiotic drug with anti TB activity.

EFFECT OF POLY PHARMACY ON ADRS AMONG GERIATRICS

YELLU SAMARASIMHAREDDY, *Assistant Professor AZAD COLLEGE OF PHARMACY*

ABSTRACT

Introduction: In this project, we have provided better evaluation of the benefit and harm profiles of drugs plays as an essential part of evaluating ADR'S reports in early warning systems and for Regulatory purpose. Polyphannacy has been variably defined across literature with the most, common definition thus far as "taking five or more medications concurrently".

Aim and Objective: To determine the adverse drug reaction (ADRs) in polypharmacy among the geriatrics. We have provided relationship between the drug and events and monitoring and assessment of ADRs ingeriatrics.

Methodology: Adverse drug reaction as "an appreciably harmful or unpleasant reaction, resulting from an intervention related to the use of a medicinal product, which predicts hazard from future administration and warrants prevention nor specific treatment, or alteration of the dosage regimen, or withdrawal of the product ."While some ADRs are unpredictable such as anaphylaxis in a patient after one previous uneventful exposure to a penicillin containing antibiotic many are preventable with adequate foresight and monitoring. Epidemiological studies tend to find that between a third and a half of ADRs are (atleast potentially) preventable although preventability is much easier to diagnose inhindsight.

Results: Out of 120 geriatric patients with polypharmacy enrolled in the study 70 with 58.33% than females 50 with 42%. In this study there were more males than females. In this study there were 90 (75%) patients with hypertension, 85 (70.83%) were enrolled with diabetes Mellitus and 60 (50%) of chronic kidney disease, 65 (54.16%) were of anaemia.

ANTI DIABETIC AND ANTI HYPERLIPEDIMIC ACTIVITY OF VARIOUS RICE PRODUCTS

MOHAMMAD KHAN, *Assistant Professor AZAD COLLEGE OF PHARMACY*

ABSTRACT

Oryza sativa belonging to the family Gramineae and subfamily oryzoides is the second most important cereal crop and staple food for more than half of the world's population. Rice is a grain belonging to the grass family. It is related to the other grass plant such as wheat, oats and barley which produce grain for food and also known as cereals.

The present study work aims to evaluate the pharmacological activities such as anti diabetic and Anti hyperlipidemic effects of the various rice products, these helps to identify phytochemical constituents of rice varieties present in rice products and to extract the active constituents of the rice varieties by using various Solvents such as ethanol, methanol, hexaneal so to determine the pharmacological activities ie., anti diabetic and anti hyperlipidemic activities of various extracts of nee.

We conclude that brown rice with glycemic index55 (normal) is very useful because rich in carbohydrates, fiber, antioxidants, vitamins, and minerals may improve blood sugar control, thereby helping manage diabetes and it contains flavonoids with potent antioxidants by eating these foods is associated with reduce d risk of chronic illness, cardiovascular disease, kidney damage, cancer, Alzheimer's disease. They also boost fullness and weight loss.

ANTIHYPER LIPIDAMIC EFFECTS OF CROTALARIA JUNCEA LEAF OF METHANOLIC AND ETHANOLIC EXTRACTS

BEGUM SABIHA, *Assistant Professor AZAD COLLEGE OF PHARMACY*

ABSTRACT:

Objective: To evaluate the antihyper cholesterolemic effects of 50 mg/kg BW and 100 mg/kg BW per day of an ethanolic extract of *Crotalaria juncea* Linn (whole plant) by performing *in vivo* studies.

Methods: The effects of oral administration of 50 mg/kg BW and 100 mg/kg BW per day of an ethanolic extract of *Crotalaria juncea* Linn (whole plant) in rats fed with a high-fat diet were investigated by evaluating parameters like food consumption, weight gain, fecal fat excretion, serum and liver lipids, and biochemical profiles as well as by histopathological studies. The results were compared to animals fed with the standard diet and animals fed with a high-fat diet and atorvastatin (10 mg/kg BW).

Results: The animal group administered with the ethanolic extract for 35 days showed decreased levels of TC, LDL, VLDL, TG, HDL+VLDL, VLDL+LDL, LDL/TC, AI, SGOT, SGPT, and elevated levels of HDL, HDL/TC, significantly ($p<0.01$ & $p<0.05$) in a dose-dependent manner. The evaluation of liver tissues of the animal groups treated with the herbal extract and standard had shown increased levels of SOD, GSH, and catalase, whereas levels of SGOT, SGPT, total glucose, HMG-CoA, lipase, amylase, and the percentage of malon-dialdehyde were decreased when compared with the high-fat diet-fed rats. Body weight and food intake in the treated groups were significantly lower than that in the model control.

Conclusion: The present study showed that an ethanolic extract of *Crotalaria juncea* L. influences several blood lipid and metabolic parameters in rats, suggesting a potential benefit as an antihyper cholesterolemic agent.

STUDY TO INVESTIGATE PHYTOCHEMICAL AND ANTI MICROBIAL ACTIVITY OF WRIGHTIA TINCTORIA AEGLE MARMELOS

PITTALA GIRIJA, *Assistant Professor AZAD COLLEGE OF PHARMACY*

ABSTRACT

Wright iriatinctoria is a perennial ornamental woody plant; belong to Apocynaceae family available throughout India. Various parts of this plant like stem bark, leaves, flowers and seed have been known to possess medicinal properties like anti-inflammatory, antiviral, antibacterial, wound healing, anticancer, anti-ulceretc. The present paper is an attempt to provide a detailed botanical description, classification, pytochemical and pharmacological study of the plant.

The therapeutic value of Aeglemarmelos Correa (Rutaceae), commonly known as 'Bael', has been recognized as a component of traditional medication for the treatment of various human ailments. The plant, though, being highly explored, still lacks sufficient evidences for the best variety possessing the highest degree of medicinal values. The present study is focused on phytochemical screening of aqueous and methanolic leaf extracts of 18 varieties/accessions of A.marmelos. The crude extracts of A.marmelos revealed the presence of several biologically active phytocliemicals with the highest quantity of alkaloids, flavonoids, and phenols in Pant Aparna variety. The antibacterial efficacy was investigated against pathogenic bacterial strains and the highest inhibitory activity of aqueous extract was obtained against S.epidermidis, whereas methanolic extract was found to be most potent against S. aureus at 40 mg/mL concentration.

However, in aqueous: ethanol, the best results were observed against E.aerogenes Followed by K.pneumonia and S.epidermidis. The MIC of aqueous and in ethanol extract of Aegle marmelos ranged from10mg/mL to 40mg/mL whereas in aqueous: ethanolic ranged between 40 mg/mL and 160mg/ml. The GC-MS analysis revealed the presence of many bioactive compounds such as flavonoids, alcohols, aldehydes, aromatic compounds, fatty acid methyl esters, terpenoids, phenolics, and steroids that can be postulated for antibacterial activity.

UTILIZATION AND EVALUATION OF ANTI HYPERTENSIVE DRUGS IN THE HYPERTENSIVE PATIENTS IN A TERTIARY CARE TEACHING HOSPITALS

ZAREENA BEGUM, *Assistant Professor AZAD COLLEGE OF PHARMACY*

ABSTRACT:

Aim: Hypertension represents a major health problem primarily because of its role in contributing to the initiation and progression of major cardiovascular diseases. Concerns pertaining to hypertension and its sequelae can be substantially addressed and consequent burden of disease reduced by early detection and appropriate therapy of elevated blood pressure. This cross-sectional observational study aims at analyzing the utilization pattern of antihypertensives used for the treatment of hypertension at a tertiary care hospital in perspective of standard treatment guidelines.

Materials and Methods: Prescriptions were screened for antihypertensives at the medicine outpatient department of a tertiary care teaching hospital. Medical records of the patients were scrutinized after which 286 prescriptions of patients suffering from hypertension were included. The collected data were sorted and analyzed on the basis of demographic characteristics and comorbidities.

Results: The calcium channel blockers were the most frequently used antihypertensive class of drugs (72.3%). Amlodipine (55.6%) was the single most frequently prescribed antihypertensive agent. The utilization of thiazide diuretics was 9%. Adherence to the National List of Essential Medicines (NLEMs) was 65%. The combination therapy was used more frequently (51.5%) than monotherapy (48.8%). The use of angiotensin-converting enzyme inhibitors/angiotensin 2 receptor blockers (ACE-I/ARB) was 41.4% in diabetes.

Conclusions: The treatment pattern, in general, conformed to standard treatment guidelines. Few areas, however, need to be addressed such as the underutilization of thiazide diuretics, need for more awareness of drugs from the NLEMs and enhanced use of ACE-I/ARB in diabetic hypertensives.

EVALUATION AND PHYTOCHEMICAL SCREENING AND ANTIBACTERIAL ACTIVITY OF FICUS DALHOUSIAE MIQ

MAHESH GAJJELA, *Assistant Professor AZAD COLLEGE OF PHARMACY*

Abstract:

The aim of the present study was to isolate the Extract from the leaves of Ficus dalhousiae Miq and subse-quently evaluates their antibacterial and antifungal activity. The crude various extracts of the plant n-Hexane, Chloroform, Ethyl acetate, Methanol extract was obtained by using continuous soxhlation technique using soxhlet apparatus. The antibacterial activity of plant extract were carried using cup plate method against three bacterial species Staphylococcus aures, Bacillus subtilis, Escherichia coli using agar diffusion method. Those are compared with standard reference drug Ciprofloxacin. This study confirmed that bark extracts have more active constituents compare to leaf extracts. by pharmacological evaluation of Ficus dalhousea Miq. Various extracts, most of them are capable of showing moderate antibacterial activity.

EVALUATION OF PHARMACOLOGICAL ACTIVITY OF CHADRAPRABHA VATI ON SERUM OF ALBINO WISTAR STRAIN RATS

*, Assistant Professor AZAD COLLEGE OF PHARMACY

JONGONI SOWJANYA, *Assistant Professor AZAD COLLEGE OF PHARMACY*

Abstract:

The current study is to develop the acute and sub-acute toxicity profile of some ayurvedic Bhasma and understand the side effects due to the presence of heavy metals. Chandra prabhavati pill were weighed, powdery and suspended in water had made into liquid formulation. The animals were classified and treated with the doses of Chandra prabhavati (50and five hundred mg/kg) in rat. The dose was calculated by extrapolating the equivalent human dose (1 and ten times) and was administered orally between ten and eleven after median daily for twenty eight days, during alylin a very volume not exceeding one ml/100 g rat weight. Blood was collected on seven, fourteen and twenty eight days, later they were sacrificed for histopathological studies.

DEVELOPMENT AND VALIDATION OF NEW ANALYTICAL METHODS FOR THE ESTIMATION OF RUFINAMIDE IN BULK AND PHARMACEUTICAL DOSAGE FORMS

RAMAVATH AKSHATHA NAIK, *Assistant Professor AZAD COLLEGE OF PHARMACY*

Abstract:

Development of methods to achieve the final goal of ensuring the quantity of drug substances and drug products is not a trivial undertaking. The capabilities of the three methods were complementary to each other. Hence they can be regarded as simple, specific and sensitive methods for the estimation of Rufinamide in bulk and pharmaceutical dosage forms. A very few analytical methods appeared in the literature for the determination of Rufinamide, which includes HPLC, UV-Vis Spectrophotometric methods and LC-MS / MS methods has been reported for Rufinamide. In view of the above fact, some simple analytical methods were planned to develop with sensitivity, accuracy, precision and economical. The present investigation, simple, sensitive, precise and accurate RP-HPLC method was developed for the quantitative estimation of Rufinamide in its bulk and pharmaceutical dosage forms. The results are expressed in Table: 5.11 – 5.28. The RP-HPLC method was more sensitive, accurate and precise compared to the Spectrophotometric methods. This method can be used for the routine determination of Rufinamide in bulk drug and in pharmaceutical dosage forms.

IN-VITRO ANTIOXIDANT ACTIVITY OF KEDROSTIS FOETIDISSIMA (JACQ) COGN

, Assistant Professor AZAD COLLEGE OF PHARMACY

NALLAMETLA SAI KUMAR

Abstract:

The present study is to evaluate a systemic record of the relative antioxidant activity of *Kedrostis foetidissima*. The ethanolic extract of *Kedrostis foetidissima* was screened for their free radical, hydroxyl radical, superoxide and nitric oxide scavenging activity. Total antioxidant activities of ethanolic extract were compared with standard antioxidants ascorbic acid, copper sulphate 2, 6- di-ter-butyl-p-hydroxytoluene (BHT). Results indicate the ethanolic extract exhibited antioxidant potential of *in-vitro* screening methods. The results indicate that ethanolic extract showed moderate activity against standard drugs

RP-HPLC METHOD FOR THE DETERMINATION AND QUANTIFICATION OF ARTESUNATE

TARANNUM FATIMA, *Assistant Professor AZAD COLLEGE OF PHARMACY*

Abstract:

A simple, rapid and cost-effective reverse phase high-performance liquid chromatographic (RP-HPLC) method was developed for the quantification of artesunate. C18 Promosil (ODS, 150 × 4.6 mm, 5 μm) column was used as stationary phase to separate the drug. Mobile phase comprised of ethanol: water (65:35) having pH 4.5 was run isocratically at a flow rate of 1 mL/min at 27°C. The method was validated according to ICH guidelines for linearity, precision, accuracy, robustness, specificity, limit of detection (LOD) and limit of quantification (LOQ). The method was found accurate, precise and robust with an average retention time of 4.509 min and 0.5357 %RSD. Good linearity was observed in the concentration range of 2–10 mg/ml with regression coefficient R2 value of 0.9995 and slope value of 369,928. Conclusively, as per ICH norms, the developed method was successfully validated and used for the quantification of artesunate in fast dissolving tablets (FDTs).

PHARMACOLOGICAL STUDIES OF ANTI-DIARRHOEAL ACTIVITY OF MALACHRA CAPITATA (L.) IN EXPERIMENTAL ANIMALS

TEJAKUMAR REDDY KONATHAM, *Assistant Professor AZAD COLLEGE OF PHARMACY*

Abstract:

The purpose of the present study was to evaluate scientifically the anti-diarrhoeal effects of aqueous extract of roots of Malachra capitata Linn (AMC) was studied against castor oil-induced-diarrhoea model in rats. Antidiarrhoeal activity of aqueous extract of Malachra capitata was investigated in this study using castor oil-induced-diarrhoea, enteropooling and Small intestinal transit models in rats. The weight and volume of intestinal content induced by castor oil were studied by enteropooling method. Standard drug diphenoxylate (5 ml/kg, p.o) was significant reductions in fecal output and frequency of droppings whereas AMC at the doses of 200 and 400 mg/kg p.o was significant reductions in fecal output and frequency and consistency of diarrhoea and enteropooling. The gastrointestinal transit rate was expressed as the percentage of the longest distance travelled by the charcoal divided by the total length of the small intestine. AMC at the doses of 200 and 400 mg/kg significantly inhibited ($P<0.001$) the castor oil induced charcoal meal transit. The AMC showed marked reduction in the number of diarrhoea stools and the reduction in the weight and volume of the intestinal contents, as well as a modest reduction in intestinal transit. The results obtained establish the efficacy and substantiate the folklore claim as an anti- diarrheal agent. Further studies are needed to completely understand the mechanism of anti-diarrhoeal action of Malachra capitata.

USE OF A SIMULTANEOUS EQUATION METHOD TO DETERMINE AZITHROMYCIN AND CEFIXIME TRIHYDRATE IN THE FORMULA FOR A TABLET

FASIUDDIN AHMED, *Assistant Professor AZAD COLLEGE OF PHARMACY*

Abstract:

For the simultaneous determination of azithromycin (AZI) and cefixime trihydrate (CEFI) in tablet formulation, a straightforward, accurate, and exact uv-spectrophotometric approach has been devised. The approach was based on analysing the two medications simultaneously using equations. In methanol, AZI and CEFI have both demonstrated absorbance maxima at 222 and 289 nm, respectively. Both medicines adhered to linearity in the concentration range of 10–50 g/ml, with a remarkably high correlation value (r2 = 0.999). The respective limits of quantitation for AZI and CEFI were 2.40 and 4.60 g/ml, while the respective limits of detection for AZI and CEFI were 0.81 and 1.52 g/ml. Validation demonstrated the suggested method's suitability for quantitative drug determination. The technique worked well to examine a pill formulation.

IMPORTANCE OF RP-HPLC IN ANALYTICAL METHOD DEVELOPMENT: A REVIEW

THOKANOLA LALAPPA, *Assistant Professor AZAD COLLEGE OF PHARMACY*

Abstract:

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

NEW SIMPLE SPECTROPHOTOMETRIC METHOD FOR THE SIMULTANEOUS ESTIMATION OF PARACETAMOL AND FLUPIRTINE MALEATE IN PURE AND PHARMACEUTICAL DOSAGE FORM

PADMA GUNTI, *Assistant Professor AZAD COLLEGE OF PHARMACY*

Abstract:

A new, simple, precise, accurate, reproducible, and efficient Vierordt's method or simultaneous equation method was developed and validated for simultaneous estimation of paracetamol and flupirtine maleate in pure and pharmaceutical dosage form. The method was based on the measurement of absorbance at two wavelengths 245 nm and 344.5 nm, of paracetamol and flupiritine maleate in 0.1 N HCl correspondingly. Calibration curves of paracetamol and flupiritine maleate were found to be linear in the concentration ranges of 5–15 μg/mL and 1.53–4.61 μg/mL, respectively, with their correlation coefficient values (R^2) 0.999. LOD and LOQ were 185.90 ng/mL and 563.38 ng/mL for paracetamol and 78.89 ng/mL and 239.06 ng/mL for flupiritine maleate. In the precision study, the % RSD value was found within limits (%). The percentage recovery at various concentration levels varied from 99.18 to 100.02% for paracetamol and 98.47 to 100.09% for flupiritine maleate confirming that the projected method is accurate. It could be concluded from the results obtained in the present investigation that this method for simultaneous estimation of paracetamol and flupirtine maleate in pure and tablet dosage form is simple, accurate, precise, and economical. The proposed method can be applied successfully for the simultaneous estimation of paracetamol and flupiritine maleate in pure and pharmaceutical dosage form.

ANTIMICROBIAL ACTIVITY AND PHYTOCHEMICAL ANALYSIS OF ORGANIC EXTRACTS FROM CLEOME SPINOSA JAQC.

KULSUM SUBHIYA, *Assistant Professor AZAD COLLEGE OF PHARMACY*

Abstract:

Due to the use of Cleome spinosa Jacq. (Cleomaceae) in traditional medicine against inflammatory and infectious processes, this study evaluated the in vitro antimicrobial potential and phytochemical composition of extracts from its roots and leaves. From leaves (L) and roots (R) of C. spinosa different extracts were obtained (cyclohexane: ChL and ChR; chloroform: CL and CR; ethyl acetate: EAL and EAR, methanol: ML and MR). The antimicrobial activity was evaluated by the broth microdilution method to obtain the minimum inhibitory (MIC) and microbicidal (MMC) concentrations against 17 species, including bacteria and yeasts. Additionally, antimicrobial and combinatory effects with oxacillin were assessed against eight clinical isolates of Staphylococcus aureus. All C. spinosa extracts showed a broad spectrum of antimicrobial activity, as they have inhibited all tested bacteria and yeasts. This activity seems to be related to the phytochemicals (flavonoid, terpenoids and saponins) detected into the extracts of C. spinosa. ChL and CL extracts were the most actives, with MIC less than 1 mg/mL against S. aureus, Bacillus subtilis, and Micrococcus luteus. It is important to note that these concentrations are much lower than their 50% hemolysis concentration (HC50) values. Strong correlations were found between the average MIC against S. aureus and their phenolic ($r = -0.89$) and flavonoid content ($r = -0.87$), reinforcing the possible role of these metabolite classes on the antimicrobial activity of C. spinosa derived extracts. Moreover, CL and CR showed the best inhibitory activity against S. aureus clinical isolates, they also showed synergistic action with oxacillin against all these strains (at least at one combined proportion). These results encourage the identification of active substances which could be used as lead(s) molecules in the development of new antimicrobial drugs.

RED BLOOD CELL

BEGUM NAUSHEEN, *Assistant Professor AZAD COLLEGE OF PHARMACY*

Abstract:Human red blood cells (RBC) are highly differentiated cells that have lost all organelles and most intracellular machineries during their maturation process. RBC are fundamental for the nearly all basic physiologic dynamics and they are key cells in the body's respiratory system by being responsible for the oxygen transport to all cells and tissues, and delivery of carbon dioxide to the lungs. With their flexible structure RBC are capable to deform in order to travel through all blood vessels including very small capillaries. Throughout their in average 120 days lifespan, human RBC travel in the bloodstream and come in contact with a broad range of different cell types. In fact, RBC are able to interact and communicate with endothelial cells (ECs), platelets, macrophages, and bacteria. Additionally, they are involved in the maintenance of thrombosis and hemostasis and play an important role in the immune response against pathogens. To clarify the mechanisms of interaction of RBC and these other cells both in health and disease as well as to highlight the role of important key players, we focused our interest on RBC membrane components such as ion channels, proteins, and phospholipids.An overview of current knowledge on the interaction of RBC with other cells, ECs and platelets, in physiological and disease conditions, is presented here. Both direct interactions through receptors on the RBC and other key players, such as ECs, platelets, WBC, macrophages, other RBC, have been discussed, as well as indirect interactions between thesecells . Indirect interaction can occur through plasma ligands, proteins and released molecules or particles from these cells. Other indirect interactions described in this review are mechanical: these kind of interactions are focused on the dynamic and rheological distribution of RBC in contact with other cells in physiological flow conditions. This underlines the complexity of the global interactions in which the mature RBC are involved and, more importantly, addresses a crucial attention to the pathological circumstances.

WILSON DISEASE

KOTA RADHIKA *, Assistant Professor AZAD COLLEGE OF PHARMACY*

Abstract:Wilson’s disease is an autosomal-recessive disorder caused by mutation in the ATP7B gene, with resultant impairment of biliary excretion of copper. Subsequent copper accumulation, first in the liver but ultimately in the brain and other tissues, produces protean clinical manifestations that may include hepatic, neurological, psychiatric, ophthalmological, and other derangements. Genetic testing is impractical because of the multitude of mutations that have been identified, so accurate diagnosis relies on judicious use of a battery of laboratory and other diagnostic tests. Lifelong palliative treatment with a growing stable of medications, or with liver transplantation if needed, can successfully ameliorate or prevent the progressive deterioration and eventual death that would otherwise inevitably ensue. This article discusses the epidemiology, genetics, pathophysiology, clinical features, diagnostic testing, and treatment of Wilson’s disease.Clinical practice guidelines for Wilson's disease (WD) have been published by the American Association for the Study of Liver Diseases and European Association for the Study of the Liver in 2008 and 2012, respectively. Their focus was on the hepatic aspects of the disease. Recently, a position paper on pediatric WD was published by the European Society of Pediatric Gastroenterology Hepatology and Nutrition. A need was felt to harmonize guidelines for the hepatic, pediatric, and neurological aspects of the disease and contextualize them to the resource-constrained settings. Therefore, experts from national societies from India representing 3 disciplines, hepatology (Indian National Association for Study of the Liver), pediatrichepatology (Indian Society of Pediatric Gastroenterology, Hepatology and Nutrition), and neurology (Movement Disorders Society of India) got together to evolve fresh guidelines. A literature search on retrospective and prospective studies of WD using MEDLINE (PubMed) was performed. Members voted on each recommendation, using the nominal voting technique. The Grades of Recommendation, Assessment, Development and Evaluation system was used to determine the quality of evidence. Questions related to diagnostic tests, scoring system, and its modification to a version suitable for resource-constrained settings were posed. While ceruloplasmin and 24-h urine copper continue to be important, there is litte

MEDICINAL HERBS TO TREAT HYPERTENSION

KALLEM SRIKRISHNA GOUD, *Assistant Professor AZAD COLLEGE OF PHARMACY*

Abstract : Hpertension is a common problem facing many peoples today. Although billions of dollars are spent annually for the treatment and detection of cardiovascular disease, current conventional treatments have done little to reduce the number of patients with hypertension. Alternative medicine offers an effective way to decrease the rising number of people with high blood pressure. Research has found a variety of alternative therapies to be successful in reducing high blood pressure including diet, exercise, stress, management, supplements and herbs. Every year, more and more studies are being performed on herbal remedies for high blood pressure. There are many herbal drugs like Punarnava, Barberry, Rouwolfia, Garlic, Ginger, Ginseng and Arjuna which can safely use for the treatment of hypertension. Hypertension (HTN) is the medical term for high blood pressure. It is dangerous because it makes the heart work too hard and contributes to atherosclerosis (hardening of arteries), besides increasing the risk of heart disease and stroke. HTN can also lead to other conditions such as congestive heart failure, kidney disease, and blindness. Conventional antihypertensives are usually associated with many side effects. About 75 to 80% of the world population use herbal medicines, mainly in developing countries, for primary health care because of their better acceptability with human body and lesser side effects. In the last three decades, a lot of concerted efforts have been channeled into researching the local plants with hypotensive and antihypertensive therapeutic values. The hypotensive and antihypertensive effects of some of these medicinal plants have been validated and others disproved. However, ayurvedic knowledge needs to be coupled with modern medicine and more scientific research needs to be done to verify the effectiveness, and elucidate the safety profile of such herbal remedies for their antihypertensive potential.

FORMULATION AND EVALUATION OF SOLID DISPERSION

MANI TEJA VENKATA TENNETI, *Assistant Professor AZAD COLLEGE OF PHARMACY*

Abstract Aceclofenac (2-[(2, 6-dichlorophenyl) amine] phenylacetoxyacetic acid) is an orally effective non-steroidal anti-inflammatory drug (NSAID) of phenyl acetic acid group, which possesses remarkable anti-inflammatory, analgesic and antipyretic properties [1], [2]. Aceclofenac appears to be particularly well-tolerated among the NSAIDs, with a lower incidence of gastrointestinal adverse effects [3]. Unfortunately, aceclofenac suffers from low aqueous solubility (0.058 μg/ml), leading to poor dissolution and insufficient oral bioavailability. The biopharmaceutical classification system (BSC) divides all drug candidates into four different groups, according to their solubility and permeability [4]. Aceclofenac is an example of BSC class II compound, its oral bioavailability is determined by dissolution rate in the gastrointestinal tract [5], [6]. Therefore, the improvement of aceclofenac dissolution is an important issue for enhancing its bioavailability and therapeutic efficacy. The present study was carried out with a view to enhance dissolution rate of poorly water-soluble drug aceclofenac (BCS-class II) using Avicel 200 and Sylysia 350 as polymers. Surface solid dispersion (SSD) was prepared by kneading method using different ratios of aceclofenac and polymers. Phase solubility study was conducted to evaluate the effect of polymer on aqueous solubility of aceclofenac. Solid state characterization was evaluated by Scanning electron microscopy (SEM), Fourier transformation infrared spectroscopy (FTIR), Differential scanning calorimetry (DSC) and X-ray diffraction study (XRD). *In vitro* dissolution study was performed in phosphate buffer at pH 6.8. Solid state study showed partial interaction between aceclofenac and polymer. *In vitro* dissolution rate of aceclofenac from solid dispersion (SD) was significantly higher compared to pure aceclofenac. The dissolution rate of the drug was affected by nature and amount of polymer used. The dissolution rate of aceclofenac/Avicel 200 solid dispersion (1:5) was higher than that of aceclofenac/Sylysia 350 solid dispersion (1:3). Thus, solid dispersion technique can be successfully used for the improvement of the dissolution profile of aceclofenac.

WHO GUIDELINES ON SAFETY MONITORING OF HERBAL MEDICINE IN PHARMACOVIGILANCE SYSTEM

NAGENDRA BABU MOKARA , *Assistant Professor AZAD COLLEGE OF PHARMACY*

Abstract The WHO has welcomed the active participation of drug regulatory authorities and national pharmacovigilance centers, among others, in the development of these guidelines. This has provided a useful starting point for strengthening communication between these authorities, which will be needed to ensure progress toward the common goal—the safety of herbal medicines. The recommended approach is to include herbal medicines in the existing national pharmacovigilance systems or, where such systems have not yet been developed, to establish comprehensive national pharmacovigilance systems, which incorporate coverage of herbal medicines. The guidelines therefore identify the particular challenges posed in monitoring the safety of herbal medicines effectively and propose approaches for overcoming them. Special attention is also given to the reporting system for adverse reactions to herbal medicines, and to the analysis of the causes of the reported adverse reactions. Currently, a majority of the adverse events related to the use of herbal products and herbal medicines that are reported are attributable either to poor product quality or to improper use. Inadequate regulatory measures, weak quality control systems, and largely uncontrolled distribution channels (including mail order and Internet sales) may have been contributing to the occurrence of such events. In order to expand the knowledge about genuine adverse reactions to herbal medicines, and to avoid wasting scarce resources for identifying and analyzing adverse events, events resulting from such situations will need to be reduced or eliminated. Member States of the World Health Organization (WHO) are therefore encouraged to strengthen national regulation, registration and quality assurance and control of herbal medicines. In addition, the national health authorities should give greater attention to consumer education and to qualified practice in the provision of herbal medicines.

DETERMINATION OF CASEIN PRESENT IN DIFFERENT MILK SAMP

PAVAN NAKKA, *Assistant Professor AZAD COLLEGE OF PHARMACY*

Abstract Casein (from Latin caseus"cheese") is a family of related phosphor proteins (αS1, αS2, β, κ). These proteins are commonly found in mammalian milk, comprising c. 80% of the proteins in cow's milk and between 20% and 45% of the proteins in human milk. The Casein has a wide variety of uses, from being a major component of chees , to use as a food additive. The most common form of casein is Sodium caseinate. As a food source, casein supplies amino acids,carbohydrates, and two essential elements, calcium and phosphorus. Casein contains a high number of proline residues,which do not interact. There are also no disulfide bridges. As a result, it has relatively little tertiary structure. It is relatively hydrophobic, making it poorly soluble in water. It is found in milk as a suspension of particles, called casein micelles, which show only limited resemblance with surfactant-type micelles in a sense that the hydrophilic parts reside at the surface and they are spherical. However, in sharp contrast to surfactant micelles, the interior of a casein micelle is highly hydrated. The caseins in the micelles are held together by calcium ions and hydrophobic interactions. Any of several molecular models could account for the special conformation of casein in the micelles.One of them proposes the micellar nucleus is formed by several sub micelles, the periphery consisting of micro vellosities of κ-casein. Another model suggests the nucleus is formed by casein-interlinked fibrils. Finally, the most recent model proposes a double link among the caseins for gelling to take place. All three models consider micelles as colloidal particles formed by casein aggregates wrapped up in soluble κ-casein molecules. The iso electric point of casein is 4.6. Since milk's pH is6.6, casein has a negative charge in milk. The purified protein is water-insoluble.While it is also insoluble in neutral salt solutions, it is readily dispersible in dilute alkalis and in salt solutions such as aqueous sodiumoxalate and sodium acetate. The enzyme trypsin can hydrolyze a phosphate-containing peptone.

REVIEW ON HYPERTENSION

VINAY KUMAR PERKA, *Assistant Professor AZAD COLLEGE OF PHARMACY*

Abstract:

The aim of the study was to conduct a meta-analysis of epidemiological and case control studies to determine whether arterial hypertension is specifically associated with an increased risk of vascular dementia (VaD).Longitudinal and cross-sectional prospective studies using operationalised criteria to define VaD and hypertension, with a normal control comparison group were systematically reviewed. Cochrane Library, Embase, Medline, and PsycInfo data sources were searched along with reference lists of included articles and reviews. Original, prevalence or incidence studies were included if operationalised criteria for hypertension and VaD as well as number of cases with and without hypertension in VaD and non-demented groups were provided. Intervention studies and post-stroke and CADASIL studies were excluded.Eleven studies recruiting either volunteers or clinical patients, or which were population-based, examined a total of 768 people with VaD and 9857 control cases. Hypertension, coronary heart disease (CHD), and anxiety disorders all cause substantial morbidity to patients and costs to the healthcare system. Associations between these diseases have been hypothesized and studied for decades. In particular, psychosocial stressors associated with anxiety disorders raise autonomic arousal via the hypothalamic-pituitary axis which increases circulating catecholamines. This heightened arousal is associated with an increased risk of hypertension and a pro-inflammatory state and, consequently, development of coronary heart disease. This association holds across the spectrum of anxiety disorders (generalized anxiety, posttraumatic stress

disorder, panic disorder, and obsessive compulsive disorder) and also when controlling for comorbid conditions such as depression and physical ailments. Multiple cross sectional studies reveal a positive association between anxiety and hypertension. These associations are bidirectional, with those with hypertension being more likely to have anxiety and those with anxiety being more likely to have hypertension. However, a few studies have shown no association. Longitudinal studies point to an increased risk of development of hypertension in patients who suffer from anxiety. More convincing studies show links between anxiety symptoms and disorders, including panic disorder and PTSD, and cardiovascular outcomes. Drawing broad conclusions from these studies is challenging, however, given the multiplicity of scales used to measure anxiety disorders. Anxiety, hypertension, and CHD are common conditions seen in primary care, and anxiety may be an important predictor of future CHD outcomes. Better recognition of the association of these conditions and the possible roles of each in development of the other should alert primary care providers to bevigilant in monitoring and treating anxiety, hypertension, and CHD.

A REVIEW ON ARTIFICIAL INTELLIGENCE IN

RADHIKA VADDEPALLI, *Assistant Professor AZAD COLLEGE OF PHARMACY*

Abstract: Artificial intelligence is revolutionizing-and strengthening-modern healthcare through technologies that can predict, grasp, learn, and act, whether it's employed to identify new relationships between genetic codes or to control surgery-assisting robots. It can detect minor patterns that humans would completely overlook. This study explores and discusses the various modern applications of AI in the health sector. Particularly, the study focuses on three most emerging areas of AI-powered healthcare: AI-led drug discovery, clinical trials, and patient care.

The findings suggest that pharmaceutical firms have benefited from AI in healthcare by speeding up their drug discovery process and automating target identification. Artificial Intelligence (AI) can help also to eliminate time-consuming data monitoring methods. The findings also indicate that AI-assisted clinical trials are capable of handling massive volumes of data and producing highly accurate results. Medical

AI companies develop systems that assist patients at every level. Patients' medical data is also analyzed by clinical intelligence, which provides insights to assist them improve their quality of life. The healthcare industry is in the midst of a transformation. The causes of this revolution are

rising total health-care cost and a growing lack of health-care experts. As a result, the healthcare industry is looking to implement new information technology-based solutions and processes that can cut costs and give solutions to these rising difficulties

DEVELOPMENT AND VALIDATION OF ANALYTICAL

GALVA BHARGAVI, *Assistant Professor AZAD COLLEGE OF PHARMACY*

Abstract: The purpose of the research is to develop a simple, precise, economical, accurate, reproducible, and sensitive method for the estimation of velpatasvir drug product by rp-hplc method

Methods: New Analytical method was developed for the estimation of Velpatasvir drug product by liquid chromatography. The chromatographic separation was achieved on C18 column (Luna 18 150*4.6mm3.0um) at ambient temperature. The separation achieved employing a mobile phase consists of 0.1%v/v Formic acid in water: Methanol: Acetonitrile (35:40:25). The flow rate was 0.8ml/ minute and ultra violet detector at 269nm. The average retention time for Velpatasvir found to be 2.62 min.

Results: The developed method was validated as per the ICH analytical method validation guidelines. All validation parameters were within the acceptable range. The assay methods were found to be linear from 20-60µg/ml for Velpatasvir. The correlation coefficient was 0.9998 for velpatasvir . The mean percentage recovery for the developed method was found to be in the range of 98.4-100.4% for velpatasvir. The developed method was also found to be robust

Conclusion: The developed method was found to be suitable for the routine quantitative analysis of Velpatasvir in bulk and pharmaceutical dosage form. It was also concluded that developed method was accurate, precise, linear, reproducible, robust, and sensitive.

REVIEW ON SWINE FLU

KHAJA PASHA, Professor, AZAD COLLEGE OF PHARMACY

Abstract: Swine flu, also called Hog or Pig Flu, is a contamination because of someone of the several forms of Swine Influenza Virus (SIV). It is common place through pig populace worldwide. Until now only folks were inside the direct contact with pigs were found to get swine flu. But, H1N1 virus is a brand new swine flu virus and it includes the genetic material of swine, hen and human influenza virus.

H1N1 influenza or swine flu is a contagious disease this is as a result of the influenza virus. Infection with the H1N1 influenza virus can bring about intense illness and lifestyles threatening complications. Symptoms of H1N1 flu are similar to the ones of the common place flu and scientists are actively reading the scenario to better recognize its variety of signs and how it is spread. The intensity of this disorder may be lowered with the aid of diagnosing and taking proper treatments.

Most commonly, swine flu is of the H1N1 influenza subtype. However, swine flu viruses can once in a while come from other subtypes, along with H1N2, H3N1 and H3N2. The 2009 outbreak of swine flu that infected human beings changed into of the H1N1 subtype.

It is critical to notice that, even though it evolved in swine, the 2009 pandemic virus became not completely derived from swine. The virus incorporates a combination of flu genes from bird, swine and human flu types.

CHEMOTHERAPY OF ANTINEOPLASTIC DRUGS

SUMIA FATIMA, Associate Professor, AZAD COLLEGE OF PHARMACY

Abstract: Chemotherapeutics are chemical entities used to treat or cure cancers. These agents target critical processes for cell division in rapidly growing cancer cells. Most cancer drugs are derived from natural sources such as plants and bacteria, other are derived from synthetic or semi synthetic processes. Cancers can arise in virtually all tissues of the body, but the frequency of incidences varies depending on genetic influence, diet, lifestyle and environmental exposures.

The most common cancers worldwide are lung, breast and prostate cancers which have had increased survival due to improvements in diagnoses and treatment options. Naturally derived agents have been the mainstay of cancer therapy and the potential to uncover endemic compounds that may exhibit potent anticancer properties has driven research for novel anticancer agents.

A number of active agents or extracts from plants extracts have been studied for their anti-cancer properties, some of these will be discussed herein. The number of patients suffering from cancer is constantly increasing and, consequently, the number of different chemotherapy treatments administered is increasing. Given the high reactivity and toxicity of antineoplastic drugs, analytical methods are required in all pharmaceutical fields, from drug development to their elimination in wastewater; including formulation quality control, environment and human exposure and therapeutic drug monitoring.

GENE THERAPY

SAHEEL QURESHI, Assistant Professor AZAD COLLEGE OF PHARMACY

Abstract: Gene therapy promises to revolutionize medicine by treating the causes of disease rather than the symptoms. We are nearing the end of the first decade of gene therapy, and this article summarizes the approaches taken, results achieved, lessons learned and important recent developments.

The early results on the clinical efficacy of gene therapies were disappointing, largely because the available gene-transfer vectors proved to be inadequate. Recently, however, clinical benefit has been clearly demonstrated and great progress made in selecting and improving vectors. There is now every prospect that the second decade will see gene therapy live up to its enormous potential.

Gene-based therapies for cancer in clinical trials include strategies that involve augmentation of immunotherapeutic and chemotherapeutic approaches. These strategies include ex vivo and in vivo cytokine gene transfer, drug sensitization with genes for prodrug delivery, and the use of drug-resistance genes for bone marrow protection from high-dose chemotherapy. Inactivation of oncogene expression and gene replacement for tumor suppressor genes are among the strategies for targeting the underlying genetic lesions in the cancer cell. A review of clinical trial results to date, primarily in patients with very advanced cancers refractory to conventional treatments, indicates that these treatments can mediate tumor regression with acceptably low toxicity.

PHOTOCHEMICAL & BIOLOGICAL EVALUATION OF SPATHODEA CAMPANULATA

VENKATA RAMANA MUTTAVARAPU, Professor, AZAD COLLEGE OF PHARMACY

Abstract: Spathodea campanulata P. Beauv., belonging to the family Bignoniaceae, is a big erect tree with an ancient historyof medicinal use in Africa. In the traditional system, it is mentioned for the treatment of malaria, diabetes, stomachulcers, wounds, skin infections and viral diseases. The aim of the review is to make available the current informationthat exists on the traditional uses, phytochemistry, pharmacology, and toxicology of S. campanulata. Additionally, thepotential uses of this plant to treat various diseases and to bring in a foundation for further research are emphasized. The present review is carried out by compiling literature from 1972 to 2021, concerning the morphology, traditionaluses, phytochemistry, pharmacological activities, and toxicological aspects of S. campanulata. Literatures werecollected from various online search engines, viz. Google Scholar, PubMed, Science Direct, Core, and SemanticScholar. Diverse chemical compounds including iridoids, terpenoids, steroids, cinnamic acid derivatives, cerebrosides,flavonoids, and carotenoids have been isolated from this plant. In some in-vitro studies, the anticancer,antibacterial, antiviralinsecticidal, larvicidal, and anti-oxidant potential has been proved. Preclinical studies have demonstrated remarkableactivity which supports the conventional use of the plant as an antimalarial, wound healing, antidiabetic, antimicrobial,and anti-inflammatory agent for years without any adverse effects. Based on the results obtained from a combinationof in vivo and in vitro potency and toxicity studies reported, S. campanulata is a promising agent in the development of nutraceuticals against malaria and diabetes. The only clinical study documented is for curing malaria, but with crude extract only. With its current extensive traditional use, there is a need for additional studies of the isolated compounds, clinical trials, and product development to take full advantage of this widely distributed medicinal plant.

CARBON NANO TUBES

MUBEENA SALAAR, *Assistant Professor AZAD COLLEGE OF PHARMACY*

ABSTRACT

Carbon nanotubes (CNTs) are one of the wonders of modern science discovered. CNTs have been regarded as the stiffest and the strongest material ever developed and received considerable interest in research because of their unique atomic structure, dimension and attractive properties. In the past decade, researchers made several attempts and efforts exploiting the exceptional properties of CNTs toward the development of CNTs applications. Nowadays the carbon nanotubes-derived products have smeared into our life step by step, and before long, they will function as essential components for technological innovations. A recent direction of research has been to try to gain further understanding by the use of computational methods and models which appeared with the advancement of computer technology. In this paper, a summary of recent research achievements related to the carbon nanotubes and their applications in nanomaterials. Several important aspects that influence the properties of carbon nanotube will also be discussed.

ECOSYSTEM IS A CRUCIAL ASSEMBLY FOR BALANCE ENVIRONMENT

MAHESH GOTTIPATI, *Assistant Professor AZAD COLLEGE OF PHARMACY*

ABSTRACT

Science that has emerged during the last few decades clearly demonstrates that the lifesupporting systems of the planet have already gone past their critical points. This is due to humanity's mindless use, exploitation, pollution, consumerism, and abuse of the resources of the planet —air, food, water, oceans, energy, rivers, soil, fish, forests, oil, timber, energy, gas, coal, minerals, and everything. In its endless adulation of greed, irrational accumulation of materialwealth, and seemingly insatiable quest for more comforts, pleasures, andconveniences, nothing has been spared.The effects of this assault can be seen everywhere.

Keyword : Economic dimensions: economic needs such as adequate livelihood and productive assets, and systems, and how these interact with the environment.

Social and cultural dimensions: social and cultural needs and systems, e.g. health, education, shelter, equity, cultural institutions and norms, and their relationship with the environment. Political dimensions:political needs (ability to participate in decision-making processes) and systems, and how they influence the environment.

FORMULATION AND EVALUATION OF ORAL DISPERSIBLE TABLET OF ATORVASTATIN

MOHAMMAD TABASSU TANVEER HAYATH, *Assistant Professor AZAD COLLEGE OF PHARMACY*

ABSTRACT:

Orodispersible tablets (ODTs), also known as fast melt, quick melts, fast disintegrating have the unique property of disintegrating in the mouth in seconds without chewing and the need of water. Oral bioavailability of Atorvastatin Calcium is low (14%) and shows extensive intestinal clearance and first-pass metabolism, which is the main cause for the low systemic availability. In the present work, orodispersible tablets of Atorvastatin calcium were prepared by direct compression method using Hibiscus rosa sinesis mucilage as natural superdisintegrant with a view to enhance patient compliance and to avoid hepatic first pass metabolism and to improve its bioavailability. The prepared batches of tablets were evaluated for hardness, friability, drug content uniformity, wetting time, water-absorption ratio and in-vitro dispersion time. Short-term stability studies on the promising formulation indicated that there are no significant changes in drug content and in vitro dispersion time.

IMPACT OF SCREEN TIME ON SLEEP QUALITY AND DURATION A CROSS SECTIONAL OBSERVATIONAL STUDY

IKRAM SARMAD MOHAMMAD MOHAMMAD ARSALAN

ABSTRACT:

Aim: To assess the impact of screen time on sleep quality duration.
Objectives: To assess the screen time, 2. To assess the awareness related to health effects of larger screen time and 3.To assess the sleep quality using Pittsburgh Sleep Quality Index.

Methodology: A prospective observational cross-sectional study conducted in an urban region of Madanapalli. Mobile users of both genders of any age, who are willing to participate in the study giving informed Consent, were included as study sample. A questionnaire as prepared by extensively reviewing questionnaires from previous studies that evaluate the mobile usage pattern and knowledge about health effects caused by EMR and Pittsburgh Sleep quality index Scale to asses sleep quality were used as study sample.

Results: 82.1%ofthe study population is using the smart phones with an average screen time of 7.5 hrs. Screen time is a little more in female population than males. Entertainment and media (47.1) and communication (28%) are the most commonly used application. 86.1% of population are aware about EMR and their health effects (71.5%). Sleep quality index as a little more in females (4.99) than male (4.6). A two tailed student' t' test conducted to assess the impact of screen time on PSQI score and a P Value of 0.08 was obtained.

Conclusion: Though it is known through the study that increase in screen time will affect sleep duration and quality of sleep an extensive evaluation should be done with more samples to improve the scientific strength. Even though the sample are aware
About EMR emission from Mobile phone and health effects most of them are not able to controlling their mobile phone usage.

DEVELOPMENT AND VALIDATION OF HESPERIDINE FROM ORANGE PEEL CITRUS AURANTIUM HPLC METHOD

SARA BANU, *Assistant Professor AZAD COLLEGE OF PHARMACY*

Abstract

Plant-derived compounds have been recognized by the feed industry as important supplements for livestock welfare and health. In this context, *Citrus aurantium* L. extract and *Origanum vulgare* L. essential oil have been demonstrated to have strong anti-inflammatory and antioxidant effects on animals. Being the composition of plant-derived extracts extremely influenced by the environmental and growing conditions of the plants, quality control is necessary in terms of the concentration of the active compounds to assure the reproducibility of natural feed additives. The present work aimed at the validation of the extraction procedure from feed additives of Hesperidin (HES) and Carvacrol (CAR), the main active compounds of *Citrus aurantium* and *Origanum vulgare* extracts. Then, the quantification method of both the analytes was developed and validated by reversed high-performance liquid chromatography coupled with a UV detector. The validated method was tested on premixtures and final feed additives supplied by a local feed factory to supervise the production chain. The extraction method with methanol resulted to be efficient and highly reproducible, with recovery higher than 90% for both the analytes. The chromatographic method has been demonstrated to be accurate, precise (relative standard deviation percent lower than 2.06%), and linear in the tested range concentrations, with regression coefficients equal to 0.995 and 0.999 for HES and CAR respectively. The method demonstrated that the feed additives prepared by the factory by diluting the premixtures were less concentrated than what was declared on the label.

SIMULTANEOUS ESTIMATION OF RANITIDINE AND PARACETAMOL BY USING UV SPECTROMETER

PRAKASH CHANDRA DASH, *Assistant Professor AZAD COLLEGE OF PHARMACY*

ABSTRACT:

Paracetamol and Metronidazole were commonly prescribed in combination as an anti-inflammatory agent. In Indonesia, a combination of these two drugs was compounded as divided powder dosage form. It was important to ensure the content uniformity of each compound to implement the patient-oriented medication. UV spectrophotometric combined with chemometrics techniques were developed to quantitatively analyze the content of paracetamol and Metronidazole in divided powder dosage form. Two multivariate calibration method namely principal component regression (PCR) and partial least squares (PLS) were applied in this study. After considering several statistical parameters such as coefficient of determination (R2), root mean square error of calibration (RMSEC), root mean square error of cross-validation (RMSECV), and root mean square error of prediction (RMSEP), the PLS model was chosen to be employed for determining the content of paracetamol and Metronidazole. The linear model for determining content of paracetamol and Metronidazole were y = 0.9877x + 0.4663 (R2=0.9959) and y = 0.9685x + 0.3401 (R2=0.9875), respectively. The chemometrics model was applied in the content uniformity analysis of divided powder dosage form samples.

FORMULATION AND EVALUATION OF LOMIFLOXACIN HYDROCHLORIDE FLOATING MICROSPHERES

PRAKASH CHANDRA DASH, *Assistant Professor AZAD COLLEGE OF PHARMACY*

ABSTRACT:

The tablet was prepared using appropriate procedure n equipments. and then Post Compression Studies was performed accordingly. The post compression studies included Hardness Thickness, Friability, Weight Variation, Floating Lag Time, Floating Time, and Drug Release.the results of our study clearly indicate that Weight Variation data of the prepared tablets indicated no significant difference in the weight of the individual tablet from the average value. Hardness of the prepared tablets was observed in range of 1.263±0.07 to 1.184±0.05 kg/cm2 . Thickness of all the tablets was found in the range of 4.16±0.1 to 4.26±0.04 mm. Friability was found below 1%. The floating lag time was found to be in range of 15-22 sec. Total Floating Time was found to be in range of 6-7 Hrs. Swelling Index was found to be between 78 to 124%. Drug Release of FT4 was found to be the good i.e. 94.524%. From results it concludes that the floating lag time increased as hardness increased and F4 had better controlled release than the other formulations. So, formulation F4 provides a better option for Controlled release action and improved bioavailability of Lomifloxacin Hydrochloride Hydrochloride. On the basis of present study it was concluded that floating tablets of Lomifloxacin Hydrochloride hydrochloride can increase the gastric residence time as well as bioavailability and thus better patient's compliance can be achieved.

DISPOSAL PRACTICES OF UNUSED AND EXPIRY MEDICATION IN AN URBAN MUNICIPALITY IN SOUTH INDIA A CROSS SECTIONAL OBSERVATIONAL STUDY

SHAIK GOUSIA TAYABA, *Assistant Professor AZAD COLLEGE OF PHARMACY*

ABSTRACT:

Background: Inappropriate medicine disposal practices may leads to environmental hazards and also affect health of the people. Aim and objective: To assess the disposal practice of unused and expiry medication in an urban municipal region of Madanapalli.

Methods: This was across sectional study conducted among 700 respondents using a self prepared and validated questionnaire comprising various components about the awareness practice and attitudes of disposal of unused and expiry medication among the Urban population of Madanapalli, a municipality in south India. Descriptive statistics were calculated using Statistical Package for Social Sciences (SPSS) version23.

Results: Approximately 90% of the responders have unused expiry medication in their homes, with antibiotics and antipyretics were the most common ones. 87% of respondents checked expiry date of the medication before purchasing. Throwing in the dust bin is the most common (63.8%) disposal practice. 36.2% of the respondents never received any information about proper medication disposal. The main reason for unused medication is expiration of the medication (40.2%) and changing too the r treatment (11.1%) In addition 28.1% responders are unaware about the environmental issues and heal the effects related to improper disposal of medication.

Conclusion: Measures should be taken in order to aware the people about the environmental issues and health effects due to improper disposal of unused/expiry medication. Implementing Medicine take back programmes by pharmacies and hospitals and strict legislation related to Over the Counter medications will be assuring.

FORMULATION AND EVALUATION OF FAST DISSOLVING TABLETS OF CHLORPROMAZINE HYDROCHLORIDE

RAO ARCHANA, *Assistant Professor AZAD COLLEGE OF PHARMACY*

ABSTRACT:

Chlorpromazine HCl is a potent anti-emetic, act by blocking D2 receptors in the Chemoreceptor trigger zone (CTZ), and antagonize apomorphine induced vomiting. In the present study an attempt has been made to prepare fast dissolving tablets of Chlorpromazine HCl in the oral cavity with enhanced dissolution rate. The tablets were prepared with five superdisintegrants eg: Sodium starch glycolate , Crospovidone ,Croscarmellose, L-HPC, Pregelatinised starch , The blend was examined for angle of repose, bulk density, tapped density , compressibility index and hausners ratio. The tablets were evaluated for hardness, friability, disintegration time, dissolution rate,drug content, and were found to be within 1 min. It was concluded that the fast dissolving tablets with proper hardness, rapidly disintegrating with enhanced dissolution can be made using selected superdisintegrants.

A CASE CONTROL STUDY ON FACTORS INFLUENCING SUICIDE ATTEMPTS

SWATHI GADDAMIDI, *Assistant Professor AZAD COLLEGE OF PHARMACY*

Abstract:

Aim: We aim to study psychosocial, socio-demographic and personality related factors associated with suicide attempts.

Methods: From 1st September 2018 to 28th February 2019, we conducted a hospital-based case control study in Department of Psychiatry, Government General Hospital, Guntur, India. One hundred forty-five cases and one hundred forty five age and sex matched controls were selected for study. Eysenck Personality Questionnaire, Modified kuppuswamy scale, Presumptive Stressful Life Event Scale, Suicide Intent Scale were used. Statistical analysis was done using computerized software.

Results: Majority (n=69, 47.58%) of the suicide attempters were between 21-30 years of age. The number of suicide attempters are more in rural areas than in urban areas and it is statistically significant with an Odds Ratio 2.39. The risk of suicide attempts is more in people who are uneducated (OR – 1.51). It was observed that being an alcoholic will increases the risk of suicide attempt (OR1.73). The average of PSLES score of individuals is more in case group (166.8) than control group (111.386). Having a family history of suicide attempts will increase the risk of suicide attempt (OR -2.28).

Conclusion: Residing in rural areas, alcoholism, having no support from family members and having more stress full life events emerged as predominant risk factors for attempting suicide.

SIMULTANEOUS UV SPECTROPHOTOMETRIC METHODS FOR ESTIMATION OF METFORMIN HCL AND GLIMEPIRIDE IN BULK AND TABLET DOSAGE FORM

YELLU SAMARASIMHAREDDY, *Assistant Professor AZAD COLLEGE OF PHARMACY*

Abstract:

Simple, precise, economical, fast and reliable two UV methods have been developed for the simultaneous estimation of Metformin HCl and Glimepiride in bulk and pharmaceutical dosage form. Method A is Absorbance maxima method, which is based on measurement of absorption at maximum wavelength of 236 nm and 228 nm for Metformin HCl and Glimepiride respectively. Method B is area under curve (AUC), in the wavelength range of 217-247 nm for Metformin HCl and 213-239 nm for Glimepiride. Linearity for detector response was observed in the concentration range of 5- 25µg/ml for Metformin HCl and 5-25 µg/ml for Glimepiride. The accuracy of the methods was assessed by recovery studies and was found to be 100.23 % and 99.67 % for Metformin HCl and Glimepiride respectively. The developed method was validated with respect to linearity, accuracy (recovery), precision and specificity. The results were validated statistically as per ICH Q2 R1 guideline and were found to be satisfactory. The proposed methods were successfully applied for the determination of for Metformin HCl and Glimepiride in commercial pharmaceutical dosage form.

SPECTROPHOTOMETRIC METHODS FOR SIMULTANEOUS ESTIMATION OF NIMESULIDE AND DROTAVERINE

MOHAMMAD KHAN, *Assistant Professor AZAD COLLEGE OF PHARMACY*

Abstract:

Three simple spectrophotometric methods have been developed for simultaneous estimation of nimesulide and drotaverine from tablet dosage form. Method-I involves, formation of Q-absorbance equation at 349 nm (isoabsorptive point) and 298.5 nm (max of nimesulide); Method-II simultaneous equation method involves the measurement of absorbances at two wavelengths 298.5 nm (max of nimesulide) and 245 nm (max of drotaverine) in ethanol (95%) and Method-III multicomponent mode of analysis involves the measurement of absorbances at two wavelengths 298.5 nm (max of nimesulide) and 362.5 nm (max of drotaverine); The linearity lies between 5-30 g/ml for both nimesulide and drotaverine for all the three methods. The accuracy and precision of the methods were determined and validated stastically. All the methods showed good reproducibility and recovery with % RSD less than 1. All method were found to be rapid, specific, precise and accurate and can be successfully applied for the routine analysis of nimesulide and drotaverine in bulk and combined dosage form. Key Words: Nimesulide, drotaverine, Q-Absorbance ratio method, Multicomponent mode of analysis, Simultaneous equation method.

PRESCRIBING PATTERN IN GERIATRICS WITH CARDIO VASCULAR DISEASES USING BEERS CRITERIA

BEGUM SABIHA, *Assistant Professor AZAD COLLEGE OF PHARMACY*

Abstract:

Aim: Cardiovascular disease (CVD) is a major health problem throughout the world and a common cause of premature morbidity and mortality. CVD is a general category of diseases that affects the heart and the circulatory system. The main aim of the study is to assess the prescribing pattern in geriatrics with cardiovascular diseases using beers criteria.

Study Design: Prospective observational study.

Results and Discussion: Total 132 patients, 12 dropouts due to lack of information. Out of 120 patients 69 Patients are identified as Male Patients and 51 Patients are Female. In 120 sample size Maximum No of Cases were found with Ischemic Heart disease (30.8%) Followed by myocardial infarction (24%) coronary artery disease (20%) congestive heart failure (13.3%) Unstable Angina (11.6%). In 120 Sample Size, Male Patients are Suffering More with Complications Compared to Female Patients.

Conclusion: In this Study with Assessing the Prescribing Pattern in Geriatrics with Cardio Vascular Diseases It was found that major complications seen in Male and Female Patients are Ischemic heart Disease with Left ventricular dysfunction Myocardial Infarction, Coronary Artery Disease, Angina, Congestive Cardiac Failure.

COVID-19 INFECTION:THE PERSPECTIVES ON AGE-DEPENDENT DIFFERENCE IN IMMUNE RESPONSES AND IMMUNOLOGICAL STRATEGIES TO REDUCE VIRAL BURDEN

PITTALA GIRIJA, *Assistant Professor AZAD COLLEGE OF PHARMACY*

Abstract:

Covid-19 is caused by the novel strain of Corona virus named as SARS-CoV-2 because of its homology with SARS infection and it is first detailed in Wuhan, China in December 2019. From that point forward, it has spread globally, already contaminating a large number of individuals worldwide and has been proclaimed as a pandemic by the WHO (World Health Organization) on March 2020. SARSCoV-2 causes acute respiratory infection with fluctuating seriousness in various age groups, wherein geriatric patents in general will have serious disease. In children it is moderately spread till-date. A few contrasts in the pathogenesis of Covid-19 among pediatric and geriatric patients have been proposed to clarify these differences. Severe Covid-19 disease is associated with high and persistent viral burdens in the elderly patients. Children have strong innate immune response because of trained immunity (secondary to live-vaccines and frequent viral infections), leading to presumably early control of infection at the site of entry and also the risk factors associated with children were very less as compared to elderly individuals. The expression of primary target receptor for SARS-CoV-2, i.e. angiotensin converting enzyme-2 (ACE-2), decreases with age which has lung defensive effects and the severity of the disease can be explained by the presence of enzyme called Furin. Henceforth, this review will highlight the clinical.

ASSESSMENT OF ADVERSE DRUG REACTIONS AND DRUG-DRUG INTERACTIONS IN POLYPHARMACY AMONG GERIATRICS IN A TERTIARY CARE HOSPITAL

ABDUL MUDASIR MOHAMMED, *Assistant Professor AZAD COLLEGE OF PHARMACY*

Abstract:

Abstract: Polypharmacy is defined as the use of multiple medications by a single patient which is commonly observed among geriatric patients. The use of multiple medications has been shown to predispose patients to adverse drug reactions, drug-drug interactions and medication non compliance particularly in geriatric population. It is a Prospective Observational Study was conducted in a Tertiary care Hospital for a period of 6 months. The Patients who meet the inclusion criteria are recruited. The demographic details and baseline characteristics like age, gender, Social history, are taken. Data obtained from their case sheets and through direct patient interview. Assessment and evaluation of adverse drug reactions and drug-drug interactions is performed by using WHO causality assessment scale, stockley's drug interactions, Medscape and their frequencies are studied. In Our Study, Out of 287 Patients 72 ADRs and 22 drug interactions were observed. In those mostly Metformin and ceftriaxone causing ADRs in elderly patients .Out of 22 drug interactions the most prescribed Combinations Drugs Glimipride With Ranitidine, and Furosemide with metformin causes Hypoglycemia. In these Mild Drug interactions were 9 Moderate Drug interactions were 5 and Severe Druginteractions were 7. Increasing age and polypharmacy were identified as the predictors of ADRs and Drug-drug interactions. The clinical pharmacist must remain attention in assessing, monitoring and preventing of Adverse Drug Reactions and Drug-drug interactions and making appropriate dosage or therapy adjustments.

COMPARISON OF METFORMIN AND METFORMIN WITH OTHER ORAL HYPOGLYCEMIC AGENTS COMBINATION EFFECTS ON WEIGHT IN TYPE-2 DIABETES MELLITUS PATIENTS

ZAREENA BEGUM, *Assistant Professor AZAD COLLEGE OF PHARMACY*

Abstract:

We assessed the efficacy and safety of oral antidiabetic drugs (OADs) as an add-on treatment in patients with type 2 diabetes uncontrolled on metformin. PubMed, the Cochrane Library, and Embase were searched from inception to October 20, 2017. Pairwise and network meta-analyses were conducted using Stata 14.1 software. Odds ratios (ORs) and weighted mean differences (WMDs) were used to evaluate outcomes. Sixty-eight trials including 36,746 patients were analyzed. No significant differences in the risk of major adverse cardiovascular events (MACEs) and all-cause mortality were observed among any class of OADs when combined with metformin. All classes of OADs as add-ons to metformin improved glucose control, while sodium-glucose co-transporter-2 (SGLT-2) inhibitors showed greater fasting plasma glucose (FPG) reductions {WMD, − 1.49 [95% confidence interval (CI) − 1.69 to − 1.28] mmol/l} and 2 h postprandial glucose (2 h PPG) reductions [WMD, − 3.07 (95% CI − 4.12 to − 2.03) mmol/l]. Thiazolidinediones and sulfonylureas were associated with weight gain [WMD, 2.53 (95% CI 1.95–3.10) kg and 2.00 (95% CI 1.63–2.36) kg, respectively] when added to metformin. Sulfonylureas [WMD, 6.52 (95% CI 4.07–10.45)] were associated with the highest ORs of hypoglycemia. Our results suggest that the seven classes of OADs were not associated with any increased risk of MACEs or all-cause mortality when combined with metformin. Most OADs were associated with similarly large reductions in HbA1c levels when added to metformin, while SGLT-2 inhibitors might be the best option for reducing body weight, FPG, and 2-h PPG.

A NOVEL REVIEW ON NATURAL POLYMERS USED IN FAST DISPERSIBLE TABLETS, DISSOLVING FILM & GELS

ARSHIYA JABEEN, *Assistant Professor AZAD COLLEGE OF PHARMACY*

Abstract :

Any pharmaceutical formulation contains two ingredients one is the active ingredient and other is an excipients. Excipients help in the manufacturing of dosage form and it also improves physicochemical parameters of the dosage form. Polymers play an important role as excipients in any dosage form. They influence drug release and should be compatible, non- toxic, stable, economic etc. They are broadly classified as natural polymers and synthetic polymers. They have wide range of applications so selection of polymer is the main step in designing any dosage form. Nowadays, due to many problems associated with drug release and side effects manufacturers are inclined towards using natural polymers. Natural polymers are basically polysaccharides so they are biocompatible and without any side effects. This review discusses various natural polymers, their advantages over synthetic polymers and role of natural polymers in designing novel drug delivery systems.Natural polymers have more preponderant effects on fast dissolving tablets than synthetic polymers. Natural polymers are preferred over synthetic polymers as they are non-toxic, facilely available at low cost, utilize in low concentration and are naturally extracted to provide nutritional supplements. The natural super disintegrant exhibit faster drug dissolution and increased bioavailability thereby availing patient compliance. Natural polymers incremented the drug release from the tablet and decremented the dissolution and disintegration time, they are utilize as binders, super disintegrant and diluents. Gel system has emerged as one of the best novel drug delivery system, they helps for the sustained and controlled release of drug, improve patient compliance and comforts. There is high scope for research work on gel system in order to provide advanced technique in drug delivery system.

PREPARARTION AND EVALUATION OF HERBAL FACEWASH

MAHESH GAJJELA, *Assistant Professor AZAD COLLEGE OF PHARMACY*

Abstract :

It is more acceptable to believe that naturally remedies are safer than synthetic subject's due to fewer side effects. The global market demands are increasing to the fusion of herbs. Current work of herbal facewash is developmental and evaluation of extracts with facial spray contains peel extract of Tulsi (Ocimum sanctum), leaf extract of Aloevera (aloe barbandensis), leaf extract of Rose (rosa centifolia), powder of reetha (sapindus mucorossi). Although there are some specific local herbal formulas available on the market, we purpose to make pure herbal formulations available without using any artificial ingredient. The plants have been reported in the literature with microorganisms, antioxidants, and anti-inflammatory activity. Formulations was prepared and evaluated for various parameters like colour, appearance, consistence, washability and pH. It is very good attempt to establish the herbal face wash contain extract of orange peel, Tulsi, Reetha powder, Aloevera extract, Rose water, Honey,. face wash not only moisturized, they also used as a cleanser. Preferably they used for oily and dry skin physiology. It provides numerous essential nutrients to the required for maintaining the normal skin.from the studies it was concluded that the prepared formulation can be effectively used for facial care.Preparation of extract Leaves of Tulsi and Orange peel were kept in hot air oven for drying purpose at 45°C grinded into small pieces by using grinder. Reetha were crushed to make powder. Desired quantities of herbal drugs were weighed and each herb macerated with Rose water in conical flask and then uniform powder granule size obtained by sieving.

ORALLY DISSOLVING STRIPS

JONGONI SOWJANYA, *Assistant Professor AZAD COLLEGE OF PHARMACY*

Abstract: Recently, fast dissolving films are gaining interest as an alternative of fast dissolving tablets. The films are designed to dissolve upon contact with a wet surface, such as the tongue, within a few seconds, meaning the consumer can take the product without need for additional liquid. This convenience provides both a marketing advantage and increased patient compliance. As the drug is directly absorbed into systemic circulation, degradation in gastrointestinal tract and first pass effect can be avoided. These points make this formulation most popular and acceptable among pediatric and geriatric patients and patients with fear of choking. Over-the-counter films for pain management and motion sickness are commercialized in the US markets. Many companies are utilizing transdermal drug delivery technology to develop thin film formats. In the present review, recent advancements regarding fast dissolving buccal film formulation and their evaluation parameters are compiled. Fast dissolving films are the novel approach in oral drug delivery systems. It promises patient compliance especially in case of pediatrics and geriatrics patients. They can also be used when quick action is required. They possess many advantages over conventional dosage form and can also be used in cases of dysphagia, Parkinson's disease, mucositis, or vomiting.Fast dissolving delivery system should have the following properties: High stability, transportability, ease of handling and administration, no special packaging material or processing requirements, no water necessary for application, and a pleasant taste.

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