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Abstract Proceedings

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

B. Mahammad Rizwan, K.Anudeepa, G.Harish Reddy, K.Lavanya, G.Siddi Mahesh, S.Sireesha
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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

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

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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.

Keywords: *Eclipta Alba*, Flavonoid, Kaempferol, Minimum Inhibitory Concentration, Quercetin, Total Activity

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

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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.

Keywords: *Azadirachtaindica;* hair growth; *Menthaspicata; Murrayakoenigi.i; Phyllathusemblica;* Poly Herbal Oil.

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

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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.

Keywords: 1,3,4-Thiadiazole; Heterocyclic; Thiosemicarbazide; Cyclization; Antimicrobial

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

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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.

6. FORMULATION AND EVALUATION OF CAPTOPRIL FLOATING MICROSPHERES

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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.

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

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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.

8. 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

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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.

Keywords: Tuberculosis, Metformin, Non-Metformin, Culture conversion

9. EFFECT OF POLY PHARMACY ON ADRS AMONG GERIATRICS

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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.

Discussion: The WHO International Drug Monitoring Program was established in 1968 as a pilot project organized by pharmacovigilance systems at that time. Several countries each year have formally applied for membership and they are considered associated members. In each country, a national centre or system, designated by the competent health authority is responsible for collection, processing, Information obtained from

these reports is passed back to the professional so national basis but is also submitted to the WHO Centre for inclusion in the international database.

Conclusion: Therefore, health care providers must evaluate each drug and balance it s potential adverse effects against its potential benefits. Integrated educational and counseling programs focused on the elderly age group should be designed for the elderly so that they are able to understand the concerns and consequences of excessive medication.

Since the only focus of the study was the use of polypharmacy & it sassociated factors, thus more research needs to be done to have insight in to the geriatric health and the consequence so polypharmacy.

Keywords: Polypharmacy, Geriatrics, Adverse Drug Reactions (ADR's), World Health Organisation (WHO), Pharmacovigilance.

10. ANTI DIABETIC AND ANTI HYPERLIPEDIMIC ACTIVITY OF VARIOUS RICE PRODUCTS

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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.

11. ANTI HYPER LIPIDAMIC EFFECTS OF CROTALARIA JUNCEA LEAF OF METHANOLIC AND ETHANOLIC EXTRACTS

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Abstract:

Objective: To evaluate the antihypercholesterolemic 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 antihypercholesterolemic agent.

Keywords: *Crotalaria juncea* L., High-fat diet, Lipid profile, Histopathological studies

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

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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.

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

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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.

Keywords: Antihypertensive Drug Utilization, Antihypertensives, Pharmacoepidemiology, Prescription Pattern Study.

14. SIMULTANEOUS ESTIMATION OF MEBENDAZOLE AND PARACETAMMOL BY USING UV SPECTROMETER

G Gokul Nandha, G.Sireesha, M.Sowjanya Kumari, B.Lakshmi Kumar, D.Radhika, K.Bhanu Prakash
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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 Mebendazole 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 (R2) 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 Mebendazole 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.

15. NOVEL DESIGN OF THIAZOLIDINEDIONES DERIVATIVES AGAINST PPAR GAMMA RECEPTORS AS ANTI DIABETIC AGENTS

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Abstract: A Series of thiazolidinedione derivatives were designed and synthesized by reacting 5-(4-hydroxybenzylidene)-1,3-thiazolidine-2,4-one and 5-(4-hydroxy-3-methoxybenzylidene)-1,3-thiazolidine-2,4-one with aromatic N-substituted acetamide at room temperature. Synthesized compounds were characterised by IR, 1H-NMR and mass spectroscopy and evaluated for antidiabetic activity in dexamethasone induced Wister albino mice animal model. Compound C and Compound D have exhibited promising hypoglycemic activity by comparing against Pioglitazone and metformin.

Keywords: Alloxan, Antidiabetic, Docking, PPAR-Gamma, Thiazolidine

16. FORMULATION AND EVALUATION OF CONTROL RELEASE TABLET OF MESNA

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Abstract: The aim of the present study was to develop controlled release formulation of Mesna to maintain constant therapeutic levels of the drug for over 10 hrs. HPMC K4M, Chitosan, Eudragit L 100. Mesna dose was fixed as 100 mg. Total weight of the tablet was considered as 100 mg. Polymers were used in the concentration of 50mg, 100mg and 150 mg concentration. All the formulations were passed various physicochemical evaluation parameters and they were found to be within limits. Where as from the dissolution studies it was evident that the formulation (F6) showed better and desired drug release pattern i.e., 97.47 % in 10 hours. It contains the natural polymer Mesna as controlled release material. It followed zero order release kinetics mechanism.The best formulation was repeated again for reproducibility, and all the quality control

tests were done for conformation. The results were found to be super imposable with each other.The optimised formula shall be utilized for the formulation development and other studies like bio-equivalence study, for successful launching of the product.

Keywords: Mesna, HPMC K4M, Chitosan, Eudragit L 100.

17. CENTRAL NERVOUS SYSTEM ACTIVITY OF ORIZA SATIVA. LINDICA (BALCK RICE) IN MICE

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Abstract: Free radicals are molecules that in their outer orbit have one or more unpaired electrons; they are very labile and very reactive. These molecules have an important role in tissue damage and pathological processes in living organisms. Antioxidants are compounds that can inhibit oxidation reactions by binding free radicals. The antioxidants produced by the human body are very limited, so we need the intake of antioxidants from outside, especially those from food. Research on antioxidant extraction based on black rice (Oryza Sativa L.Indica) to prevent free radicals has been carried out. This research was conducted using the DPPH method to measure the ability to capture free radicals and FRAP methods to measure antioxidant capacity. This study aimed to obtain data on the level of antioxidant activity contained in black rice and its effect to counteract

free radicals. The result showed that the ability to capture free radicals contained 25ppm DPPH anthocyanin extract could inhibit 55,00%. While using the FRAP method, the results of black rice anthocyanin extract have a high antioxidant capacity of 824 ± 17.24 μM. It is evident that the DPPH method used to show in anti-oxidant extracts based on black rice can capture free radicals, while the FRAP method proves that antioxidants in black rice have the capacity to prevent free radicals in the body.

18. FORMULATION AND EVALUATION OF ORAL DISPERSIBLE TABLET OF ATORVASTATIN

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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.

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

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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.

Keywords: Screen Time, Sleep Quality, Pitt'sberg Sleep Quality Scale

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

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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.

Keywords: *Origanum vulgare*, *Citrus aurantium*, Quality Control, Feed Additives

21. SIMULTANEOUS ESTIMATION OF RANITIDINE AND PARACETAMOL BY USING UV SPECTROMETER

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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.

Keywords: Chemometrics, Compounding, Paracetamol, Metronidazole, UV spectrophotometric

22. FORMULATION AND EVALUATION OF LOMIFLOXACIN HYDROCHLORIDE FLOATING MICROSPHERES

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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.

Keywords: Floating Tablet, Lomifloxacin Hydrochloride, Gastro Retentive Drug Delivery System

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

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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.

Keywords: Disposal Practices; unused medication, Expiry medication, Cross sectional study.

24. FORMULATION AND EVALUATION OF FAST DISSOLVING TABLETS OF CHLORPROMAZINE HYDROCHLORIDE

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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.

25. SIMULTANEOUS ESTIMATION OF RANITIDINE AND PARACETAMMOL BY USING UV SPECTROMETER

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Abstract: Two simple, precise, economical, fast and reliable UV methods have been developed for the simultaneous estimation of Paracetamol and Ranitidine in bulk and pharmaceutical dosage form. Method A is Absorbance maxima method, which is based on measurement of absorption at maximum wavelength of 248 nm and 286 nm for Paracetamol and Ranitidine respectively. Method B is area under curve (AUC), in the wavelength range of 220–274 nm for Paracetamol and 262–304 nm for Ranitidine. Linearity for detector response was observed in the concentration range of 5-25μg/ml for Paracetamol and 5-25 μg/ml for Ranitidine. The accuracy of the methods was assessed by recovery studies and was found to be 100.11% and 102.04% for Paracetamol and

99.10% and 100.52% Ranitidine by using method A and B respectively. The developed method was validated with respect to linearity, accuracy (recovery), precision and specificity. The results were validated statistically as per ICH Q2 R1guideline and were found to be satisfactory. The proposed methods were successfully applied for the determination of for Paracetamol and Ranitidine in commercial pharmaceutical dosage form.

26. FORMULATION AND EVALUATION OF SUSTAINED RELEASE MATRIX TABLETS OF ACETAZOLAMIDE

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Abstract:

Introduction: Acetazolamide is a sulfonamide, a member of thiadiazoles and a monocarboxylic acid amide. It has a role as a diuretic, an anticonvulsant and an EC 4.2. 1.1 (carbonic anhydrase) inhibitor. Acetazolamide, a member of substituted benzimidazoles, is used to treat glaucoma, a condition in which increased pressure in the eye can lead to gradual loss of vision.

Aim: In the present study an attempt was made to formulate and evaluate Acetazolamide sustained release matrix tablet using wet granulation technique incorporating various polymers like HPMC-E15, Carbopol934, and sodium carboxymethyl cellulose (CMC).

Materials and Methods: The Formulated tablets were evaluated for different physicochemical properties like rheological

properties, weight variation, thickness, hardness, % friability, in vitro release studies and drug content.

Results: Studies revealed that all the physicochemical parameters comply with the official standards. The in vitro release studies exhibits the release up to 90%, over a prolonged period of time which confirms the extended release profile of formulation, having better bioavailability as well as decreased dosing frequency with reduced doses.

Conclusion: The sustained release matrix tablets of rabiprazole shown better bioavailability, efficacy and potency, when compared with official standards.

Keywords: Bioavailability, carcinogen, DENA, gatifloxacin, hepatocellular carcinoma, histology, HPMC-E15, matrix, Acetazolamide, sustained release

27. DESIGN AND EVALUATION OF SUSTAINED RELEASE OCULAR DRUG DELIVERY SYSTEM FOR ANTI GLAUCOMA DRUG

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Abstract: Poor bioavailability and therapeutic response of conventional therapy due to many pre-corneal constraints necessitate the development of novel controlled and sustained ocular drug delivery to become a standard one in modern pharmaceutical era. This investigation aimed to study the drug release kinetics of betaxolol hydrochloride from a hydrophobic matrix system of PMMA cast with incorporating different proportions of polyethylene oxide (PEO) and evaluate its ability to improve ocular bioavailability and duration of action for the drug. Matrix type ocular inserts were prepared by the film casting technique and characterized in vitro by drug release studies using a flow through apparatus that simulated the eye conditions. All the formulations were subjected to

physicochemical evaluation. Rabbit model with steroid induced glaucoma was used to establish in vivo efficacy of inserts. Polymer composition and concentration significantly affected the drug release based on change in diffusional path length and formation of gelaneous pores by polymer erosion. Formulations released the drug by non-fickian diffusion including anomalous transport ($0.5<n<1$) and super case II transport ($n>1$). It was also observed that increasing the proportion of PEO in to PMMA does not affect the blend miscibility. IVIVC suggested no significant difference ($P< 0.001$) between in vitro and in vivo release of drug from inserts. In vivo IOP lowering activity was better for optimized insert F8 (for 24 h) as compared to eye drops (10 h). This ocular insert could be a promising once-a-day sustained release formulation for treating glaucoma.

28. FORMULATION AND EVALUATION OF ATORVASTATIN FLOATING DRUG DELIVERY SYSTEM

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Abstract: This investigation describes the preparation and *in vitro* evaluation of gastro retentive floating tablets of atorvastatin calcium. Two hydrophilic cellulose derivatives, Methocel K4M and Methocel K15M CR were used in floating tablets as gel forming agents to control drug release. Sodium bicarbonate and citric acid were incorporated as gas generating agents. The tablets prepared by direct compression technique were evaluated by various quality parameters including weight variation, hardness and buoyancy studies. *In vitro* drug release was determined for eight hours using USP XXII paddle-type dissolution apparatus in 0.1N HCl solution containing 1% sodium lauryl sulphate. The release mechanisms were explored and explained with zero order, first order, Higuchi and Korsmeyer equations. The release rates,

extent and mechanisms, were found to be governed by polymer loading. It was also found that the polymer content significantly affected the mean dissolution time, percentage of drug release, release rate constant and diffusion exponent. Based on the dissolution data and floating time, formulation F-3 containing Methocel K4M and F-9 containing Methocel K15M CR may be considered as the best formulation. So an effective floating tablet of atorvastatin calcium can be prepared by using both the grades of HPMC.

Keywords: Floating Tablets, Buoyancy, Sustained Release, Hydrophilic Polymer, Atorvastatin Calcium

29. CHARACTERIZATION AND DEVELOPMENT OF FAST DISINTEGRATION TABLET OF ISOSORBIDE MONONITRATE

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Abstract: The aim of the present study was to formulate and evaluate the mouth dissolving tablets of isosorbide mononitrate. Drug delivery systems are becoming more complex as pharmaceutical scientist acquires better understanding of the physicochemical and biochemical parameters pertinent to their performance. Over the last decade, the demand of fast disintegrating tablet has been growing mainly for geriatric and pediatric patients, because of swallowing difficulties, the characteristics of fast disintegrating tablet for potential emergency treatment. The superdisintegrant used in this study was crospovidone. The tablets were evaluated for weight variation, hardness, friability, wetting time, water absorption ratio, and disintegration time and

dissolution study. The tablets were prepared by direct compression method.

30. FORMULATION AND EVALUATION OF SUSTAINED RELEASE MATRIX TABLETS OF NIFEDIPINE

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Abstract: A nifedipine (NF) polyethylene glycol (PEG) solid dispersion was prepared. Using this solid dispersion, NF hydroxypropylmethylcellulose (HPMC) matrix tablets were prepared. Both the high-viscosity grade HPMC (Methocel K15M) and low-viscosity grade HPMC (Methocel K100) were applied in the tablets to form the matrix. The dissolution and absorption of NF from the tablet were evaluated as a formulation that had a sustained release over 24 hr. The Hixson-Crowell equation and Higuchi equation were used to investigate the dissolution mechanism, and the erosion and diffusion codependent mechanism was established. Adalat GITS 30 was used as a reference dosage form. Each beagle dog was also administered an intravenous injection to obtain the pharmacokinetics parameters. The Loo-Riegelman

method was applied to study the in vitro/in vivo correlation of the tested tablets and Adalat GITS 30, and significant correlation was proved. Absolute bioavailability and comparative bioavailability of the tested tablet were studied. The results indicated that the NF HPMC tablet could be an ideal 24-hr sustained-release formulation.

31. PHARMACOLOGICAL EFFECTS OF METHANOLIC EXTRACT OF ABRUS PRECATORIUS - WHITE SEEDS ALBINORATS STRAIN RATS

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Abstract: The methanol seed extract of Abrus precatorius was studied for its acute toxicity and its effect on spermatogenesis in rats as well as its phytochemical constituents. The results of this investigation showed that the LD50 of the methanol seed extract following oral administration was above 5000 mg/kg showing low toxicity. Histological studies of the liver, kidneys and testes of the rats treated with the various oral doses (10 - 5000 mg/kg body weight) showed no remarkable changes in the hepatocytes, kidney cells and testes compared to the control. The effects on sperm cells did not show any significant increase in total sperm head counts. The Phytochemical analysis revealed the presence of pharmacologically active compounds such as

reducing sugars, tannins, cardiac glycosides, terpenoids, saponins and flavonoids. In conclusion, the methanol seed extract of Abrus precatorius contain important phytochemical constituents possessing pharmacological activities and it is relatively safe but has no effects on sperm cell production.

Keywords: Abrus Precatorius, Acute Toxicity, Phytochemical Constituents, Spermatogenesis.

32. FORMULATION AND EVALUATION OF POLY HERBAL LIQUID SAMPOO

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Abstract: A shampoo may be described as a cosmetic preparation meant for the washing of hair and scalp. Its primary function is of cleansing the hair of accumulated sebum, scalp debris and residue of hair grooming preparation. In the present scenario, the herbal shampoo is better in performance and safer than the synthetic ones. The herbal shampoo was formulated by adding Acacia concinna, Sapindus mukorossi, Aloe barbadensia, Trigonella foencum, Phyllanthus emblica, Azadirachta indica, Hibiscus rosea sinesis and Lawsonia inermis. The combination of such ingredients of herbal origin had made it possible to secure high effective shampoo. Different shampoo formulation at laboratory scale was done easily and evaluated for number of parameters to ensure its safety and efficacy.

Keywords: Herbal shampoo, viscosity, Detergency Power

33. FORMULATION AND EVALUATION OF METFORMINE HYDROCHLORIDE FLOATING TABLETS

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Abstract:

Objective: The main objective of this study was to develop and evaluate the eudragit and HPMC coated metformin hydrochloride floating tablets, in which HPMC helps in floating and eudragit as a coating material for a site-specific drug release in a controlled manner and the active moiety metformin used as anti-hyperglycemic agent.

Methods: The floating microsphere was prepared by the solvent evaporation method incorporating metformin as a model drug. The prepared floating microsphere were characterized for particle size, %yield, drug loading and entrapment efficiency, compatibility study, %buoyancy, surface morphology and *In vitro* drug release and release kinetics.

Results: The result metformin loaded floating microsphere was successfully prepared and the particle size range from 397±23.22 to 595±15.82 μm, the entrapment efficiency range from 83.49±1.33 to 60.02±1.65% and drug loading capacity range from 14.3±0.54 to 13.31±0.47% and %buoyancy range from 85.67±0.58 to 80.67±1.15%. The FT-IR and X-RD analysis confirmed that no any interaction between drug and excipient, and surface morphology confirmed those particles are sphere. The floating tablets show maximum 96% drug release in pH 0.1N HCL and follow the Korsmeyer peppas model of the super case-2 transport mechanism.

Conclusion: These results suggest that metformin loaded floating tablets could be retain in stomach for long time and give site specific drug release in controlled manner.

34. FORMULATION EVALUATION OF CILNIDIPINE NANOPARTICLES BY SOLVENT EVAPORATION METHOD

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Abstract: Cilinidipine is a fourth generation N and L-type calcium channel antagonists used alone or in combination with another drug to treat hypertension. Cilnidipine is poorly water -soluble, BCS class II drug with 6 to 30 percent oral bioavailability due to first pass metabolism. So to protect the drug from degradation and improve its dissolution, solid lipid nanoparticles were prepared. Glyceryl monostearate was selected as lipid while span 20: tween 20 were selected as surfactant blends. The formulations were evaluated for various parameters, as percent transmittance, drug content, percent encapsulation efficiency; percent drug loading, In vitro drug release and particle size. Optimized formulation was lyophilized using lactose as a cryo-protectant. The lyophilized formulation was evaluated for micromeritic properties, particle size and in vitro

dissolution. It was further evaluated for DSC, XRD, and SEM. Percent encapsulation efficiency and percent drug loading of optimized formulation (F3) were 78.66percent and 9.44percent respectively. The particle size of F3 formulation without drug was 204 nm and with the drug was 214 nm. The particle size of the reconstituted SLN was 219 nm. In DSC study, no obvious peaks for cilnidipine were found in the SLN of cilnidipine indicated that the cilnidipine must be present in a molecularly dissolved state in SLN. In X-ray diffractometry absence of peaks representing crystals of cilnidipine in SLN indicated that the drug was in an amorphous or disordered crystalline phase in the lipid matrix. Thus, solid lipid nanoparticle formulation is a promising way to enhance the dissolution rate of cilnidipine.

Keywords: Cilnidipine, Solid Lipid Nanoparticle, Hypertension.

35. ANALYTICAL METHOD DEVELOPMENT METHOD VALIDATION OF ATORVASTATIN RP HPLC METHOD

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Abstract: A simple, selective, rapid, precise and economical reversed-phase high-performance liquid chromatographic (RP-HPLC) method has been developed for simultaneous estimation of atorvastatin calcium (ATV) from pharmaceutical formulation. The method is carried out on a C8 (25 cm × 4.6 mm i.d., 5 μm) column with a mobile phase consisting of acetonitrile (ACN): water (pH adjusted to 6.2 using *o*-phosphoric acid) in the ratio of 45:55 (v/v). The retention time of ATV is 4.1 min, with the flow rate of 1 mL/min with diode array detector detection at 232 nm. The linear regression analysis data from the linearity plot showed good linear relationship with a correlation coefficient (*R*2) value for ATV of 0.9998 in the concentration range of 10–80 μg mL. The relative standard deviation for intraday

precision has been found to be <2.0%. The method is validated according to the ICH guidelines. The developed method is validated in terms of specificity, selectivity, accuracy, precision, linearity, limit of detection, limit of quantitation and solution stability. The proposed method can be used for simultaneous estimation of these drugs in marketed dosage forms.

36. ANALYTICAL METHOD DEVELOPMENT AND VALIDATION OF LINAGLIPTIN BY RP HPLC METHOD

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Abstract: This research was aimed to establish a versatile, sensitive, rapid and validated RP-HPLC method to analyze linagliptin in bulk as well as in pharmaceutical dosage forms. Liquid chromatography was performed on HPLC system and 20µl of samples were injected into a C18 column (150 x 4.6 mm i.d., 5µm particle size) and the eluents were monitored through a PDA detector at 239 nm. An isocratic method with a flow rate of 1 ml/min was used to elute the compounds with a mobile phase comprised of 70:30 v/v mixture of phosphate buffer (pH 6.8±0.2) and acetonitrile. The retention time of the compound was found to be 2.8 minutes. According to the ICH Q2(R1) guidelines, the method was validated by establishing several analytical parameters such as system suitability, specificity, linearity, accuracy, precision, limit of

detection (LOD), limit of quantitation (LOQ), ruggedness and robustness to assay linagliptin. The method showed good linearity (R2 = 0.9981) over the concentration ranges of 40 – 60 μg/ml with a recovery between 99.48% ± 0.38% RSD to 100.22% ± 0.011% RSD, whereas the LOD and LOQ values were 0.05 μg/ml and 0.15 μg/ml, respectively. The relative standard deviation (% RSD) for inter-day and intra-day precision was not more than 2.0%. Hence, the proposed method can be applied accurately for research and routine analysis of linagliptin in bulk as well as different pharmaceutical dosage forms.

Keywords: Linagliptin, Liquid Chromatography, RP-HPLC, PDA detector, ICH Q2 (R1) guidelines, Validation

37. FORMULATION AND EVALUATION OF FAST DISSOLVING TABLET OF FENOFIBRATE

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Abstract: Fenofibrate is a drug of the fibrate class. It is a widely used hypolipidemic drug. The poor aqueous solubility of the drug leads to variable dissolution rates. It is slightly soluble in water. The present investigation was to develop and characterize mouth dissolving tablets of fenofibrate using sublimation technique. Mouth dissolving tablets of Fenofibrate were prepared using different subliming agents like camphor, thymol, ammonium bicarbonate and different concentrations of menthol using direct compression method. The technique is to increase the porosity of the tablets whereby subliming material was sublimed from the granules by exposing the granules to vacuum. The porous granules were then compressed in to tablets. Alternatively, tablets were first prepared and later exposed to vacuum. Since, these tablets can be

swallowed in the form of dispersion; it is suitable dosage form for pediatric and geriatric patients. The drug and excipients were characterized using DSC and FTIR techniques. The blend was examined for angle of repose, bulk density, tapped density, compressibility index and Hausner's ratio. The prepared tablets were evaluated for general appearance, content uniformity, hardness, friability, taste evaluation, mouth feel, wetting time, in vitro and in vivo disintegration time, and in vitro dissolution studies. Tablets with menthol at 12.5% concentration have shown quick disintegrating features, i.e., within 20 s, which is very characteristic of orodispersible tablets. The in vitro drug release study revealed that menthol at a concentration of 12.5 % (F10) of the dosage form weight was able to fast the release of Fenofibrate within 10 minutes. These compressed tablets which have 12.5 % menthol (F10) rapidly dissolved within 22 seconds in saliva in the mouth. Further optimized formulations (F10) were subjected to stability testing for 3 months at temperatures 25±5ºC/60±5%RH and 40±5ºC/75±5%RH. Optimized tablets have shown no appreciable changes with respect to taste, disintegration, and dissolution profiles. In conclusion, the results of this work suggest that sublimation is a useful technique to enhance the

solubility and dissolution rate of poorly water-soluble drug like fenofibrate.

Keywords: Mouth Dissolving Tablet, Direct Compression, Fenofibrate, Subliming Agent, Super Disintegrant and Camphor.

38. FORMULATION AND EVALUATION OF FLOATING TABLETS OF RANITIDINE HYDROCHLORIDE

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Abstract: The present study was carried out with an objective of preparation and *in vitro* evaluation of floating tablets of hydroxypropyl methyl cellulose (HPMC) and polyethylene oxide (PEO) using ranitidine hydrochloride as a model drug. The floating tablets were based on effervescent approach using sodium bicarbonate a gas generating agent. The tablets were prepared by dry granulation method. The effect of polymers concentration and viscosity grades of HPMC on drug release profile was evaluated. The effect of sodium bicarbonate and stearic acid on drug release profile and floating properties were also investigated. The result of *in vitro* dissolution study showed that the drug release profile could be sustained by increasing the concentration of HPMC K15MCR and Polyox WSR303. The formulation containing HPMC

K15MCR and Polyox WSR303 at the concentration of 13.88% showed 91.2% drug release at the end of 24 hours. Changing the viscosity grade of HPMC from K15MCR to K100MCR had no significant effect on drug release profile. Sodium bicarbonate and stearic acid in combination showed no significant effect on drug release profile. The formulations containing sodium bicarbonate 20 mg per tablet showed desired buoyancy (floating lag time of about 2 minutes and total floating time of >24 hours). The present study shows that polymers like HPMC K15MCR and Polyox WSR303 in combination with sodium bicarbonate as a gas generating agent can be used to develop sustained release floating tablets of ranitidine hydrochloride.

Keywords: Floating Drug Delivery System, Gastroretentive Drug Delivery System, HPMC, PEO, Ranitidine Hydrochloride, Sustained Release

39. EVALUATION OF ANTI DIABETIC ACTIVITY OF ZEA MAYS LEAVES ETHANOLIC EXTRACTION ON ALLOXAN INDUCED HYPOGLYCEMIC RATS

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Abstract: The primary focus of the research was to evaluate the antidiabetic activity of the ethanolic extract of *zea mays leaves* in alloxan induced rats. The entire study was divided into two phases: Phase 1 and phase 2. The phase 1 is initiated with the collection and authentication of the plant, followed by extraction with ethanol and finally screening of the phytochemical constituents of the extracts. The phase 2 is more inclined on the therapeutic effect of the plant extracts on experimentally induced diabetic rats. Several parameters such as estimating the body weight and liver weight, blood glucose level, total proteins, hemoglobin, serum albumin, serum urea, serum cholesterol levels were examined in the diabetic rats. The histopathological changes in the pancreas

of diabetic rats were also studied. The ethonalic extract of *Vitis pedata* showed a significant reduction in the blood glucose levels, lipid profile and serum biomarkers in diabetic rats, quite similar to the standard treatment of glibenclamide. The plant extracts also highlighted an improvement in the beta cell mass in islets of pancreas. Thus, the study of ethanolic extract of *Vitis pedata* indicated a promising antihyperglycemic activity in alloxan induced diabetic rats. Furthermore, the study also opens the door for extended research to explicate the mechanism of action of the plant extracts.

Keywords: Diabetes mellitus, phytochemical, *Vitis pedata*, alloxan, antihyperglycemic activity

40. STUDY TO INVESTIGATE *PHYTOCHEMICAL* AND *ANTIBACTERIAL* ACTIVITY OF ECLIPTA *ALBA*

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Abstract: Eclipta alba (L.) is small branched annual herbaceous plant with a long history of traditional medicines uses in many countries especially in tropical and subtropical regions. The herb has been known for its curative properties and has been utilized as antimytotoxic, analgesic, antibacterial, antihepatotoxic, antihaemorrhagic, antihyperglycemic, antioxidant, immunomodulatory properties and it is considered as a good rejuvenator too. A wide range of chemical compounds including coumestans, alkaloids, thiopenes, flavonoids, polyacetylenes, triterpenes and their glycosides have been isolated from this species. Extracts and metabolites from this plant have been known to possess pharmacological properties. The present study confirmed the antibacterial potential of aerial parts extracts of Eclipta alba in solvents like acetone,

ethanol, methanol, aqueous and hexane against selected gram positive and gram negative bacterial species. The antibacterial studies were done by agar well diffusion methods. The MIC and MBC methods were also used. Hexane extract of showed Eclipta alba high antibacterial activity against S.aureus, B.cereus, E.coli, S.typhi, K.pneumoniae,S.pyogenes and P.aeruginosa. whereas acetone, ethanol, methanol and aqueous extracts showed intermediate activity against S.aureus, B.cereus, E.coli, S.typhi, K.pneumoniae, P.aeruginosa, P.mirabilis and S.pyogenes. The inhibitory activities of all the extracts reported were compared with standard antibiotics (Ciprofloxacin 25 μg/ml). An MIC of 90.0μg/ml shown by E.coli and S.aureus was considered to be the best (below 100μg/ml), an MIC of 125.0μg/ml shown by E.coli, K.pneumoni, P.mirabilis and S.typhi was considered to be better (100-500μg/ml) as such by the action of acetone, ethanol, methanol and hexane extracts on test bacterial spp respectively MIC between (500-1000μg/ml) was considered to be good. The aqueous extracts of Eclipta alba showed good activity against S.pyogenes, B.cereus, E.coli and P.aeruginosa. If the dilution was above 1000μg/ml the extract were considered inactive against S.aureus, K.pneumoniae, P.mirabilis and S.typhi.

MBC results were similar to MIC results but in the case of MBC the confirmation was made by absence of growth in culture plates after 24 hrs of incubation at 37ºC. A potent antibacterial and hepatoprotective drug could probably be formulated from the plant extract of Eclipta alba to combat the effects of bacterial and hepatotoxic infections.

Keywords: Salvia Officinalis, Anti-Inflammatory, Fractionated Extracts, Peritonitis.

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

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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.

Keywords: Flavanoids, Soxhlet Extractor, Carica Papaya L., Medicinal Plants.

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

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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.

Keywords: Diabetes, Alloxan, Hypoglycaemic, Murraya Koenigii

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

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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.

Keywords: Trigonella Foenum-Graecum, Anti-Fungal; Anti-Bacterial; Anti-Dandruff; M. Furfur; Staphylococcus; Extract; Herbal Shampoo.

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

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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.

Keywords: Benzimidazole, Molecular Docking, Anti-inflammatory, BSA ASSAY, Auto Dock

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

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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).

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

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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.

Keywords: Anti-Ulcer Activity, In Vitro, *Anacardium Occidentale*, Rat

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

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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.

Keywords: Barks; Antioxidant activity; Total phenolic contents; Total flavonoids contents; Reducing power

48. FORMULATION AND EVALUATION OF BUCCAL PATCHES CONTAINING METOPROLOL TARTRATE

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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.

49. FORMULATION AND EVALUATION OF HERBAL SHAMPOO CONTAINING RAMBUTAN LEAVES EXTRACT

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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.

Keywords: Nephelium lappaceum; Rambutan leaves; Herbal Shampoo

50. FORMULATION AND EVALUATION OF HERBAL SHAMPOO CONTAINING OLIVE LEAVES EXTRACT

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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 stability, especially the stability of olive leaves extract.

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