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Number of research papers published per teacher in the Journals no5fied on UGC website during the last five years

Academic Year	No. of Research Papers
2022	17
2021	10
2020	15
2019	04
2018	04
2017	01

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3.3.1 Number of research papers published per teacher in the Journals notified on UGC website during the last five years

Mechanism and biomarkers for neurodegenerative diseases: A Systemic Review.	Nandini S, Narayan Sah Sonar, Hemalatha S, Nagalakshmi NC, Harshitha Arun Pardhe.	pharmacology	IP Indian journal of Neurosciences.	2020	Print ISSN: 2581-8236, Online ISSN: 2581-916X	https://www.ijnonline.org/	https://www.ijnonline.org/article-details/11271	Google scholar, Academia.edu
A systemic review on mechanism of neurodegeneration.	Madhu SU, Hariprasad MG, Nagalakshmi NC, Harshitha Arun Pardhe.		IP Indian journal of Neurosciences.	2020	Print ISSN: 2581-8236, Online ISSN: 2581-916X	https://www.ijnonline.org/	https://www.ijnonline.org/article-details/11270	Google scholar, Academia.edu
review on mechanism of neurodegeneration. IP Indian journal of Neurosciences.	Harshitha Arun Pardhe,N.C Nagalakshmi, Hariprasad M.G,Prabhat Kumar Chourasia,Nandini S	pharmacology	IP Indian Journal of Neurosciences	2020	Print ISSN No: 2581-8236 Online ISSN No:-2581-916X	https://www.ijnonline.org/	https://www.ijnonline.org/article-details/11269	Index Copernicus, Google Scholar, J- gate, ROAD, CrossRef, Microsoft Academic, Indian Citation Index (ICI).
Pulmonary embolism: A brief review	Harshita Arun Pardhe,Hariprasad MG, Nagalakshmi NC, Prabhat Kumar Chourasia, Pallavi N.	pharmaology	IP International Journal of Comprehensive and Advanced Pharmacology,	2020	Print ISSN:-2581-5555 Online ISSN:-2456-9542	https://www.ijcap.in/	https://www.ijcap.in/article-details/10978	Index Copernicus, Google Scholar, J- gate, ROAD, CrossRef, Microsoft Academic, Indian Citation Index (ICI).
Design and synthesis and biological evaluation of antibacterial agents	Manoj V.Dhoke Preethishree C Usha Verma Sowmya B.A	Chemistry Pharmacy Practice Pharmacology Pharmacology	World Journal of Pharmaceutical Research	2020	2277-7105	www.wjpr.net	https://wjpr.net/abstract_file/14278	google Scholar , Index Copernicus , Indian Science Publications , SOCOLAR, China , Urlich's Periodicals Directory, Proquest, UK (In Process) ,
ANALYTICAL METHOD DEVELOPMENT & VALIDATION FOR RELATED SUBSTANCES IN DIPYRIDAMOLE BY RP-HPLC	T. Menaka B.Ramya Kubera	Pharmaceutical Analysis Pharmacognosy	Internnational journal of Pharmaceutical sciences and reaserch	2020	2320-5148	www.ijpsr.com	ANALYTICAL METHOD DEVELOPMENT & VALIDATION FOR RELATED SUBSTANCES IN DIPYRIDAMOLE BY RP-HPLC | INTERNATIONAL JOURNAL OF PHARMACEUTICAL SCIENCES AND RESEARCH (ijpsr.com)	Embase
Floating Drug Delivery System: A Brief Review	Lodh, Haridwar & FR, Sheeba & Chourasia, Prabhat & Pardhe, Harshita.	Pharmaceutics	American Journal of PharmTech Research	2020	2249-3387	http://ajptr.com/assets/upload/publish_article/AJPTR104010.pdf	http://ajptr.com/assets/upload/publish_article/AJPTR104010.pdf	Google ScholarIndex, Corpernicus ICI Journals Master List 2021 National Library of Medicine NML ID International Committee of Medical Journal Editors Libraries Directory Academic Resource Index ReserachBib
STUDY OF MUCOADHESI VE EFFECT OF MORINGA OLIFERA GUM ON GASTRORETEN TIVE TABLET OF BACLOFEN	Sujatha P. Muchalambe*, Sunil Kumar V., Suma U. S. and Mamatha M. K.	Pharmaceutics	European Journal of Biomedical AND Pharmaceuti cal sciences	2020	2349-8870	https://www.ejbps.com	https://www.ejbps.com/ejbps/abstrac t_id/6525	CAS, Crossref, NCBI
A Studyon the extraction,isolation and characterisation of flavanoidsfrom cocculus hirsutses	sheela s.m seema gupta	pharmacognosy	world journal of pharmacy and pharmaceutical sciences	2020	2278-4355	www.wjpps.com	https://www.wjpps.com/Wjpps_controller/abstract_id/12645	Google Scholar Index Copernicus
A Review on current drugs and new targets for obesity.	Poojashree MJ, SiddalingaPrasad HS, Shwetha BR, Shivakumar Swamy.		Journal of applied Pharmaceutical Research.	2020	*2348-0335*	https://www.japtronline.com/index.php/joapr/index	https://www.japtronline.com/index.php/joapr/article/view/119	Crossref, CAS, google scholar, indian itation index, Scilit, J-Gate
Floating Drug Delivery System: A Brief Review	Haridwar Lodh, Sheeba FR , Prabhat Kumar Chourasia , Harshitha Arun Pardhe , Pallavi N	pharmacutics	Asian Journal of Pharmacy and Technology	2020	2231-5713 (Online), 2231-5705 (Print)	https://ajptonline.com/Home.aspx	https://ajptonline.com/AbstractView.aspx?PID=2020-10-47	GOOGLE SCHOLAR, INDIAN CITETION INDEX, PSOAR
IMPACT OF CNS DEPRESSANTS & NSAIDS MEDICATIONS IN FIBROMYALGIA DISEASE	Usha Verma	Pharmaceutics	World Journal of Pharmaceutical Research	2020	2277-7105	www.wjpr.net	https://wjpr.net/abstract_show/15904	google Scholar , Index Copernicus , Indian Science Publications , SOCOLAR, China , Urlich's Periodicals Directory, Proquest, UK (In Process) ,
Smoking and COVID-19: Renin-Angiotensin System the Hidden Link	Amar Prashad Chaudhary, Adna Nelson K, Jamuna T R	Pharmacy practice	INTERNATIONAL JOURNAL OF RESEARCH IN PHARMACEUTICAL SCIENCES	2020	0975-7538	https://www.who.int/emergencies/diseases/novel-coronavirus-2019/global-research-on-novel-coronavirus-2019-ncov/	https://pesquisa.bvsalud.org/global-literature-on-novel-coronavirus-2019-ncov/resource/pt/covidwho-859333?lang=en	**Scopus, Elesvier,** Crossref, Siilarchec

Covid-19: A Review of History, Clinical Presentation, Transmission, Pathogenesis, Diagnosis, Treatment and Prevention	Amar Prasad Chaudhary, Chiranjibi Sah, Yalda Hashemzadeboneh & Jamuna TR	Pharmacy practice	Global Journal of Medical Research: B Pharma, Drug Discovery, Toxicology & Medicine	2020	Online 2249-4618, Print 0975-5888	https://medicalresearchjournal.org/index.php/GJMR/index	https://medicalresearchjournal.org/index.php/GJMR/article/view/2196	open access, Google scholar, citefactor, Scribd,
A review: Medicinal plants with antidepressant properties	Harshitha Arun Pardhe Prabhat Kumar Chourasia, N.C Nagalakshmi, Hariprasad M.G Nandini S	Pharmacy practice	IP Indian Journal of Neurosciences 2020;6(1):1–5	2020	Print ISSN: 2581-8236	https://www.ijnonline.org/	https://www.ijnonline.org/html-article/11269	Index Copernicus, Google Scholar, J- gate, ROAD, CrossRef, Microsoft Academic, Indian Citation Index (ICI), Scilit.

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Review Article

A review: Medicinal plants with antidepressant properties

Harshitha Arun Pardhe[1,*], N.C Nagalakshmi[1], Hariprasad M.G[2], Prabhat Kumar Chourasia,[3], Nandini S[1]

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ABSTRACT

Depression is an affective mental disorder characterized by extreme exaggeration and mood disturbances. The aggregate of genetic, environmental and psychological factors may lead to depression leading to decreased brain levels of monoamines such as noradrenalin, dopamine and serotonin. A massive wide variety of synthetic drugs are available for depression furthermore the side effects like dry mouth, nausea, gastrointestinal problem or respiratory problems, drowsiness, anxiety and cardiac arrhythmias are major restrictions in their application. Therefore the drug which restores the reduced level of monoamines in brain and might be beneficial remedy for depression. Researchers are presently seeking for more specific alternative antidepressants from natural source with high safety and lower costs. The purpose of this review is to enlist those plants having antidepressant activity.

1. Introduction

Depression refers to wide selection of mental state issue characterized by the absence of positive impact by extreme exaggeration, lack of interest and mood disturbance, which adversely affect cognition and psychomotor function[1,2] Sorrow and sadness are normal human emotions, everybody has these feelings but not last longer, major depression is more where it's a period of overwhelming sorrow.[3]The world health report shows signs of psychological or behavioral syndromes in about 40 million people worldwide.[4,5] It accounts for 12.3% of the world's affliction of disease and is anticipated to rise to 15% by 2020.[6] There are two types of mental depression first type is Unipolar depression (about 75% of cases) and the second type is Bipolar depression (about 25% of cases).[7] There is no known clear explanation for depression alternatively; a combination of genetic, psychological, environmental and psychological factors is probably going to result. Some quite of depression tends to occur in families that indicate a genetic connection. Nevertheless depression can also occur in people without depression family history.[8] Recently diagnostic and statistical manual of mental disorder (DSM-V) characterized major depression by symptoms: depressed mood, diminished interest in fun, psychomotor agitation or retardation, fatigue, insomnia or hypersomnia, guilt, inability to concentrate, sense of worthlessness and suicidal thinking.[9,10] Today, a large variety of synthetic drugs are used as standard treatment for clinically depressed patients they have adverse effects that may hinder therapeutic treatment, there specific adverse impact include dry mouth, nausea, gastrointestinal problem or respiratory problems, drowsiness, anxiety and cardiac arrhythmias such condition create opportunities for alternative depression treatment by the use of medicinal plants.[11] Researchers are currently searching for more specific drugs with high therapeutic efficiency with few side effects and low cost. Medicinal plants have attracted the attention of scientists working in this field because these plants have been used for a long time to treat various diseases including psychiatric disorder,

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Covid-19: A Review of History, Clinical Presentation, Transmission, Pathogenesis, Diagnosis, Treatment and Prevention

By Amar Prasad Chaudhary, Chiranjibi Sah, Yalda Hashemzadeboneh & Jamuna TR
Rajiv Gandhi University of Health Sciences

Abstract- The outburst of coronavirus disease 2019 (COVID-19) has produced unprecedented challenges in the world which, were seen initially at Wuhan, Hubei Province, China beginning in December 2019. Genomic studies have revealed that the bat might be the primary reservoir of this virus. The symptom of COVID-19 varies from asymptomatic or paucisymptomatic to the clinical condition. The COVID-19 is transmitted through the close contact of infected people via droplet. Real-time Reverse Transcriptase-Polymerase chain reaction (RT-PCR) is considered to be the gold standard for the diagnosis of COVID-19. Many drugs were used for the treatment of this virus, but most of them aren't effective against it and only help to improve the recovery rate.

GJMR-B Classification: NLMC Code: QV 4

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Review Article

Mechanism and biomarkers for neurodegenerative diseases: A systematic review

Nandini S[1,*], Narayan Sah Sonar[1], Hemalatha S[1], N. C Nagalakshmi[1], Harshita Arun Pardhe[1]

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ABSTRACT

Neurodegenerative disease such as Parkinson's disease (PD), Alzheimer's disease (AD), Multiple sclerosis (MS), Huntington's disease (HD) are characterized by progressive loss of cognitive function, dementia and problems with movement. Neuronal loss is associated with extra and intercellular accumulation of misfolding proteins, oxidative stress, free radical formation, mitochondrial dysfunction, disruption of neuronal golgi apparatus, impaired bioenergetics, dysfunction of neurotrophins.
Biomarkers that might aid in the diagnosis of these devastating and globally important disease are urgently sought and required. Therefore, range of biomarkers are explained for neurodegenerative disease.

1. Introduction

Neurodegenerative disorders (NDD) comprise a lot of obsessive conditions beginning from moderate dynamic and irreversible brokenness and loss of neurons and neurotransmitters in selected regions of the sensory system which decide clinical introduction and course. The significant fundamental mechanisms prompting neurodegeneration (ND) are viewed as multifactorial brought about by hereditary, ecological and endogenous elements identified with aging.[1] Neurodegenerative illnesses speak to a significant risk to human wellbeing. These age-subordinate issue are getting progressively predominant, to some degree in light of the fact that the older population has expanded lately. Instances of neurodegenerative diseases are Alzheimer's disease, Parkinson's disease, Huntington's infection, amyotrophic lateral sclerosis, frontotemporal dementia and the spinocerebellar ataxias.[2] Patients with these disease show genuine neurological incapacities, for example, memory debilitation and motor problems, for which there are no cure.[3] Most of procedures include unusual protein elements because of insufficiency of the ubiquitin–proteosome–autophagy system, oxidative stress and free radical reaction, hindered bioenergetics, dysfunction of neurotrophins, mitochondrial dysfunction, 'neuroinflammatory' processes and interruptions of neuronal golgi complex and axonal transport.[1]

These days, symptomatic medicines exist, however there are as of now no compelling medications to invert or stop the movement of the illnesses. Improving the early and predictive analysis of neurodegenerative sicknesses is the vital significance and tremendous efforts are in progress. In this way, it is required a tool to help doctors, epidemiologists, and researchers in the investigation of human diseases by confirming a diagnosus and following ailment movement, which may distinguish explicit remedial targets.[4] A biomarker is a research center estimation that recognizes a disease or mirrors the movement of an illness process[5]. Along these lines, improvement of biomarkers may quantify disease risk, presence, and progression is one of the principle objectives and challenges in explore of neurodegenerative diseases.[4]

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Review Article

A systematic review on mechanism of neurodegeneration

Madhu S.U[1,*], Hariprasad M.G[2], N.C. Nagalakshmi[1], Harshitha Arun Pardhe[1]

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Neurotoxicity

ABSTRACT

Neurodegeneration is a condition which defined by a inflammation or damage of neuron and demyelination. It is characterized through the permeability of the Blood Brain Barrier (BBB), the myelin sheath damage, axon damage, the formation of glial scar and the presence of inflammatory cells. The brain is one of the organs specifically liable to the effects of reactive oxygen species (ROS) due to its high oxygen demand and its profusion of peroxidation-susceptible lipid cells. Neurodegeneration includes intracellular processes like oxidative damage, proteasome,dysfunction of mitochondrial, apoptosis (cell death), autophagy, Inactivating of the c-Jun N-terminal kinase (JNK) pathway leads to axon degeneration and the common pathology of neurodegeneration consists of deposition of proteins missfolding such as , α-synuclein in Parkinson's disease (PD), transactive response DNA binding protein 43 (TDP-43) in dementia, amyloid-β (Aβ) in Alzheimer's disease. The incidence of neurodegenerative diseases which are wide-ranging of Alzheimer's disease (AD), Parkinson's disease (PD), amyotrophic lateral sclerosis (ALS), and Huntington's disease (HD), Fronto temporal dementia (FTD). Oxidative stress is caused by an imbalanced redox states, relating either excessive generation of ROS or dysfunction of the antioxidant system.

1. Introduction

The brain is one of the most advanced and superior structure in the human body. It is created from neurons and neuroglia, the neurons being responsible for sending and receiving nerve impulses or signals. The microglia and astrocytes are essential for ensuring applicable functioning of neurons. They may be quick to interfere while neurons become injured or stressed. As they're sentinels of neuron properly, pathological impairment of microglia or astrocytes also have devastating result for brain function. Acute injury causes neurons to come up with signals that inform neuroglia concerning the neuronal status. Relying on how severe a diploma of neuronal damage, neuroglia will each contend with the injured neurons into regeneration or kill them if they are not possible. [1]

The degeneration of CNS is characterized through chronic revolutionary loss of the shape and features of neuronal materials, consequent in persistent and mental impairments. Neurodegenerative diseases are characterised by the lack of neurons and modern dysfunction main to the first rate involvement of sensible systems defining scientific displays. The pathological additives involve the permeability of the blood brain barrier, the harm of myelin sheath, axon injury, the glial scar formation and the incidence of inflammatory cells, usually lymphocytes are infiltrated into the CNS. The lack of myelin is manifested in scientific symptoms together with neuropathic pain, paralysis, muscle spasms and optic neuritis. [2]

The process of neurodegeneration exists in intracellular procedures which incorporate apoptosis, autophagy, mitochondrial feature, oxidative strain, proteasome. Pathways related to vicinity of tissue surroundings (cell adhesion, endocytosis, neurotransmission, prions or transmissible elements), pathways related to systemic surroundings

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Review Article

A review: Medicinal plants with antidepressant properties

Harshitha Arun Pardhe[1,*], N.C Nagalakshmi[1], Hariprasad M.G[2], Prabhat Kumar Chourasia,[3], Nandini S[1]

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ABSTRACT

Depression is an affective mental disorder characterized by extreme exaggeration and mood disturbances. The aggregate of genetic, environmental and psychological factors may lead to depression leading to decreased brain levels of monoamines such as noradrenalin, dopamine and serotonin. A massive wide variety of synthetic drugs are available for depression furthermore the side effects like dry mouth, nausea, gastrointestinal problem or respiratory problems, drowsiness, anxiety and cardiac arrhythmias are major restrictions in their application. Therefore the drug which restores the reduced level of monoamines in brain and might be beneficial remedy for depression. Researchers are presently seeking for more specific alternative antidepressants from natural source with high safety and lower costs. The purpose of this review is to enlist those plants having antidepressant activity.

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Pulmonary embolism: A brief review

Harshita Arun Pardhe[1*], Hariprasad MG[2], Nagalakshmi NC[3], Prabhat Kumar Chourasia[4], Pallavi N[5]

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Abstract
Pulmonary embolism (PE) is characterized as pulmonary artery obstruction caused by a thrombotic embolus the usual clinical presence of acute PE involves a patient with a sudden onset of dyspnea and pleuritic chest pain at breathing, while blood coughing (hemoptysis), signs of deep vein thrombosis (DVT) and even collapse are less prevalent. PE is classified as PE which is massive, sub-massive and low risk. PE is a significant cause of morbidity and mortality among the patients who are hospitalized. When venous clot is dislodged from the place where it was actually formed, the clot then proceeds towards a vessel of pulmonary circulation leading to pulmonary embolism. Many factors affect pulmonary embolism such as prolonged immobility, advanced age, postoperative time, post-infarction period, heart failure, obesity, pregnancy, etc. Treatment mainly involves anti- coagulants. This brief review summarizes the pathophysiology, risk factors and treatment, management and supportive measures involved in Pulmonary embolism.

Keywords: Pulmonary Embolism, Deep vein thrombosis, Bronchospasm, Thromboembolism.

Introduction
Pulmonary embolism is an acute, severe condition which can be a direct threat to life. It happens when a lung artery is blocked by a substance that has traveled through the blood stream from elsewhere in the body. This substance is usually the result of a clot of blood in the legs or pelvis.[1] PE is a life-threatening and dramatic complication of deep venous thrombosis (DVT). For this reason, DVT's prevention, diagnosis and treatment is of particular importance as symptomatic PE occurs in 30% of those affected. If asymptomatic symptoms are also included, 50-60 percent of DVT patients are expected to experience PE.[2] DVT and PE as manifestations of the same cause, namely thrombo embolic disease. PE is a significant cause of morbidity and mortality among hospitalized patients.[3] The worldwide prevalence of acute venous thromboembolism ranges from 23-69/100,000 population per year. Close to 10 percent of all patients with acute PE die during first 3 months after diagnosis.[4] Though the exact epidemiology of PE in India is largely unknown, an autopsy study showed the overall incidence of PE in patients admitted in the medical wards of a tertiary care centre in North India to be 15.9 percent, mainly affecting younger population below 50 years of age. The rate of significant PE leading to patients ' death was 12.6%.[3]

Classification of pulmonary embolism:5
The American Heart Association classifies PE into three categories

Massive PE: Acute PE with prolonged hypotension (systolic blood pressure < 90 mm Hg for at least 15 minutes or needing inotropic treatment, not for causes other than PE such as arrhythmia, hypovolemia, sepsis or left ventricular dysfunction), with signs or symptoms of shock.

Sub-massive PE: Acute PE without systemic hypotension (systolic blood pressure> 90 mm Hg) but with either right ventricular (RV) dysfunction or myocardial necrosis dysfunction. RV dysfunction means the presence of at least one of the following:

1. RV dilation (apical 4-chamber RV diameter divided by LV diameter >0.9) or RV systolic dysfunction on echo cardiography or CT
2. Elevation of BNP (>90 pg/ml) or
3. Elevation of N - term in pro-BNP (>500 pg/ml) or
4. ECG changes (new right bundle-branch block, antero-septal ST elevation or depression, or T-wave inversion)
5. Elevation of troponin I (>0.4 ng/ml) or troponin T (>0.1 ng/ml

Low risk PE: Acute PE and lack of adverse prognostic clinical markers defining massive or submassive PE.

Pathophysiology:[1]
If the venous clot is dislodged from the place in which it was created, then its embolism proceeds towards a vessel of pulmonary circulation or systemic arterial circulation. (Paradoxical embolism, seen in open foramen ovale cases) Experimentally, it has been shown that if 60 percent of the vascular network of the pulmonary artery is blocked, then a significant drop in blood pressure and an acute bend of the right ventricular (acute or pulmonal) is triggered. Sudden death occurs in situations where the blockage crosses 80 percent of the vascular network. Cardiac hemodynamic effects on pulmonary embolism depend on the occlusion rate of the pulmonary vasculature, the distance of this network and the release of bronchospasm-causing vasomotor substances followed by a further reduction in pulmonary perfusion and an increase in VD (dead place). Acute pulmonary heart is caused by the sudden increase in the average pulmonary artery pressure due to increased pulmonary vascular resistance in concentrations greater than 40 mmHg. The symptoms of coronary pulmonary embolism can include acute pulmonary stroke, myocardial ischemia, acute circulatory failure, and left-sided and lung and hypoxia and atelectasis.

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DESIGN AND SYNTHESIS AND BIOLOGICAL EVALUATION OF ANTIBACTERIAL AGENTS

Manoj V. Dhoke[1]*, Preethishree C.[2], Usha Verma[3] and Sowmya B. A.[3]

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ABSTRACT

New 2&3-(4 amino benzamido) benzoic acid derivatives have been designed and synthesized by the reaction between Para amino benzoic acid and hydrochloride salts of PABA and was refluxed in good yields and their antibacterial property was evaluated against E.coli and Streptococcus aureus. Docking study was performed by using macromolecule PDB ID: 4P66 with the help of Autodock 4.2. Compounds D8, D10, D13, D14, D17 have been discovered to have a critical ideal docking score in the range of 7.66 to 8.8 kcal/mole which is closer to the ligand methotrexate for the E. coli DHFR protein. Characterization of synthesized compounds was done with the help of its spectral analysis. The structural information of all synthesized derivatives was determined by spectral data obtained from IR, Mass, 1H-NMR, 13C NMR. Most of the newly synthesized compounds as ID D8 showed 90% of MIC for S.aureus and 60% of MIC for E.coli against standard drug Ciprofloxacin (0.2µg/ml). Since the compound D8 exhibits lowest MIC value it showed a better antibacterial against both the bacteria.

KEYWORDS: PABA, E.coli, Streptococcus aureus, Benzamide derivatives, Antibacterial.

INTRODUCTION

The bacterium is single-celled microorganisms that grow in multiple domains. They are living in the sand, sea and inside the human gut. There is a very complex relationship occurs

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ANALYTICAL METHOD DEVELOPMENT & VALIDATION FOR RELATED SUBSTANCES IN DIPYRIDAMOLE BY RP-HPLC

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Keywords:

Dipyridamole, Related substances, Quantification, Method development, Validation, HPLC

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ABSTRACT: Simple RS method is developed and validated as reversed-phase chromatographic method for the identification and quantification of the dipyridamole related substances-A, B, C, D, E and F. Chromatographic separation has been achieved by using Shodex C18, 150 mm, 4.6 mm diameter, 5 µ column, using mobile phase 0.1 % of formic acid and acetonitrile by eluting in gradient with 1.0 ml flow, detection was achieved at 254 nm by maintaining 25 °C temperature for column. The method is validated as per the ICH guidelines. Linearity was recorded at various concentrations ranges 0.0100 - 6.0051 ppm for related substances A, B, C & 0.0040 - 2.4024 ppm of related substances D, E, F. Recovery RSD value of each related substance was <5.0 % (n=9). RS method for related substances in dipyridamole is found specific, linear, accurate, precise, rugged and robust hence the validated method is suitable to identify the related substances in dipyridamole drug.

INTRODUCTION: Dipyridamole is chemically a derivative of pyrimido-pyrimidine nuclei, which has been developed to treat blood clot aggregation through the anti-platelet property by inhibiting platelets and endothelial adenosine uptake and inhibits the stimulation of both platelet-activating and collagen factors by triggering an accretion of cyclic adenosine monophosphate (cAMP) [1]. Thorough literature reveals that only a few related substance analytical methods for dipyridamole and its related substances were reported.

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The purity evaluation method for dipyridamole [2] and demonstration of a regulatory requirement on analytical method development for drug and its related substances [3]. Dipyridamole was identified by photodecomposition and HPLC analytical methods in human plasma [4-10].

Monitoring of related substances below the threshold limit in a drug substance is important because the presence of related substances in small quantities could influence drug efficacy and safety. Owing to this, Importance has given to identify and quantify the Pharmacopoeial related substances in Dipyridamole, we developed an RS method to distinguish and regulate the related substances of Dipyridamole namely related substance-A, B, C, D, E and F [11] **Fig. 1**. Developed RS method was validated to parameters accuracy, precision, LOD, LOQ, specificity, robustness and linearity.

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Floating Drug Delivery System: A Brief Review

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ABSTRACT

Scientific and technological developments in the research and development of new drug delivery systems have been made in recent years by resolving physiological disorders, such as short gastric residence periods and unpredictable gastric emptying times. Dosage forms that can be hold within the stomach are called as Gastro-retentive Dosage Forms (GRDF). Multiple methods used in the prolongation of gastric residence time are floating drug delivery system, swelling and expanding system, polymeric bio-adhesive system, high density system and other delayed gastric emptying system. Medication-based disease treatment is entering a new era in which a increasing range of innovative drug delivery technologies are being used and are available for clinical use. Floating Drug Delivery Systems (FDDS) is one of the gastro-retentive dosage forms used to achieve extended duration of gastric residency. The aim of writing this review on floating drug delivery systems (FDDS) was to compile the recent literature with particular focus on the main floating mechanism to achieve gastric retention. Sustained oral release of gastrointestinal dosage types provides many benefits for drugs with absorption from the upper sections of the gastrointestinal tract and those that function locally throughout the stomach. This review includes the physiology, factors controlling gastric retention time, excipient variables influencing gastric retention, approaches to designing single-unit, hydro-dynamically balanced system and multi-unit floating structure, and aspects of their classification, formulation and evaluation are discussed in detail, and few applications of these systems.

Keywords: Gastro retentive system, Floating drug delivery system, Classification, Methods, Evaluation.

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STUDY OF MUCOADHESIVE EFFECT OF MORINGA OLIFERA GUM ON GASTRORETENTIVE TABLET OF BACLOFEN

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ABSTRACT

The objective of the study is to study the mucoadhesive effect of natural gum obtained from Moringa oleifera as tablet mucoadhesive polymer. This property of the gum was evaluated and compared with standard syntactic polymers like PVP K30, HPMCH4M for mucoadhesion. In this current study Baclofen is used as a model drug, where Baclofen has the absorption window in upper GI track and due to this often display low bio-availability, the half-life of the drug is 2.5-4hrs. The comparability of polymer and drug are carried by FTIR. The mucoadhesive tablet of different ratio of Moringa, HPMCK4M and PVPK30 tablet are formulated and evaluated for mucoadhesive time, mucoadhesive strength, swelling index. Dissolution study was conducted to characterize release mechanism of the formulation and data are fitted to various kinetic models. Stability study for optimized formulation B at 400 ±20C/75±5%RH for 90 days. It could be concluded that the gum Moringa oleifera can be used as a pharmaceutical Excepients in oral mucoadhesive drug delivery system.

KEYWORDS: Moringa oleifera, Gum, Mucoadhesion, HPMCK4M, PVP30K.

INTRODUCTION

Oral administration is the most convenient and preferred means of any drug delivery to the systematic circulation. Oral controlled release drug delivery have recently been of increasing interest in pharmaceutical field to achieve improved therapeutic advantages, such as ease of dosing administration, patient compliance and flexibility in formulation.[1]

Gastro retention is essential for drugs that are absorbed from the stomach, poorly soluble or degraded by the higher pH of intestine, and drugs with an absorption which can be modified by changes in gastric emptying time.[2]

The mucoadhesive drug delivery system may include the following.

1. Buccal delivery system.
2. Sublingual Delivery system.
3. Vaginal delivery system.
4. Rectal delivery system.
5. Nasal delivery system.
6. Ocular delivery system.
7. Gastro Intestinal delivery system.

The objective of the study is to study the mucoadhesive effect of natural gum obtained from Moringa oleifera as tablet mucoadhesive polymer. Gastroretentive dosage forms are the systems that can stay in the gastric region for several hours and thus, prolong the gastric residence time of the drugs. After oral administration, such a dosage form is retained in the stomach and releases the drug in a controlled and sustained manner so that the drug can be supplied continuously in the upper GIT. The term mucoadhesion is commonly used for materials that bind to the mucin layer of biological membrane. Mucoadhesive polymers have been utilized in many different dosage form in efforts to achieve systemic delivery of drug through the different mucous. Gastro retention drug delivery system possess the ability of retaining the dosage form in gastrointestinal track particularly in stomach for a long period. Utilizing the concept of extended released by gastric mucoadhesion to enhance the bio availability of an acid stable drug.[3,4]

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A STUDY ON THE EXTRACTION, ISOLATION AND CHARACTERIZATION OF FLAVONOIDS FROM *COCCULUS HIRSUTUS*

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ABSTRACT

The plant Chilihindah, *Cocculus hirsutus* Linn. Belongs to family Menispermaceae. In Ayurvedic system of medicine the use of this plant has been described in diverse diseases. The roots and leaves are reported to possess antimicrobial, laxative, demulcent, diuretic, cardiotonic and antidiabetic activity. The phytochemical investigation included successive extraction with pet ether 40-60°C, chloroform, alcohol and maceration by water and alcohol. The extracts were subjected to preliminary phytochemical screening, chromatographic studies and isolation of phytoconstituents. Preliminary phytochemical screening of various extracts showed the presence of alkaloids, flavonoids, carbohydrates, sterols, glycosides, gum and mucilage, fixed oil and fats. TLC study for the different phyto-constituent and HPTLC for alcoholic extract was performed. The Ethyl acetate fraction of methanolic extract showed the maximum free radical scavenging capacity as compared to other fractions. Two bioactive flavonoids were isolated from the Ethyl acetate fraction by using column chromatography. The isolated flavonoids were subjected to spectral analysis ^{1}H-NMR and FT-IR.

KEYWORDS: *Cocculus hirsutus*, Flavonoids, column chromatography, HPTLC.

INTRODUCTION

Antioxidants are compounds that protect cells against the damaging effects of reactive oxygen species, such as singlet oxygen, superoxide, peroxyl radicals, hydroxyl radicals and peroxynitrite. An imbalance between antioxidants and reactive oxygen species results in oxidative stress, leading to cellular damage. Oxidative stress has been linked to cancer, aging,

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Review Article

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A REVIEW ON THE CURRENT DRUGS AND NEW TARGETS FOR OBESITY

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ABSTRACT
Obesity is defined as the condition in which the Body Mass Index (BMI) of an individual is between 25 and 29.5 that is ≥30kg/m^2 and is caused by the imbalance management of energy intake and expenditure. Obesity is among the most prevalent diseases in the world and approximately over 10% of the people belong to overweight group in the world and over 5% in India. Currently many drugs are used to treat or to manage obesity. But these drugs also account for several side effects. So there is an extensive need of promising drugs which can control obesity with greater efficacy and economic viability. This review focusses on the current drugs in the market used to treat obesity and also few of the new probable targets to discover drugs.

INTRODUCTION

Obesity, the most common and complex disorders of this generation caused due to reasons like genetic heredity, diet and environmental factors [1]. Obesity can be defined as a state of an individual where the Body mass index (BMI) is more ≥30kg/m^2 and is caused by the imbalance management of energy intake and expenditure. Obesity is more common in the youngsters when compared to the elder people mainly due to the lifestyle. Obesity has a major influence on social and psychological status of a person which eventually causes depression. Physiologically it will also cause many of the diseases including cardiac problems [2]. In the world approximately 10% of the population belongs to overweight group. Over 40 million children under age of 5 and 340 million above the age of 5 are obese in the year 2016 [4, 5]. USA, China, India will occupy more than 50% of the obesity in the world. Currently, there are many drugs are used for the treatment of obesity but these drugs have numerous side effects. Therefore, there is an extensive need of such a kind of drugs which can control obesity with greater efficacy and economic viability [3].

Major pathogenesis occurs due to either over appetite or dysregulation of energy utilizing functions in the body. This kind of situation results in accumulation of fat that in turn makes more adipose tissue. This alerts the secretion of cytokine in higher amount and thereby causes vascular complications due to hyperlipidemia. This may in turn cause cardiovascular diseases and in most cases liver, gall stone and gut related diseases. Therefore management of the obesity is very much essential to restrain these diseases [5]. It is very important to

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Floating Drug Delivery System: A Brief Review

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ABSTRACT:
Scientific and technological developments in the research and development of new drug delivery systems have been made in recent years by resolving physiological disorders, such as short gastric residence periods and unpredictable gastric emptying times. Dosage forms that can be hold within the stomach are called as Gastro-retentive Dosage Forms (GRDF). Multiple methods used in the prolongation of gastric residence time are floating drug delivery system, swelling and expanding system, polymeric bio-adhesive system, high density system and other delayed gastric emptying system. Medication-based disease treatment is entering a new era in which a increasing range of innovative drug delivery technologies are being used and are available for clinical use. Floating Drug Delivery Systems (FDDS) is one of the gastro-retentive dosage forms used to achieve extended duration of gastric residency. The aim of writing this review on floating drug delivery systems (FDDS) was to compile the recent literature with particular focus on the main floating mechanism to achieve gastric retention. Sustained oral release of gastrointestinal dosage types provides many benefits for drugs with absorption from the upper sections of the gastrointestinal tract and those that function locally throughout the stomach. This review includes the physiology, factors controlling gastric retention time, excipient variables influencing gastric retention, approaches to designing single-unit, hydro-dynamically balanced system and multi-unit floating structure, and aspects of their classification, formulation and evaluation are discussed in detail, and few applications of these systems.

KEYWORDS: Gastro retentive system, Floating drug delivery system, Classification, Methods, Evaluation.

INTRODUCTION:

Drug delivery system represents pure crude form of the drugs either in solid, liquid or semi-solid form, which should be therapeutically efficient, safe and stable enough to deliver a required amount of the drug to the specified site in the body to reach instantly, to achieve the correct concentration and then retain the adapted concentration.

Many of the drug delivery systems commercialized are oral drug delivery systems.[1] Due to low treatment costs, increased patient compliance and ease of administration oral drug delivery is mostly preferred. Despite of multiple benefits, the frequency of dosing of a medication should be increased as it gets easily emptied from the stomach.[2]

To overcome these barriers, the delivery of drugs must provide prolonged duration of gastric residence. Gastroretention contributes to an increase in bioavailability, an improvement in the duration of drug release, minimizes drug waste and improves drug solubility that is less soluble in a high environmental pH.[3] Many drugs released in the stomach have the greatest therapeutic impact as they are continuously delayed and controlled in release. This type of drug delivery method would have comparatively less side effect and would eliminate the need for repeated dosages.[4] In pharmaceutical dosage, the formulation of drugs in multilayered / bi-layered tablets is a innovative approach for providing the loading dose and maintenance dose in a tablet. This design allows for the preparation of extended release with an immediate release quantity of drug in one layer and an extended release proportion in the second, thereby retaining a prolonged blood level. The immediate release section will disintegrate rapidly after absorption, by supplying the initial dose of medication for immediate action where the matrix layer remains intact as it passes through the intestine most of the time, thus gradually dissolving from its exposed phases in this path, which helps to retain the blood level that was initially reached.[5]

Typically, conventional controlled-release dosage forms prolong the release of drugs and do not have a rapid onset of action after oral usage. Accordingly, the layered tablets provide a pharmacokinetic benefit over conventional controlled release dosage forms as the drug is rapidly released from the rapid release layer leading to a rapid increase in drug plasma concentration accompanied by a continued release of the drug from the sustained release layer.[6]

Drug Suitable for Gastroretentive Drug Delivery System[7]

1. The Drugs which are locally active in the stomach like Antacids, Misoprostol, etc.
2. Drugs showing narrow absorption window in Gastro intestinal tract e.g. Riboflavin, Furosemide, etc.
3. Drugs showing unstablility in the colonic environment e.g. Ranitidine HCl, Captopril, etc.
4. Drugs which are effective against normal colonic microbes e.g. antibiotics against *Helicobacter pylori.*
5. Drugs which have low solubility at high pH values e.g. Chlordiazepoxide, Diazepam, etc.

Drugs Unsuitable for Gastroretentive Drug Delivery System[7]

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IMPACT OF CNS DEPRESSANTS & NSAIDS MEDICATIONS IN FIBROMYALGIA DISEASE

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ABSTRACT

Fibromyalgia is an idiopathic, chronic pain syndrome defined by widespread nonarticular musculoskeletal pain and generalized tender points. Mood disturbance is common among patients with fibromyalgia (FM), but the influence of psychological symptoms on pain processing in this disorder is unknown. In this approach, some kind of manipulations are conducted to induce clinically relevant pain states such as hyperalgesia and allodynia in the experimental animal, and then, pain-associated behaviors are measured as indicators of pain. Recent findings regarding sleep architecture, immunology, and endocrinology have provided clues that may help in the understanding and resultant treatment of this entity. Women with fibromyalgia tend to present with an alpha-delta sleep anomaly, which when treated with a growth hormone secretagogue (GHS), reduces the rheumatological pain and restores slow-wave sleep architecture. Efficacy of test drugs on the said pain is finally evaluated. Diazepam and ibuprofen relieves anxiety and inflammation respectively in fibromyalgia. The selected NSAIDS and CNS depressants as a combination therapy are frequently used prescription agents for fibromyalgia. Though the above mentioned treatment profile is for fibromyalgia, antidepressants and NSAIDS are the more frequently used combination therapy for this disease.

KEYWORDS: Fibromyalgia, Diazepam, Ibuprofen, NSAIDS, Hyperalgesia, Cold stress.

INTRODUCTION

The term fibromyalgia derives from new Latin, fibro- meaning fibrous tissues, Greek myo- muscle and Greek algos- pain, thus the term literally means muscle and connective tissue

REVIEW ARTICLE

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Smoking and COVID-19: Renin-Angiotensin System the Hidden Link

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ABSTRACT

The emergence of COVID-19, the global pandemic is originated from the Nobel member of the coronavirus family, i.e. SARS-COV-2 initially seen at Wuhan city of China since December 2019 have deeply impacted the lives of people and changed the way of our living. The pandemic has led to the death of thousands of people mostly seen in old age people, people having co-morbidity like cardiovascular disease, diabetes mellitus, obesity, kidney disease, etc. and cigarette smokers. It is found that cigarette smokers are more prone to the COVID-19 infection and have more severity of the disease when infected. From various studies, it has been revealed that there is increased pulmonary ACE2 expression in ever smokers and virus leading to an imbalance in the RAS appears to be an important cause for cigarette smokers which is being impacted more in this pandemic. This review article explains the underlying mechanism why smokers are more prone to COVID-19? and why higher severity of the disease is higher in them?

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INTRODUCTION

The World Health Organization identified a Nobel member of coronavirus in early 2020, which is named as Severe Acute Respiratory Syndrome Coronavirus-2 (SARS-COV-2). At present, it has infected more than 24 million and killed more than 831,000 across the world after its outbreak in china in December 2019. SARS-COV-2 fall in the coronaviridae family, and it is a positive sense, single-stranded RNA virus. This family commonly causes 10-30% of upper respiratory infections in humans. The virus is spread mainly through respiratory droplets from an infected person when coughing, sneezing and talking. The symptoms which are mostly seen in COVID-19 are pyrexia, dry cough and dyspnea, tiredness, scratchiness in throat, body aches, nasal congestion, headache, loss of taste or smell, diarrhoea. People of all ages, with certain underlying disease conditions such as asthma, heart disease etc. seem to be more susceptible and have severe illness or complications from COVID-19 infections.

Cigarette smoking is a prominent aetiology for chronic disease and death due to many pulmonary infections. Several observational studies found 1.4-18.5% of hospitalised adults who are smokers among coronavirus infected patients (Rajko, 2020). And certain investigators observed a pooled prevalence of 6.5-7.6% of smokers in hospitalised adults with this infection (Emami *et al.*, 2020; Farsalinos *et al.*, 2020). Approximately, smokers were 2.4 times higher chances to get admitted in the intensive care unit, needed Ventilator or die compared to

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Review Article

A review: Medicinal plants with antidepressant properties

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ABSTRACT

Depression is an affective mental disorder characterized by extreme exaggeration and mood disturbances. The aggregate of genetic, environmental and psychological factors may lead to depression leading to decreased brain levels of monoamines such as noradrenalin, dopamine and serotonin. A massive wide variety of synthetic drugs are available for depression furthermore the side effects like dry mouth, nausea, gastrointestinal problem or respiratory problems, drowsiness, anxiety and cardiac arrhythmias are major restrictions in their application. Therefore the drug which restores the reduced level of monoamines in brain and might be beneficial remedy for depression. Researchers are presently seeking for more specific alternative antidepressants from natural source with high safety and lower costs. The purpose of this review is to enlist those plants having antidepressant activity.

1. Introduction

Depression refers to wide selection of mental state issue characterized by the absence of positive impact by extreme exaggeration, lack of interest and mood disturbance, which adversely affect cognition and psychomotor function[1,2] Sorrow and sadness are normal human emotions, everybody has these feelings but not last longer, major depression is more where it's a period of overwhelming sorrow.[3] The world health report shows signs of psychological or behavioral syndromes in about 40 million people worldwide.[4,5] It accounts for 12.3% of the world's affliction of disease and is anticipated to rise to 15% by 2020.[6] There are two types of mental depression first type is Unipolar depression (about 75% of cases) and the second type is Bipolar depression (about 25% of cases).[7] There is no known clear explanation for depression alternatively; a combination of genetic, psychological, environmental and psychological factors is probably going to result. Some quite of depression tends to occur in families that indicate a genetic connection. Nevertheless depression can also occur in people without depression family history.[8] Recently diagnostic and statistical manual of mental disorder (DSM-V) characterized major depression by symptoms: depressed mood, diminished interest in fun, psychomotor agitation or retardation, fatigue, insomnia or hypersomnia, guilt, inability to concentrate, sense of worthlessness and suicidal thinking.[9,10] Today, a large variety of synthetic drugs are used as standard treatment for clinically depressed patients they have adverse effects that may hinder therapeutic treatment, there specific adverse impact include dry mouth, nausea, gastrointestinal problem or respiratory problems, drowsiness, anxiety and cardiac arrhythmias such condition create opportunities for alternative depression treatment by the use of medicinal plants.[11] Researchers are currently searching for more specific drugs with high therapeutic efficiency with few side effects and low cost. Medicinal plants have attracted the attention of scientists working in this field because these plants have been used for a long time to treat various diseases including psychiatric disorder,

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