


Govt. College of Pharmacy, Rohru

District Shimla, Himachal Pradesh

Supporting Documents for 3.3.1

(Number of research papers published per teacher in the Journals on
UGC care list during the last five years)




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3.3.1.1: Number of research papers published in the Journals on UGC care list during the last five years

The Govt. College of Pharmacy, Rohru offers only Bachelor's degree in Pharmacy, and thereby the prime focus of the institute was on the academic performance of the graduate students. However, in recent times the institute has realized the importance of research activities for the overall development of students and the institute. The institute is now adapting itself to the changing scenario in the field of research and development and is in process of becoming a research-oriented institute. The institute is committed to providing exposure to research and development to its students and staff members. The institute promotes and encourages all the activities that contribute to developing the research atmosphere in the institute, which includes providing creative projects for the final year students, radially providing permissions and encouragement for the participation of students and staff in the conferences, workshops, seminars, etc. and encouraging staff and students to involve themselves in research and review writing. This becomes evident from the recent publications in renowned indexed national and international journals from the Govt. College of Pharmacy, Rohru in the last 5 years.


In last 5 years, the staff members and the students of the Govt. College of Pharmacy, Rohru has published a total of 43 research and review articles in renowned and indexed national and international journals. These journals are having good impact factors and are indexed in Scopus, Web of Science, UGC Care, etc. The quality of the research activities that are being conducted at the institute are reflected by the quality of publications in these renowned, indexed and high impact journals.




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3.3.1.1. Number of research papers published per teacher in the Journals on UGC care list during the last five years


S. No.	Title of paper	Name of the author/s	Name of journal	Year of publication	ISSN Number	Link to article/ paper/ abstract of the article	Link to website of the Journal	Listing of the Journal
1	Inherent medicinal uses of plants	Vivek Sharma	Innovat International Journal of Medical & Pharmaceutical Sciences	2017 (September)	E-ISSN: 2456-8694	https://innovatpublisher.com/index.php/ijmps/article/view/43	https://innovatpublisher.com/index.php/ijmps/index	UGC Approved Journal; Google Scholar; J-Gate
2	Ascorbic acid: A therapeutic viability in anxiety disorders	Rajender Guleria Harish Kumar Athar Javed Vivek sharma	Innovations in Pharmaceuticals and Pharmacotherapy	2017 (September)	E-ISSN: 2321-323X ISSN: 2395-0781	http://www.innparmacotherapy.com/VolumeArticles/FullTextPDF/161_IPP_APRIL_JUNE_15_2017_12.pdf	http://www.innparmacotherapy.com/	Chemical Abstract Services [CAS]; Open J-Gate; Google Scholar
3	Fast disintegrating tablets: a review	Pankaj Sharma Raneev Thakur Priyanka Nagu	European journal of Biomedical and Pharmaceutical Sciences	2018 (August)	ISSN : 2349-8870	https://storage.googleapis.com/journal-uploads/ejbps/article_issue/volume_5_september_issue_9/1535713508.pdf	https://www.ejbps.com/	Google Scholar; Index Copernicus; Indian Science Publications
4	Review on a potential of antibiotics	Priyanka Nagu	Journal of Drug Delivery and Therapeutics	2018 (September)	ISSN: 2250-1177 (Online)	http://jddtonline.info/index.php/jddt/article/view/1936/1382	http://jddtonline.info/index.php/jddt	EBSCO; CAS Source Index (CASSI); Publons
5	Indigenous volatile oils as imperative gift from nature –A Review	Raneev Thakur Vikrant Arya	International Journal of Ayurveda and Pharma Research	2018 (December)	ISSN: 2322-0902 (Print) ISSN: 2322-0910 (Online)	https://ijapr.in/index.php/ijapr/article/view/1076/854	https://ijapr.in/index.php/ijapr	Web of Science; AYUSH Research Portal


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6	Stem Cell Therapy and Neurogenesis: A therapeutic Viability in Alzheimer's Disease	Vivek Kumar Sharma	International Journal of Pharmacy and Biological Sciences	2018 (September)	ISSN: 2321-3272	https://ijpbs.com/ijpbsadmin/upload/ijpbs_5bb110d7d54e6.pdf	https://www.ijpbs.com/	UGC Approved
7	Synthesis, antimicrobial activity, and docking study of some N3,N6-diphenylpyridazine-3,6-diamine derivatives as dihydrofolate reductase inhibitors	Athar Javed	International Journal of Pharmaceutical Investigation	2018 (December)	ISSN: Print - 2230-973X, Online - 2230-9713	https://www.jpionline.org/index.php/ijpi/article/view/267/249	https://www.jpionline.org/index.php/ijpi	Web of Science; Citation Index; Index Copernicus
8	Mitochondrial Dysfunction, Oxidative Stress and Epilepsy: A Mystifying Tyrst	Vivek Sharma	International Journal of Pharmacy and Biological Sciences	2018 (December)	ISSN: 2321-3272	https://ijpbs.com/ijpbsadmin/upload/ijpbs_5c763cc1192c3.pdf	https://www.ijpbs.com/	UGC Approved
9	Phytosomes, A novel strategy to improve the bioavailability of flavonoids: A review	Pankaj Sharma	European Journal of Biomedical and Pharmaceutical Sciences	2019 (March)	ISSN: 2349-8870	https://storage.googleapis.com/journal-uploads/ejbps/article_issue/volume_6_april_issue_4/1553943406.pdf	https://www.ejbps.com/	Google Scholar; Index Copernicus; Indian Science Publications; etc.
10	Morphological and Microscopic Studies of Aerial Parts of Ceylon Leadwort	Vikrant Arya	South Asian Research Journal of Natural Products	2019 (April)	ISSN: Not Available	https://journalsarjnp.com/index.php/SARJNP/article/view/38	https://journalsarjnp.com/index.php/SARJNP	Publons; Google Scholar; etc.


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11	Amyloid Beta Mediated Mitochondrial Dysfunction in Alzheimer's disease: A Mini Review.	Vivek Sharma Priyanka Nagu Raneev Thakur Pankaj Sharma Harish Kumar	Current Pharma Research	2019 (April)	ISSN:2230-7842	https://e-currentscience.com/storage/app/archive/pdf/Sw34CKJHjVLG2x2VQJTYQWoiOCernRAemiOxAFJ.pdf	https://journalseker.researchbib.com/view/issn/2230-7842	UGC Approved
12	Novel strategies of enhancing the bioavailability: A review	Pankaj Sharma	European Journal of Biomedical and Pharmaceutical Sciences	2019 (April)	ISSN: 2349-8870	https://storage.googleapis.com/journal-uploads/ejbps/article_issue/volume_6_may_issue_5/1556535884.pdf	https://www.ejbps.com/	Google Scholar; Index Copernicus; Indian Science Publications; etc.
13	Formulation and Evaluation of Gel-Loaded Microsponges of Roxithromycin for Topical Drug Delivery	Pankaj Sharma Vivek Kumar Sharma	IOSR Journal of Pharmacy	2019 (May)	ISSN: 2319-4219	https://www.jjtu.ac.in/uploads/naac/3.4.6/3.4.5/Pharmacy/Rakesh%20Jat/may%202019.pdf	https://www.iosrjournals.org/IOSR-PHR.html	J-Gate; Google Scholar; Semantic Scholar; Indian Citation Index (ICI)
14	Activation of microglia and astrocytes: A roadway to neuroinflammation and Alzheimer's disease	Vivek Sharma	Inflammopharmacology	2019 (August)	ISSN: 0925-4692	https://pubmed.ncbi.nlm.nih.gov/30874945/	https://www.springer.com/journal/10787	Scopus; Web of Science
15	CREB: A Multifaceted Target for Alzheimer's Disease	Vivek Kumar Sharma	Current Alzheimer Research	2020 (March)	ISSN (Print): 1567-2050 ISSN (Online): 1875-5828	https://pubmed.ncbi.nlm.nih.gov/33602089/	https://benthamscience.com/public/journals/current-alzheimer-research	Scopus; Web of Science


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16	Navigating Alzheimer's Disease via Chronic Stress: the Role of Glucocorticoids	Vivek Kumar Sharma	Current Drug Targets	2020 (April)	ISSN (Print): 1389-4501 ISSN (Online): 1873-5592	https://pubmed.ncbi.nlm.nih.gov/31625472/	https://benthamscience.com/public/journals/current-drug-targets	Scopus; Web of Science
17	Success stories of COVID-19	Vikrant Arya	European Journal of Medical Case Reports	2020 (June)	ISSN:2520-4998	https://www.ejmanager.com/mnste/mps/173/173-1592718563.pdf?t=1663323246	https://www.ejmcr.com/	CrossRef; ProQuest; Google Scholar; etc.
18	Nutraceuticals in neurological disorders	Vineet Mehta	International Journal of Molecular Sciences	2020 (June)	ISSN:1422-0067	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7352709/	https://www.mdpi.com/journal/ijms	Scopus; Web of Science
19	Chronic Stress And Diabetes Mellitus: Interwoven Pathologies	Vivek Kumar Sharma	Current Diabetes Reviews	2020 (July)	ISSN (Print): 1573-3998 ISSN (Online): 1875-6417	https://pubmed.ncbi.nlm.nih.gov/31713487/	https://benthamscience.com/public/journals/current-diabetes-reviews	Scopus; Web of Science
20	Distinctive Evidence Involved in the Role of Endocannabinoid Signalling in Parkinson's Disease: A Perspective on Associated Therapeutic Interventions	Vineet Mehta	International Journal of Molecular Sciences	2020 (August)	ISSN: 1422-0067	https://pubmed.ncbi.nlm.nih.gov/32872273/	https://www.mdpi.com/journal/ijms	Scopus; Web of Science


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21	Alzheimer's Disorder: Epigenetic connection and associated risk factors	Vivek Kumar Sharma Vineet Mehta	Current Neuropharmacology	2020 (August)	ISSN (Print): 1570-159X ISSN (Online): 1875-6190	https://pubmed.ncbi.nlm.nih.gov/31989902/	https://benthamscience.com/public/journals/current-neuropharmacology	Scopus; Web of Science
22	Synthetic Methods and Antimicrobial Perspective of Pyrazole Derivatives: An Insight	Harish Kumar Kushal Kumar Bansal	Anti-Infective Agents	2020 (September)	ISSN 2211-3525 (Print); ISSN 2211-3533 (Online)	https://doi.org/10.2174/2211352517666191022103831	https://benthamscience.com/journals/AIA	Scopus; Web of Science
23	Cyclic Nucleotides Signaling and Phosphodiesterase Inhibition: Defying Alzheimer's Disease	Vivek Kumar Sharma	Current Drug Targets	2020 (October)	ISSN (Print): 1389-4501 ISSN (Online): 1873-5592	https://pubmed.ncbi.nlm.nih.gov/32718286/	https://benthamscience.com/public/journals/current-drug-targets	Scopus; Web of Science
24	Exploring the therapeutic promise of targeting HMGB1 in rheumatoid arthritis	Vineet Mehta	Life Sciences	2020 (October)	ISSN:0024-3205	https://pubmed.ncbi.nlm.nih.gov/32739467/	https://www.sciencedirect.com/journal/life-sciences	Scopus; Web of Science
25	CNS implications of COVID-19: A comprehensive review	Priyanka Nagu Vineet Mehta	Reviews in the Neurosciences	2020 (December)	ISSN: 2191-0200	https://pubmed.ncbi.nlm.nih.gov/33550782/	https://www.degruyter.com/journal/key/revneuro/html	Scopus; Web of Science
26	Insulin resistance and bioenergetic manifestations: Targets and approaches in Alzheimer's disease	Vivek Kumar Sharma	Life Sciences	2020 (December)	ISSN: 0024-3205	https://pubmed.ncbi.nlm.nih.gov/32926928/	https://www.sciencedirect.com/journal/life-sciences	Scopus; Web of Science
27	Molecular insights into the therapeutic promise of targeting HMGB1 in depression	Vineet Mehta	Pharmacological Reports	2021 (February)	Electronic ISSN 2299-5684 Print ISSN 1734-1140	https://pubmed.ncbi.nlm.nih.gov/33015736/	https://www.springer.com/journal/43440	Scopus; Web of Science


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28	Phytochemicals from plant foods as potential source of antiviral agents: An overview	Vineet Mehta	Pharmaceuticals	2021 (April)	ISSN: 1424-8247	https://pubmed.ncbi.nlm.nih.gov/33921724/	https://www.mdpi.com/journal/pharmaceuticals	Scopus; Web of Science
29	Dysbiosis and Alzheimer's Disease: A Role for Chronic Stress?	Vivek Kumar Sharma	Biomolecules	2021 (April)	ISSN: 2218-273X	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8147174/	https://www.mdpi.com/journal/biomolecules	Scopus; Web of Science
30	Reviving Mitochondrial Bioenergetics: A Relevant Approach in Epilepsy	Vivek Sharma	Mitochondrion	2021 (May)	ISSN: 1567-7249	https://pubmed.ncbi.nlm.nih.gov/33775871/	https://www.journals.elsevier.com/mitochondrion	Scopus; Web of Science
31	Reckoning-Glutamyl-S-Allylcysteine as a Potential Main Protease (Mpro) Inhibitor of Novel SARS-Cov-2 Virus Identified using Docking and Molecular Dynamics Simulation	Vineet Mehta	Drug Development and Industrial Pharmacy	2021 (May)	ISSN: 0363-9045	https://pubmed.ncbi.nlm.nih.gov/34038246/	https://www.tandfonline.com/journals/iddi20	Scopus; Web of Science
32	Stressed Mitochondria: A Target to Intrude Alzheimer's Disease	Vivek Kumar Sharma Vineet Mehta	Mitochondrion	2021 (July)	ISSN: 1567-7249	https://pubmed.ncbi.nlm.nih.gov/33839319/	https://www.journals.elsevier.com/mitochondrion	Scopus; Web of Science
33	Exploring Sonic Hedgehog Cell Signaling in Neurogenesis: Its Potential Role in Depressive Behavior	Vineet Mehta	Neurochemical Research	2021 (July)	ISSN:1573-6903 (Online) ISSN:0364-3190 (Print)	https://pubmed.ncbi.nlm.nih.gov/33786718/	https://www.springer.com/journal/11064	Scopus; Web of Science


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34	Gut Microbiota Composition and Epigenetic Molecular Changes Connected to the Pathogenesis of Alzheimer's Disease	Priyanka Nagu Vineet Mehta	Journal of Molecular Neuroscience	2021 (July)	ISSN:0895-8696 (Print) ISSN 1559-1166 (Online)	https://pubmed.ncbi.nlm.nih.gov/33829390/	https://www.springer.com/journal/12031	Scopus; Web of Science
35	Integrating Endocannabinoid Signalling in Depression	Vineet Mehta	Journal of Molecular Neuroscience	2021 (October)	ISSN:0895-8696 (Print) ISSN 1559-1166 (Online)	https://pubmed.ncbi.nlm.nih.gov/33471311/	https://www.springer.com/journal/12031	Scopus; Web of Science
36	Exploring the Role of Autophagy Dysfunction in Neurodegenerative Disorders	Vineet Mehta	Molecular Neurobiology	2021 (October)	Electronic ISSN 1559-1182 Print ISSN 0893-7648	https://pubmed.ncbi.nlm.nih.gov/34212304/	https://www.springer.com/journal/12035	Scopus; Web of Science
37	Elucidating the Possible Role of FoxO in Depression	Vineet Mehta	Neurochemical Research	2021 (November)	ISSN:1573-6903 (Online) ISSN:0364-3190 (Print)	https://pubmed.ncbi.nlm.nih.gov/34075521/	https://www.springer.com/journal/11064	Scopus; Web of Science
38	Apoptotic pathways and Alzheimer's disease: probing therapeutic potential	Vivek Kumar Sharma	Neurochemical Research	2021 (December)	ISSN:1573-6903 (Online) ISSN:0364-3190 (Print)	https://pubmed.ncbi.nlm.nih.gov/34386919/	https://www.springer.com/journal/11064	Scopus; Web of Science
39	Molecular Insights to the Wnt Signaling During Alzheimer's Disorder: a Potential Target for Therapeutic Interventions	Priyanka Nagu Vivek Sharma Vineet Mehta	Journal of Molecular Neuroscience	2022 (April)	ISSN:0895-8696 (Print) ISSN 1559-1166 (Online)	https://pubmed.ncbi.nlm.nih.gov/34997460/	https://www.springer.com/journal/12031	Scopus; Web of Science


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40	Therapeutic implications of sonic hedgehog pathway in metabolic disorders: Novel target for effective treatment	Vivek Kumar Sharma	Pharmacological Research	2022 (May)	ISSN:1043-6618	https://pubmed.ncbi.nlm.nih.gov/35364246/	https://www.journals.elsevier.com/pharmacological-research	Scopus; Web of Science
41	Kynurenine Metabolism and Alzheimer's Disease: The Potential Targets and Approaches	Vivek Kumar Sharma	Neurochemical Research	2022 (June)	ISSN:1573-6903 (Online) ISSN:0364-3190 (Print)	https://pubmed.ncbi.nlm.nih.gov/35133568/	https://www.springer.com/journal/11064	Scopus; Web of Science
42	An insight into pyrazole-containing compounds: Synthesis and pharmacological activities	Harish Kumar Kushal Kumar Bansal	Anti-infective agents	2022 (Accepted in June)	ISSN 2211-3525 (Print); ISSN 2211-3533 (Online)	https://www.eurekaselect.com/article/121387	https://benthamscience.com/journals/AIA	Scopus; Web of Science
43	Screening of herbal molecules for the management of Alzheimer's Disorder: In-silico and in-vitro approach	Priyanka Nagu Vineet Mehta	Applied Biological Research	2022 (Accepted in June)	ISSN: 0974-4517	https://pubag.nal.usda.gov/catalog/7830494	https://indianjournals.com/ijor.aspx?target=ijor:abr&type=home	Web of Science; UGC Care


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Screenshots of the publications according to Sr. No. in the above table

1.

INHERENT MEDICINAL USES OF PLANTS.

PDF

Published: Sep 1, 2017

DOI:

<https://doi.org/10.24018/10.24018/ijmps.2018.v1i1.22>

HemRaj Vashist

LR college of pharmacy Jabli kyar Solan HP-173223


Vivek Sharma

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Abstract

Plants have been used for medicinal purposes long before recorded history, for example ancient Chinese and Egyptian papyrus writings describe medicinal plant uses. Indigenous cultures such as India, used herbs in their healing rituals and also developed traditional medical systems such as Ayurveda. Others also developed Traditional Chinese Medicine in which herbal therapies were used systematically. HERBAL medicine, also called botanical medicine or phytomedicine refers to the use of plant seeds, berries, roots, leaves, bark or flowers for medicinal purposes. It is the oldest and most widely used system of medicine in the world today. It is used in all societies and is common to all cultures.

KeyWords-Plants, Medicine, Ayurveda.



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eISSN: 2321-323X
pISSN: 2395-0781

Review article

Ascorbic acid: A therapeutic viability in anxiety disorders

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Abstract

Anxiety, a subjective feeling of unease, discomfort, apprehension or fearful concern is the most common psychiatric illness seen in patients irrespective of nations, societies and religions. Although it is a normal, emotional, reasonable and expected response to real or potential danger however, if the symptoms of anxiety are prolonged, irrational, disproportionate and/or severe and occur in the absence of stressful events then, these are called Anxiety Disorders which are accompanied by a host of autonomic and somatic manifestations. Studies have suggested that oxidative stress triggers and play an important role in patho-biology of anxiety and antioxidants have shown beneficial results in preclinical and clinical studies. Vitamin C (ascorbic acid) is a well-known antioxidant that is involved in anxiety, stress, depression, and fatigue and mood state in humans. Vitamin C is required for growth and repair of tissues, including collagen and synthesis of norepinephrine and serotonin. It also elevates moods, reduces stress and reduces anxiety. The biochemical functions of vitamin C include stimulation of certain enzymes, collagen biosynthesis, hormonal activation, detoxification of histamine, phagocytic functions of leukocytes, and formation of nitrosamine and proline hydroxylation amongst others. A deficiency of vitamin C reduces production of neurotransmitters associated with anxiety while Vitamin C infusions increase blood vessel smooth muscle communications among small capillaries and increase body's ability to transport blood through brain. Although exact mechanism is yet to be elucidated, yet its involvement in catecholamine, serotonin and neuropeptide synthesis, inhibition of peroxidation of membrane phospholipids and as a scavenger of free radicals in the brain may be a suitable explanation for its anxiolytic mechanism.

Keywords: Anxiety, ascorbic acid, GABA, neuropeptide, oxidative stress, serotonin.

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Anxiety

The environment we are living in is physically, mentally, emotionally, socially and morally dynamic and challenging. Although, we possess effective mechanisms to meet every day stress yet normal adaptive mechanisms can be over-activated and, thus, become maladaptive. A common outcome of such over-activation is anxiety and insomnia [1]. A brief episode of anxiety caused by a stressful event

people suffers during their life from an anxiety disorder [4]. This suggests anxiety, more chronic than affective or substance abuse disorders [5]. Anxiety, or learned fear, is not necessarily harmful to everyday life rather, is a natural ability that may have arose to evade unnecessary dangers. However, excessive anxiety is debilitating or disadvantageous for life as it reduces behavioral activities necessary for adaptation. Moreover, anxiety can be a core symptom of various mental/ behavioral disorders, such as major depressive disorder, obsessive compulsive disorder,

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**EUROPEAN JOURNAL OF BIOMEDICAL
AND PHARMACEUTICAL SCIENCES**<http://www.ejbps.com>

ISSN 2349-8870

Volume: 5

Issue: 9

169-180

Year: 2018

FAST DISINTEGRATING TABLETS: A REVIEW**Pankaj Sharma*, Raneev Thakur and Priyanka Nagu**

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Article Received on 10/07/2018

Article Revised on 30/07/2018

Article Accepted on 19/08/2018

ABSTRACT

Fast disintegrating tablets (FDTs) have received increasing demand from the last few years and the field has become a rapidly growing field in the pharmaceutical industry. Fast disintegrating tablets (FDTs) are those solid doses form which when put on the tongue gets rapidly dissolved, releasing the drug within a few second without need of water. The development of FDTs have been formulated for paediatric, geriatric and bedridden patients and for active patients who are busy and travelling and may not have access to water. Such formulation provide an opportunity for product line extension in the many elderly persons will have difficulties in taking conventional oral doses forms (viz, solution suspensions tablet and capsules) because of hand tremors and dysphasia. This article focused on ideal requirements, need for development of FDTs, challenges in formulations, suitability of drug candidates super-disintegrants employed, various technologies developed for FDTs. Evaluation methods, and various marketed products.

KEYWORDS: Fast disintegrating tablets (FDTs), Solid dosage form, Conventional oral dosage form, Super-disintegrates, bioavailability, Patient's compliance.

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4.

Available online on 15.10.2018 at <http://jddtonline.info>



Journal of Drug Delivery and Therapeutics

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Review Article

REVIEW ON A POTENTIAL OF ANTIBIOTICS

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ABSTRACT

Observations about the growth of some microorganisms inhibiting the growth of other microorganisms have been reported since the late 1800s. These observations of antibiosis between microorganisms led to the discovery of natural antibacterial. This paper deliberates important findings of the educations conducted by numerous national and international combined organizations on a brief indication of the antibacterial agents' detection in recent years. In India especially the developing antibiotics, need to institute methods for the suitable choice of drug conduct a compound problem involving prescribers, dispensers, and consumers.

Keywords: Antibiotic, Antibiotic resistance, bacterial Infection

Article Info: Received 26 Aug, 2018; Review Completed 25 Sep 2018; Accepted 27 Sep 2018; Available online 15 Oct 2018




Cite this article as:

Singh P, Verma N, Kumar P, Nagu P, Review on a potential of antibiotics, Journal of Drug Delivery and Therapeutics. 2018; 8(5-s):35-40 DOI: <http://dx.doi.org/10.22270/jddt.v8i5-s.1936>


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Pawan Singh, Pharmacy Academy, IFTM University, Moradabad, Uttar Pradesh-244001, India


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**Review Article****INDIGENOUS VOLATILE OILS AS IMPERATIVE GIFT FROM NATURE - A REVIEW****Raneev Thakur¹, Chhveen Bharti², Kartik², Vikrant Arya^{3*}**¹Assistant Professor, Department of Pharmaceutics, Govt. Pharmacy College Rohru, Himachal Pradesh, India.²B.Pharmacy VIIth Semester, Govt. Pharmacy College Rohru, Himachal Pradesh, India.^{3*}Assistant Professor, Department of Pharmacognosy, Govt. Pharmacy College Rohru, Himachal Pradesh, India.**ABSTRACT**

Volatile oils are concentrated odorous essences extracted from various plant parts such as flowers, fruits, heart-wood, rhizome and leaves. They are frequently employed in food flavoring, perfume, medicine and aromatherapy. Essential oils are extracted from various processes such as hydro distillation, effleurage and eucelle depending upon the plant part containing the essential oil. Essential oils are inhaled in the form of fine mist of vapour through aromatherapy and some of them are highly beneficial when ingested. These oils have been used traditionally for preservation of foods, spices and condiments. Essential oils or ethereal oils are natural, complex, multi-component, highly concentrated essences of aromatic plant systems composed mainly of terpenes units in addition to some other non-terpene components. These units biosynthesized by mevalonic acid pathway. Isoprenes/hemi-terpenes are five carbon compound having two unsaturated bonds. In this review paper an attempt has been done to emphasize the most valuable essential oils of Indian origin from nature with focus particularly on the chemical constituents, medicinal and pharmacological usage of volatile oils.

KEYWORDS: Indigenous, Volatile oils, Nature, Resins.

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STEM CELL THERAPY AND NEUROGENESIS: A THERAPEUTIC VIABILITY IN ALZHEIMER'S DISEASE

Shaina Thakur, Pulkit Rajan, Shbham Sharma, Oshina, Pratyancha Sharma, Shalu Sharma and
Vivek Sharma*

Government College of Pharmacy Rohru, Distt. Shimla, Himachal Pradesh-171207, India

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ABSTRACT

Neurodegenerative diseases result from a temporally discrete insult (stroke, trauma), aggregation of proteins, aging and any untoward injury leading to loss of a particular neuronal subtype or generalized loss of neuronal populations. Alzheimer's disease (AD) is a chronic, intricate, irreversible, dynamic neurodegenerative sickness which affects 5–7% of older adults globally, the number of AD cases currently estimated at 36 million and will triple by 2050. Currently, however, there is no cure for this condition as the approved and actively marketed drugs for AD, including cholinesterase inhibitors and N-Methyl-D-Aspartate antagonists, effectively improve daily functions to a certain degree, but are not capable of modifying disease progression. AD has progressive loss of neurons and their synaptic connections, ultimately leading to a severe impairment of cognitive functions, dementia and neuropsychiatric abnormalities. The revival of lost cells and regenerative therapy thus could be a promising approach as the regeneration of lost cellular functions may reverse functional decline to an extent that raises the patient's survival rate and physiological functions. Stem cells hold immense potential to regenerate damaged tissues and may benefit the AD brain by modulating inflammation, stimulating re-myelination and supplying trophic support.

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Synthesis, antimicrobial activity, and docking study of some N³, N⁶-diphenylpyridazine-3,6-diamine derivatives as dihydrofolate reductase inhibitors

Athar Javed, Sameer Sapra, Afroze Alam¹

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Abstract

Objective: The present study focussed on the synthesis of pyridazine analogs to explore broad-spectrum antimicrobial study. Since pyridazine analogs are not conventionally found in nature, and hence, its analogs are studied later.


Materials and Methods: All the synthesized compounds were characterized by spectroscopic techniques, namely, UV, IR, ¹HNMR, and mass spectrometry. Antimicrobial activity was screened by serial dilution method and absorbance was recorded using ELISA reader, subsequently minimum inhibitory concentrations were determined. Docking study was done into the active site of dihydrofolate reductase using Auto Dock 4.2.

Results: The present investigation about synthesis, characterization, and biological studies of some new pyridazine analogs were carried out to obtain potent and pharmacologically active compounds. The free energy of binding was in the range of -5.12 to -8.97 kcal/mole. *In silico* study report was in good tune with laboratory experiments.

Conclusions: Most of the compounds were moderate-to-good toward the antimicrobial activity. Compound AJ27 was found to be most active. Results of anti-microbial activity establishes the importance of N³, N⁶-diphenylpyridazine-3,6-diamine as the basic skeleton required for the antimicrobial activity.

Keywords: Antimicrobial activity, biphenyl, dihydrofolate reductase inhibitors, docking study, pyridazine analogs

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MITOCHONDRIAL DYSFUNCTION, OXIDATIVE STRESS & EPILEPSY: A MYSTIFYING TRYST

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ABSTRACT

Mitochondrial dysfunction and oxidative stress are two interdependent and interconsequent underplaying phenomenon's which play a critical role in majority of disorders, irrespective of their biochemical pathways and clinical pathologies. Oxidative stress induced mitochondrial dysfunction (and vice versa) has been implicated in pathogenesis of epilepsy too. Epilepsy, a neurological disorder is characterized by the repeated occurrence of seizures due to persistent abnormality in brain circuitry/wiring, an imbalance in inhibitory and excitatory neurotransmitters or some combination of these factors. Primary epilepsy (50%) is idiopathic (unknown cause) and secondary epilepsy (50%), referred as acquired epilepsy, may result from a variety of conditions including trauma, anoxia, hypoxia, metabolic imbalances, tumors, encephalitis, viral infections, drug withdrawal and neurotoxicity. Mitochondrial dysfunction induced oxidative stress increases the cytosolic content of calcium in the cytoplasm through a combination of effects on calcium pumps and membrane integrity. Oxidative stress also affect plasma membrane Ca²⁺-ATPase, sarco/endoplasmic reticulum ATPase, the IP₃ receptor, ryanodine receptors, store-operated calcium entry through Orai channels and voltage-gated calcium channels. In this review, the evidences suggest the role of oxidative stress and mitochondrial dysfunction as consequences of injuries to incite chronic epilepsy and resultant neuropathological changes and present work strongly advocates mitochondrial dysfunction and oxidative stress as the viable and potential therapeutic target in treatment of epileptogenic syndrome.

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**EUROPEAN JOURNAL OF BIOMEDICAL
AND PHARMACEUTICAL SCIENCES**

<http://www.ejbps.com>

ISSN 2349-8870
Volume: 6
Issue: 4
209-218
Year: 2019

**PHYTOSOMES, A NOVEL STRATEGY TO IMPROVE THE BIOAVAILABILITY OF
FLAVONOIDS: A REVIEW**

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Article Received on 09/02/2019


Article Revised on 01/03/2019

Article Accepted on 23/03/2019

ABSTRACT

Phytosome are the small cell like structure which serve as a intermediate between conventional and novel drug delivery system. Phytosome are able to carry drug themselves from to the hydrophilic to the lipophilic environment of the cell membrane, which ultimately reaches to blood. The hydrophilic constituent has find their application in the various disorder treatment such as skin disorder, anti-ageing process, antimicrobial, antitumor which cannot be treated with conventional delivery system and hence transformed into phytosomes. Phytosome complex is to be prepared by mixing of polyphenolic constituents and phosphatidylcholine in molar ratio. Phytosome are superior to the conventional drug delivery system in term of pharmacokinetics and pharmacodynamic properties. Phytosomal delivery of extract of silybin, grape seed, hawthorn, centella, olive oil etc. has been profitable use. Phytosomes have been refined the therapeutic uses like hepatoprotective, cardioprotective, antihypertensive, anti-inflammatory, vein and skin disorder etc. or for preventive of health reasons. In the ever-expanding horizon, phytosome as a modern technology increasing for drug bioavailability as well as efficiency of drug delivery system.

KEYWORDS: Phytosomes, flavonoids, bioavailability, phospholipids.


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Morphological and Microscopic Studies of Aerial Parts of Ceylon Leadwort

Chhveen Bharti; Shivani Khagta; Komal Guleria; Vikrant Arya

South Asian Research Journal of Natural Products, Page 1-8


Published: 20 April 2019

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Abstract

Plumbago zeylanica Linn. is a perennial shrub comes under the category of Angiosperm commonly known as Ceylon leadwort belonging to family Plumbaginaceae. In Indian System of Medicine i.e. Ayurveda, *Plumbago* (Chitrakmool) used as ingredient in various formulations as an effective appetizer, anti-inflammatory and aids in digestion by stimulating gastric secretions. The present investigation deals with morphology and microscopy of aerial parts of Ceylon leadwort. Morphological study of glandular trichomes of fruits revealed the insect attracting property of plant. Microscopic study of leaves, fruit, stem and seed shows identifying characteristics which are helpful in further standardization of this plant.

Keywords: Plumbago; morphology; microscopy



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11.

Curr. Pharm. Res. **2019**, 9(3), 2981-2990

Current Pharma Research

ISSN-2230-7842

CODEN-CPRUE6

www.jcpronline.in/

Review Article

Amyloid Beta Mediated Mitochondrial Dysfunction in Alzheimer's disease: A Mini Review.

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Received 16 October 2018; received in revised form 26 December 2018; accepted 26 December 2018

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ABSTRACT

Mitochondria, the sub cellular organelles inside cells transform oxygen and nutrients into adenosine triphosphate (ATP), the main source of fuel for cellular activity and survival. Mitochondria, sustain life through energy transformation and intracellular signaling. Increasing evidence implicates mitochondrial dysfunction induced bioenergetic failure in multiple neurodegenerative disorders including Alzheimer's disease (AD). Alzheimer's disease is the most tragic geriatric complication that takes away the essence of life. Beside tau hyper phosphorylation, cholinergic dysfunction and neuroinflammation, amyloid β are the prominent pathological markers of the disease. The major target of $A\beta$ is the mitochondrion and these cellular powerhouses differ between Alzheimer's brains and healthy brains. $A\beta$ block the transport of nuclear-encoded mitochondrial proteins to mitochondria, interact with mitochondrial machinery, disrupt the electron transport system, increase oxidative stress leading to mitochondrial damage and ultimately prevent neurons from functioning normally. This has led to the view that mitochondria play an important role in Alzheimer's, not only as contributors but also as drivers of disease.


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**EUROPEAN JOURNAL OF BIOMEDICAL
AND PHARMACEUTICAL SCIENCES**<http://www.ejbps.com>ISSN 2349-8870
Volume: 6
Issue: 5
180-198
Year: 2019**NOVEL STRATEGIES OF ENHANCING THE BIOAVAILABILITY: A REVIEW****Pankaj Sharma*, Lakshita Dogra, Diksha Thakur, Oshina, Smily and Dolly Chauhan**

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Article Received on 11/03/2019

Article Revised on 02/04/2019

Article Accepted on 24/04/2019

ABSTRACT

Poor solubility remains a major challenge for pharmaceutical industry last decade, which is now considered to be an area of prime importance in the field of biomedical research for the development of new drug formulation. Approximately 40% new molecular entities synthesized in pharmaceutical Reaction with advanced combinatorial chemistry and computer aided drug designing (CADD) approaches suffer from poor solubility and bioavailability related issues. Apart from these presence of intestinal tight junctional epithelial cells, transporters and enzymatic barriers further reduces the oral absorption of drugs. Implication of the novel lipid based nanocarriers and nanomaterials like dendrimers and carbon nanotubes, liposome, nanosuspention, noisome, phytosomes as a delivery system can effectively enhance the oral bioavailability of drugs by breaching the barriers, and resolve all critics related to solubility and bioavailability. Thus prime goal of this review are to give in-depth knowledge and critical appraisal on the barriers for poor oral bioavailability of drugs, along with various novel formulation approaches used for bioavailability enhancement such as lipid based formulations, nanosizing techniques, complexation with polymers and nanomaterials like dendrimers, carbon nanotubes, and penetration enhancers.

KEYWORDS: Solubility, Permeability, Bioavailability, Stability.
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Formulation and Evaluation of Gel-Loaded Microsponges of Roxithromycin for Topical Drug Delivery

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Abstract: In this study Eudragit RL 100 facilitated microsponges were prepared by the double emulsification technique (Quasi emulsion technique) and subsequently dispersed in a carbopol gel base for controlled delivery of roxithromycin to the skin. The microsponges formulations were prepared by quasiemulsion solvent diffusion method employing Eudragit RL 100 as a polymer. The compatibility of the drug with formulation components was established by Fourier Transform Infra-Red (FTIR) spectroscopy. The surface morphology, particle size, production yield, and drug content and encapsulation efficiency of microsponges were examined. Shape and surface morphology of the microsponges were examined using scanning electron microscopy. Particle size of prepared microsponges was observed in the range of 101.8 to 136.3 μ m. Scanning electron microscopy revealed

the porous, spherical nature of the microsponges. SEM photographs revealed the spherical nature of the microsponges in all variations; however, at higher ratios, drug crystals were observed on the microspunge surface. Increase in the drug/polymer ratio (1:1 to 1:5) increased their yield (57.00 to 91.82), average particle size of all formulations ranges from 110 μ m to 120 μ m which is in increasing order due to the increase in the concentration of polymer but after certain concentration it was observed that as the ratio of drug to polymer was increased, the particle size decreased, The pH of the gel was determined having average pH of 6.3 \pm 0.2, The viscosity of the formulation was analysed by Brookfield viscometer with maximum reading of 2024 and minimum reading of 1970 cps, the drug content of different formulations was found in the range 95.2 to 99.8%, the spreadibility of gel containing microsponges revealed in the range of 17.4 to 25.10 showing good characteristics of spreading, the cumulative release of the formulations are in the range of 61.1% to 75.4%.

Keywords: Microsponges, Roxithromycin, Eudragit RL 100, Sustained and controlled release, Scanning Electron Microscopy (SEM)


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14.

Review > Inflammopharmacology. 2019 Aug;27(4):663-677. doi: 10.1007/s10787-019-00580-x.

Epub 2019 Mar 14.

Activation of microglia and astrocytes: a roadway to neuroinflammation and Alzheimer's disease


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PMID: 30874945 DOI: 10.1007/s10787-019-00580-x



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Review > [Curr Alzheimer Res. 2020;17\(14\):1280-1293.](#)

doi: [10.2174/1567205018666210218152253](https://doi.org/10.2174/1567205018666210218152253).

CREB: A Multifaceted Target for Alzheimer's Disease

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PMID: 33602089 DOI: [10.2174/1567205018666210218152253](https://doi.org/10.2174/1567205018666210218152253)

Abstract

Alzheimer's disease (AD) is a persistent neuropathological stipulation manifested in the form of neuronal/synapse demise, the formation of senile plaques, hyperphosphorylated tau tangles, neuroinflammation, and apoptotic cell death. The absence of a therapeutic breakthrough for AD has continued the quest to find a suitable intervention. Apart from various candidates, the cyclic AMP/protein kinase A-cAMP response element-binding protein (cAMP/PKA/CREB) pathway is the most sought-after drug target AD as the bulk of quality literature documents that there is downregulation of cAMP signaling and CREB mediated transcriptional cascade in AD. cAMP signaling is evolutionarily conserved and can be found in all species. cAMP response element-binding protein (CREB) is a ubiquitous and integrally articulated transcription aspect that regulates neuronal growth, neuronal




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Review > [Curr Drug Targets](#). 2020;21(5):433-444. doi: 10.2174/1389450120666191017114735.

Navigating Alzheimer's Disease via Chronic Stress: The Role of Glucocorticoids

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PMID: 31625472 DOI: [10.2174/1389450120666191017114735](#)

Abstract




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Success stories of COVID-19

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European Journal of
Medical Case Reports

Volume 4(9):308–318

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<https://doi.org/10.24911/ejmcr/>

173-1592718563

ABSTRACT

Corona pandemic has unfurled its wings to disrupt the healthcare system of developing as well as developed countries and created havoc among healthcare professionals. Today, there is an atmosphere of trepidation at the possibility of getting new cure against this dreadful virus. People are looking with anxious eyes toward scientists to develop a vaccine against this virus. Already killed thousands of lives, this virus is spreading at a pace of fire. Some healthcare professionals and researchers are working out of the way to develop a new vaccine, and some are targeting the existing drug approach. Several successful trials were performed on Coronavirus disease-2019 (COVID-19) patients involving existing drugs in combination till date. This case series underlined those successful case studies of COVID-19. Different combinational approaches have been adopted by researchers such as the use of tissue plasminogen activators, extracorporeal membrane oxygenation and convalescent plasma therapy, intravenous immunoglobulins, antiviral drugs, antimalarials, antibiotics, interleukin antagonists, and corticosteroids to combat COVID-19. These therapies have corroborated to be constructive at some levels among individuals having a severe medical history as well as individuals without any profound medical history.

Keywords: Antiviral, COVID-19, corona, case studies, plasma therapy, virus, ultraviolet, ultrasonication.

Received: 21 June 2020

Accepted: 30 June 2020

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Type of Article: CASE SERIES

Specialty:


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Full list of author information is available at the end of the article.

Funding: None.

Declaration of conflicting interests: The authors declare that there is no conflict of interest regarding the publication of this article.



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18.

[Journal List](#) > [Int J Mol Sci](#) > [v.21\(12\); 2020 Jun](#) > PMC7352709



International Journal of
Molecular Sciences



[Int J Mol Sci](#). 2020 Jun; 21(12): 4424.

PMCID: PMC7352709

Published online 2020 Jun 22. doi: [10.3390/ijms21124424](#)

PMID: [32580329](#)

Nutraceuticals in Neurological Disorders

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[articles/PMC7352709/#](#) akon Neuroscience Research Network. Dhaka 1207, Bangladesh




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19.

Review > [Curr Diabetes Rev. 2020;16\(6\):546-556. doi: 10.2174/1573399815666191111152248.](#)

Chronic Stress and Diabetes Mellitus: Interwoven Pathologies

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PMID: 31713487 DOI: [10.2174/1573399815666191111152248](#)

Abstract

Stress threatens the homeostasis and mobilizes a plethora of adaptive physiological and behavioral changes via the hypothalamic-pituitary-adrenal (HPA) axis and the sympathetic nervous system. The HPA axis influences the pituitary gland, hypothalamus and adrenal gland via a complex set of positive and negative feedback system. The feedback system operates in a well regulated neuroendocrine manner to reestablish the threatened body equilibrium. The HPA axis secreted major product is a glucocorticoid (cortisol) which is kept within a physiologically optimal range and serves to accomplish the various physiological functions crucial for survival. In chronically stressed individuals dishabitation of HPA axis is followed by increased release of glucocorticoids and catecholamines. Higher secretion of glucocorticoids influences glucose metabolism by promoting gluconeogenesis in the liver, suppressing glucose uptake (adipocytes and skeletal muscles), promoting lipolysis in




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Distinctive Evidence Involved in the Role of Endocannabinoid Signalling in Parkinson's Disease: A Perspective on Associated Therapeutic Interventions


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21.

Review > Curr Neuropharmacol. 2020;18(8):740-753.

doi: 10.2174/1570159X18666200128125641.

Alzheimer's Disorder: Epigenetic Connection and Associated Risk Factors

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PMID: 31989902 PMCID: PMC7536832 DOI: 10.2174/1570159X18666200128125641

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Abstract

The gene based therapeutics and drug targets have shown incredible and appreciable advances in alleviating human sufferings and complexities. Epigenetics simply means above genetics or which controls the organism beyond genetics. At present it is very clear that all characteristics of an individual are not determined by DNA alone, rather the environment, stress, life style and nutrition play a vital part in determining the response of an organism. Thus, nature (genetic makeup) and nurture (exposure) play equally important roles in the responses observed, both at the cellular and organism levels. Epigenetics influence plethora of complications at cellular and molecular levels that includes cancer, metabolic and cardiovascular complications including neurological (psychosis) and neurodegenerative disorders (Alzheimer's disease, Parkinson disease etc.). The epigenetic mechanisms




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ISSN (Print): 2211-3525
ISSN (Online): 2211-3533

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Synthetic Methods and Antimicrobial Perspective of Pyrazole Derivatives: An Insight

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Abstract

Background: Due to newly emerging microbial infections and the development of resistance against cutting-edge therapeutics, innovative and robust medicinal agents are required. Small ring heterocycles, such as pyrazole and its derivatives have been acknowledged to possess myriad biological properties and the presence of pyrazole in clinics like celecoxib, phenylbutazone (anti-inflammatory), CDPPB (antipsychotic), rimonabant (anti-obesity), antipyrine, difenamizole (analgesic), fipronil (broad-spectrum insecticidal), betazole (H2-receptor agonist) and fezolamide (antidepressant) drugs has proven the pharmacological perspective of pyrazole nucleus.

Objectives: The current review paper aimed at a recent update made on novel methodologies adopted in the synthesis of pyrazole derivatives with the emphasis on antibacterial (DNA gyrase inhibition) and antifungal activities.

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23.

Review > [Curr Drug Targets](#). 2020;21(13):1371-1384. doi: 10.2174/1389450121666200727104728.

Cyclic Nucleotides Signaling and Phosphodiesterase Inhibition: Defying Alzheimer's Disease

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PMID: 32718286 DOI: [10.2174/1389450121666200727104728](#)

Abstract

Defects in brain functions associated with aging and neurodegenerative diseases benefit insignificantly from existing options, suggesting that there is a lack of understanding of pathological mechanisms. Alzheimer's disease (AD) is such a nearly untreatable, allied to age neurological deterioration for which only the symptomatic cure is available and the agents able to mould progression of the disease, is still far away. The altered expression of phosphodiesterases (PDE) and deregulated cyclic nucleotide signaling in AD has provoked a new thought of targeting cyclic nucleotide signaling in AD. Targeting cyclic nucleotides as an intracellular messenger seems to be a viable approach for certain biological processes in the brain and controlling substantial. Whereas, the synthesis, execution, and/or degradation of cyclic nucleotides has been closely linked to cognitive deficits. In relation to cognition, the cyclic nucleotides (cAMP and cGMP) have an imperative execution in different phases of memory, including gene transcription, neurogenesis, neuronal




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Exploring the therapeutic promise of targeting HMGB1 in rheumatoid arthritis

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PMID: 32739467 DOI: [10.1016/j.lfs.2020.118164](https://doi.org/10.1016/j.lfs.2020.118164)

Abstract




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25.

Review > Rev Neurosci. 2020 Dec 7;32(2):219-234. doi: 10.1515/revneuro-2020-0070.

Print 2021 Feb 23.

CNS implications of COVID-19: a comprehensive review

Priyanka Nagu ¹, Arun Parashar ², Tapan Behl ³, Vineet Mehta ⁴

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PMID: 33550782 DOI: 10.1515/revneuro-2020-0070

Free article

Abstract

COVID-19 was first reported in December 2019 in the Wuhan city of China, and since then it has spread worldwide taking a heavy toll on human life and economy. COVID-19 infection is commonly associated with symptoms like coughing, fever, and shortness of breath, besides, the reports of muscle pain, anosmia, hyposmia, and loss of taste are becoming evident. Recent reports suggest the pathogenic invasion of the SARS-CoV-2 into the CNS, that could thereby result in devastating long term complications, primarily because some of these complications may go unnoticed for a long time. Evidence suggest that the virus could enter the CNS through angiotensin-converting enzyme-2 (ACE-2) receptor, neuronal transport, haematogenous route, and nasal route via olfactory bulb, cribriform plate, and propaqaates through trans-synaptic signalling, and shows retrograde movement into the




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> Life Sci. 2020 Dec 1;262:118401. doi: 10.1016/j.lfs.2020.118401. Epub 2020 Sep 12.

Insulin resistance and bioenergetic manifestations: Targets and approaches in Alzheimer's disease

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PMID: 32926928 DOI: [10.1016/j.lfs.2020.118401](https://doi.org/10.1016/j.lfs.2020.118401)

Abstract

Aim: Insulin has a well-established role in cognition, neuronal detoxification and synaptic plasticity. Insulin transduction affect neurotransmitter functions, influence bioenergetics and regulate neuronal survival through regulating glucose energy metabolism and downward pathways.

Methods: A systematic literature review of PubMed, Medline, Bentham, Scopus and EMBASE (Elsevier) databases was carried out with the help of the keywords like "Alzheimer's disease; Hypometabolism; Oxidative stress; energy failure in AD, Insulin; Insulin resistance; Bioenergetics" till June 2020. The review was conducted using the above keywords to collect the latest articles and to understand the nature of the extensive work carried out on insulin resistance and bioenergetic manifestations in Alzheimer's disease.




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27.

Review > Pharmacol Rep. 2021 Feb;73(1):31-42. doi: 10.1007/s43440-020-00163-6.

Epub 2020 Oct 4.

Molecular insights into the therapeutic promise of targeting HMGB1 in depression

Tarapati Rana ¹, Tapan Behl ², Vineet Mehta ³, Md Sahab Uddin ^{4 5}, Simona Bungau ⁶

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PMID: 33015736 DOI: 10.1007/s43440-020-00163-6

Abstract

Depression is a common psychiatric disorder, the exact pathogenesis of which is still elusive. Studies have proposed that immunity disproportion and enhancement in proinflammatory cytokines might be linked with the development of depression. HMGB1 (High-mobility group box (1) protein has obtained more interest as an essential factor in inherent immune reactions and a regulating factor in various inflammation-related diseases. HMGB1 is a ubiquitous chromatin protein and is constitutively




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28.

Review > Pharmaceuticals (Basel). 2021 Apr 19;14(4):381. doi: 10.3390/ph14040381.

Phytochemicals from Plant Foods as Potential Source of Antiviral Agents: An Overview

Tapan Behl ¹, Gabriele Rocchetti ², Swati Chadha ¹, Gokhan Zengin ³, Simona Bungau ⁴, Arun Kumar ¹, Vineet Mehta ⁵, Md Sahab Uddin ^{6,7}, Gaurav Khullar ¹, Dhruv Setia ¹, Sandeep Arora ¹, Kouadio Ibrahime Sinan ³, Gunes Ak ³, Predrag Putnik ⁸, Monica Gallo ⁹, Domenico Montesano ¹⁰

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PMID: 33921724 PMCID: PMC8073840 DOI: 10.3390/ph14040381

[Free PMC article](#)

Abstract

To date, the leading causes of mortality and morbidity worldwide include viral infections, such as Ebola, influenza virus, acquired immunodeficiency syndrome (AIDS), severe acute respiratory syndrome (SARS) and recently COVID-19 disease, caused by the SARS-CoV-2 virus. Currently, we can count on a narrow range of antiviral drugs, especially older generation ones like ribavirin and interferon which are effective against viruses in vitro but can often be ineffective in patients. In addition to these, we have antiviral agents for the treatment of herpes virus, influenza virus, HIV and hepatitis virus. Recently, drugs used in the past especially against ebolavirus, such as remdesivir and favipiravir, have been considered for the treatment of COVID-19 disease. However, even if these drugs represent important tools against viral diseases, they are certainly not sufficient to defend us from the multitude of viruses present in the environment. This represents a huge problem, especially




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[Biomolecules](#). 2021 May; 11(5): 678.

PMCID: PMC8147174

Published online 2021 Apr 30. doi: [10.3390/biom11050678](https://doi.org/10.3390/biom11050678)

PMID: [33946488](https://pubmed.ncbi.nlm.nih.gov/33946488/)

Dysbiosis and Alzheimer's Disease: A Role for Chronic Stress?

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[Md. Habibur Rahman](#),^{3,†} [Agnieszka Najda](#),⁴ [Magdalena Walasek-Janusz](#),⁴ [Mohamed Kamel](#),⁵ [Ghadeer M. Albadrani](#),⁶
[Muhammad Furqan Akhtar](#),⁷ [Ammara Saleem](#),⁸ [Ahmed E. Altyar](#),⁹ and [Mohamed M. Abdel-Daim](#)^{10,*}

Marcus O. W. Grimm, Academic Editor

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30.

Review > Mitochondrion. 2021 May;58:213-226. doi: 10.1016/j.mito.2021.03.009.

Epub 2021 Mar 26.

Reviving mitochondrial bioenergetics: A relevant approach in epilepsy

Shareen Singh ¹, Thakur Gurjeet Singh ², Ashish Kumar Rehni ³, Vivek Sharma ⁴, Manjinder Singh ¹, Rupinder Kaur ¹

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PMID: 33775871 DOI: 10.1016/j.mito.2021.03.009

Abstract

Epileptogenesis is most commonly associated with neurodegeneration and a bioenergetic defect attributing to the fact that mitochondrial dysfunction plays a key precursor for neuronal death. Mitochondria are the essential organelle of neuronal cells necessary for certain neurophysiological processes like neuronal action potential activity and synaptic transmission. The mitochondrial




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31.

> [Drug Dev Ind Pharm.](#) 2021 May;47(5):699-710. doi: 10.1080/03639045.2021.1934857.
Epub 2021 Jun 7.

Reckoning γ -Glutamyl-S-allylcysteine as a potential main protease (m^{pro}) inhibitor of novel SARS-CoV-2 virus identified using docking and molecular dynamics simulation

Arun Parashar ¹, Arpit Shukla ^{2 3}, Ankush Sharma ⁴, Tapan Behl ⁵, Dweipayan Goswami ⁶, Vineet Mehta ⁵

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PMID: 34038246 PMCID: [PMC8204316](#) DOI: [10.1080/03639045.2021.1934857](#)

[Free PMC article](#)

Abstract

Severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2 or COVID-19), outbreak was first




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Stressed mitochondria: A target to intrude alzheimer's disease

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PMID: 33839319 DOI: [10.1016/j.mito.2021.04.004](https://doi.org/10.1016/j.mito.2021.04.004)

Abstract

Alzheimer's disease (AD) is the inoperable, incapacitating, neuropsychiatric, and degenerative manifestation that drastically affects human life quality. The current medications target extra-neuronal senile plaques, oxidative stress, neuroinflammation, intraneuronal neurofibrillary tangles, cholinergic deficits, and excitotoxicity. Among novel pathways and targets, bioenergetic and resultant mitochondrial dysfunction has been recognized as essential factors that decide the neuronal fate and consequent neurodegeneration in AD. The crucial attributes of mitochondria, including bioenergesis, signaling, sensing, integrating, and transmitting biological signals contribute to optimum networking of neuronal dynamics and make them indispensable for cell survival. In AD, mitochondrial dysfunction




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33.

Review > [Neurochem Res. 2021 Jul;46\(7\):1589-1602. doi: 10.1007/s11064-021-03307-z.](#)

Epub 2021 Mar 30.

Exploring Sonic Hedgehog Cell Signaling in Neurogenesis: Its Potential Role in Depressive Behavior

Tarapati Rana ^{# 1 2}, Tapan Behl ^{# 3}, Aayush Sehgal ², Monika Sachdeva ⁴, Vineet Mehta ⁵, Neelam Sharma ², Sukhbir Singh ², Simona Bungau ⁶

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- # Contributed equally.


PMID: 33786718 DOI: [10.1007/s11064-021-03307-z](#)

Abstract

Depression is the most prevalent form of neuropsychiatric disorder affecting all age groups globally.

As per the estimation of the World Health Organization (WHO), depression will develop into the




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34.

Review > J Mol Neurosci. 2021 Jul;71(7):1436-1455. doi: 10.1007/s12031-021-01829-3.

Epub 2021 Apr 8.

Gut Microbiota Composition and Epigenetic Molecular Changes Connected to the Pathogenesis of Alzheimer's Disease

Priyanka Nagu ^{1 2}, Arun Parashar ³, Tapan Behl ⁴, Vineet Mehta ⁵

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PMID: 33829390 DOI: 10.1007/s12031-021-01829-3

Abstract

Alzheimer's disease (AD) is a neurodegenerative disorder, and its pathogenesis is not fully known. Although there are several hypotheses, such as neuroinflammation, tau hyperphosphorylation,




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35.

Review > J Mol Neurosci. 2021 Oct;71(10):2022-2034. doi: 10.1007/s12031-020-01774-7.

Epub 2021 Jan 20.

Integrating Endocannabinoid Signalling In Depression

Tarapati Rana ^{# 1 2}, Tapan Behl ^{# 3}, Aayush Sehgal ², Vineet Mehta ⁴, Sukhbir Singh ², Ravinder Kumar ⁵, Simona Bungau ⁶

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PMID: 33471311 DOI: [10.1007/s12031-020-01774-7](https://doi.org/10.1007/s12031-020-01774-7)

Abstract

Depression is a common mental disorder and is the leading cause of suicide globally. Because of the significant diversity in mental disorders, accurate diagnosis is difficult. Hence, the investigation of novel biomarkers is a key research perspective in psychotherapy to enable an individually tailored




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36.

Review > Mol Neurobiol. 2021 Oct;58(10):4886-4905. doi: 10.1007/s12035-021-02472-0.

Epub 2021 Jul 2.

Exploring the Role of Autophagy Dysfunction in Neurodegenerative Disorders

Tarapati Rana ^{1 2}, Tapan Behl ³, Aayush Sehgal ¹, Vineet Mehta ⁴, Sukhbir Singh ¹, Saurabh Bhatia ^{5 6}, Ahmed Al-Harrasi ⁶, Simona Bungau ⁷

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PMID: 34212304 DOI: 10.1007/s12035-021-02472-0

Abstract

Autophagy is a catabolic pathway by which misfolded proteins or damaged organelles are engulfed by autophagosomes and then transported to lysosomes for degradation. Recently, a great improvement has been done to explain the molecular mechanisms and roles of autophagy in several




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37.

Review > [Neurochem Res. 2021 Nov;46\(11\):2761-2775. doi: 10.1007/s11064-021-03364-4.](#)

Epub 2021 Jun 1.

Elucidating the Possible Role of FoxO in Depression

Tarapati Rana ^{# 1 2}, Tapan Behl ^{# 3}, Aayush Sehgal ¹, Vineet Mehta ⁴, Sukhbir Singh ¹,
Neelam Sharma ¹, Simona Bungau ⁵

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PMID: 34075521 DOI: [10.1007/s11064-021-03364-4](#)

Abstract

Forkhead box-O (FoxO) transcriptional factors perform essential functions in several physiological and biological processes. Recent studies have shown that FoxO is implicated in the pathophysiology of depression. Changes in the upstream mediators of FoxOs including brain-derived neurotrophic factor (BDNF) and protein kinase B have been associated with depressive disorder and the antidepressant agents are known to alter the phosphorylation of FoxOs. Moreover, FoxOs might be regulated by




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Apoptotic Pathways and Alzheimer's Disease: Probing Therapeutic Potential

Vivek Kumar Sharma^{1 2}, Thakur Gurjeet Singh³, Shareen Singh¹, Nikhil Garg¹, Sonia Dhiman¹

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gurjeetthakur@gmail.com.

PMID: 34386919 DOI: 10.1007/s11064-021-03418-7

Abstract

Apoptosis is an intrinsic biochemical, cellular process that regulates cell death and is crucial for cell survival, cellular homeostasis, and maintaining the optimum functional status. Apoptosis in a predetermined and programmed manner regulates several molecular events, including cell turnover, embryonic development, and immune system functions but may be the exclusive contributor to several disorders, including neurodegenerative manifestations, when it functions in an aberrant and disorganized manner. Alzheimer's disease (AD) is a fatal, chronic neurodegenerative disorder where apoptosis has a compelling and divergent role. The well-characterized pathological features of AD, including extracellular plaques of amyloid-beta, intracellular hyperphosphorylated tangles of tau




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39.

Review > J Mol Neurosci. 2022 Apr;72(4):679-690. doi: 10.1007/s12031-021-01940-5.

Epub 2022 Jan 7.

Molecular Insights to the Wnt Signaling During Alzheimer's Disorder: a Potential Target for Therapeutic Interventions

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PMID: 34997460 DOI: [10.1007/s12031-021-01940-5](https://doi.org/10.1007/s12031-021-01940-5)

Abstract

In the adult brain, Wnt signaling is crucial for neurogenesis, and it also regulates neuronal




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40.

Review > Pharmacol Res. 2022 May;179:106194. doi: 10.1016/j.phrs.2022.106194.

Epub 2022 Mar 29.

Therapeutic implications of sonic hedgehog pathway in metabolic disorders: Novel target for effective treatment

Chahat Garg¹, Heena Khan¹, Amarjot Kaur¹, Thakur Gurjeet Singh², Vivek Kumar Sharma³, Sachin Kumar Singh⁴

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- 4 School of Pharmaceutical Sciences, Lovely Professional University, Phagwara 144411, Punjab, India.

PMID: 35364246 DOI: 10.1016/j.phrs.2022.106194

Abstract

Hedgehog, a developmental morphogen, and its downstream signalling have recently been associated with metabolic control. Sonic hedgehog signalling (Shh) is a significant pathway that




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41.

Review > [Neurochem Res.](#) 2022 Jun;47(6):1459-1476. doi: 10.1007/s11064-022-03546-8.

Epub 2022 Feb 8.

Kynurenine Metabolism and Alzheimer's Disease: The Potential Targets and Approaches

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PMID: 35133568 DOI: [10.1007/s11064-022-03546-8](#)


Abstract

L-tryptophan, an essential amino acid, regulates protein homeostasis and plays a role in neurotransmitter-mediated physiological events. It also influences age-associated neurological alterations and neurodegenerative changes. The metabolism of tryptophan is carried majorly through the kynurenine route, leading to the production of several pharmacologically active enzymes, substrates, and metabolites. These metabolites and enzymes influence a variety of physiological and pathological outcomes of the majority of systems, including endocrine, haemopoietic, gastrointestinal, immunomodulatory, inflammatory, bioenergetic metabolism, and neuronal functions. An extensive literature review of PubMed, Medline, Bentham, Scopus, and EMBASE (Elsevier)




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Mini-Review Article

An Insight into Pyrazole-containing Compounds: Synthesis and Pharmacological Activities

(E-pub Ahead of Print)

Published on: 18 August, 2022

Author(s): Harish Kumar^{ORCID}, Kushal Kumar Bansal^{ORCID} and Anju Goyal*^{ORCID}

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Abstract


Background: Heterocyclic scaffolds have gained exceptional devotion in the recent years due to their marked utility in bio-organic field. Among these, pyrazole remains a privileged scaffold as broad array of medicinally active agents encompasses this heterocycle as a core nucleus. Pyrazole is a five-membered, aromatic ring containing two nitrogen atoms at adjacent positions are readily able to show interactions with numerous receptor (s), enzymes located on the target cells in biological system. Pyrazole-containing compounds are acknowledged with anticyclooxygenases (anti-inflammatory), carbonic anhydrase inhibitor, α-glycosidase inhibitor, and cholinesterase enzymes inhibitor and anti-DNA gyrases activities. Noticeably, rimonabant, phenylbutazone, fipronil, difenamizole, celecoxib, antipyrine, fezolamide and betazole are few representatives of pyrazole containing drugs.

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APPLIED BIOLOGICAL RESEARCH	Year: 2022, Volume: 24, Issue: 3 First page: (255) Last page: (272) Print ISSN: 0972-0979, Online ISSN: 0974-4517, Published online: 2022-09-30 Article DOI: 10.59666/0974-4517.2022.00034.9
Journal Home Advanced articles Current Issue Archive / Issues TOC Registration Subscriptions Editorial Board Alerts & Scores Author Guidelines Index & Navigation News & Events Subscribe TOC Alerts Article Submission FREE Sample Issue Trial Access	<p>Screening of Herbal Molecules for the Management of Alzheimer's Disorder: <i>In Silico</i> and <i>in vitro</i> Approaches</p> <p>Nagu Priyanka¹, Pathan Amjad Khan A¹, Mehta Vineet^{2,*}</p> <p>¹Department of Pharmacy, Shri Jagdishprasad Jhabarmal Tibrewala University, Jhunjhunu - 333 001, Rajasthan (India) ²Department of Pharmacology, Government College of Pharmacy, Rohru - 171 207, Himachal Pradesh (India)</p> <p>*e-mail: vineet.mehta20@gmail.com</p> <p>Online Published on 30 September, 2022. Received: 14 , 2022; Accepted: 26 , 2022.</p>
	Abstract
	The current therapeutics for Alzheimer's disorder (AD) is aimed at providing the symptomatic relief from AD and it continues to progress steadily despite ongoing therapy. The present study was aimed to identify the herbal molecules that could utilize multiple pathways of AD pathogenesis for better AD management. One hundred herbal molecules were selected and subjected to docking analysis against acetylcholinesterase (AChE) (1EVE), butyrylcholinesterase (BChE) (480P), and Tau protein kinase (1J18). Based on the docking score, RMSD value, inhibition constant (Ki), and amino acids involved, β -carotene, dilydroflavonone-L, glibridin, lisdolanine, morin, N-formyltyrosine, quercetin, quercetin, rutin, sumiflavone, and viciinol C were found to be the best molecules. These molecules were then subjected to <i>in vitro</i> screening for their antioxidant and anti-inflammatory potential. Quercetin and rutin were observed to be the most promising antioxidant and anti-inflammatory molecules which could be beneficial during AD by targeting the oxidative-and inflammatory-stress pathways. The results predicted that quercetin has potential to target multiple pathways of AD pathogenesis so could prove beneficial in treating AD; however, further rigorous analysis is still required.
	Keywords:
	Alzheimer's disease, Anti-inflammatory, Antioxidant, Molecular docking, Quercetin, Rutin.


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