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Ethirmedu, B. Komarapalayam - 638183, Namakkal Dist. Tamilnadu, India.
Website: www.jkkmmrfpharmacy.edu.in / e.mail : principal@jkkmmrfpharmacy.edu.in
Contact No : +919789456750, +919943066944, +919943069944

Dr. N. SENTHILKUMAR, Ph.D.,
Principal

3.3.2.1. List of National/International Journal Papers Published- Academic Year 2023-2024

CONSOLIDATED LIST OF PAPERS PUBLISHED

Number of Research Papers Published in the Journal Notified on UGC Care List during 2023-2024 is **09**

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Dr. N.SENTHILKUMAR,
PRINCIPAL,
JKK MUNIRAJAH MEDICAL RESEARCH FOUNDATION
ANNAI JKK SAMPOORANI AMMAL COLLEGE OF PHARMACY,
ETHIRMEDU, KOMARAPALAYAM - 638 183,
NAMAKKAL DISTRICT, TAMILNADU.

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Website: www.jkkmmrfpharmacy.edu.in / e.mail : principal@jkkmmrfpharmacy.edu.in

Contact No : +919789456750, +919943066944, +919943069944

Dr. N. SENTHILKUMAR, Ph.D.,
Principal

List of National/International Paper Published- Academic Year 2023-2024

S. No	Title of paper	Name of author	Department of teacher	Name of journal	Year of publication	ISSN /ISBN number
1.	Exploring Nephroprotective Properties of Wedelia chinensis: In Vitro, In Silico, and In Vivo Investigations	Dr T.Venkatachalam	Pharmaceutical chemistry	Journal of Natural Remedies	2023-2024	0972-5547
2.	Molecular pathways and therapeutic strategies in dermatofibrosarcoma protuberans (dfsp): unravelling the tumor's genetic landscape	Dr T.Venkatachalam	Pharmaceutical chemistry	EXCLI Journal	2023-2024	1611-2156
3.	BIN1 in the Pursuit of Ousting the Alzheimer's Reign: Impact on Amyloid and Tau Neuropathology.	Dr T.Venkatachalam	Pharmaceutical chemistry	Neurotoxicity Research	2023-2024	1029-8428
4.	Design, Synthesis, and In-vitro anti-tuberculosis activity of 2-substituted-1,5-diphenyl-1,2-dihydro3H-1,2,4-triazole-3-thione Derivatives.	Dr T.Venkatachalam	Pharmaceutical chemistry	Journal of Physics: Conference Series 2801	2023-2024	1742-6596

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PRINCIPAL,
JKK MUNIRAJAH MEDICAL RESEARCH FOUNDATION'
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ETHIRMEDU, KOMARAPALAYAM - 638 183,
NAMAKKAL DISTRICT, TAMILNADU.

5	Analytical Method Development and Validation for simultaneous estimation of Bempedoic acid and Ezetimibe in pure and its pharmaceutical dosage form by RP-HPLC	Dr . B.Anbarasi	Pharmaceutical Analysis	Biomedical Chromatography	2023-2024	0269-3879
6	Neuroprotective Effect of Ethanolic Extract of Pedalium murex Linn Leaf in 3-Nitropropionic acid Induced Neurodegeneration	Dr V.Suresh	Pharmacology	Journal of Research in Pharmacy	2023-2024	2630-6344
7	Anti-Alzheimer Effect of Ethanolic Extract of Barleria Prionitis Leaf in Lipopolysaccharide Induced Neurodegeneration.	Dr V.Suresh	Pharmacology	Journal of Research in Pharmacy	2023-2024	2630-6344
8	A Comparitive Study of Physical Activity, Academic Performance and Stress Level Among Pharmacy and NonPharmacy Students - Before, During and After Covid19 Lockdown	Dr K.C.Arul Prakasam	Pharmacy Practice	International Journal of Pharmaceutical Sciences and Nanotechnology(IJPSN)	2023-2024	0974-3278
9	Clinical patterns of lower respiratory tract infection and their prescription pattern analysis of pediatrics patients in a tertiary care hospital	Dr K.C.Arul Prakasam	Pharmacy Practice	Journal of Hospital Pharmacy	2023-2024	1945-1253

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Dr. N.SENTHILKUMAR,
PRINCIPAL,
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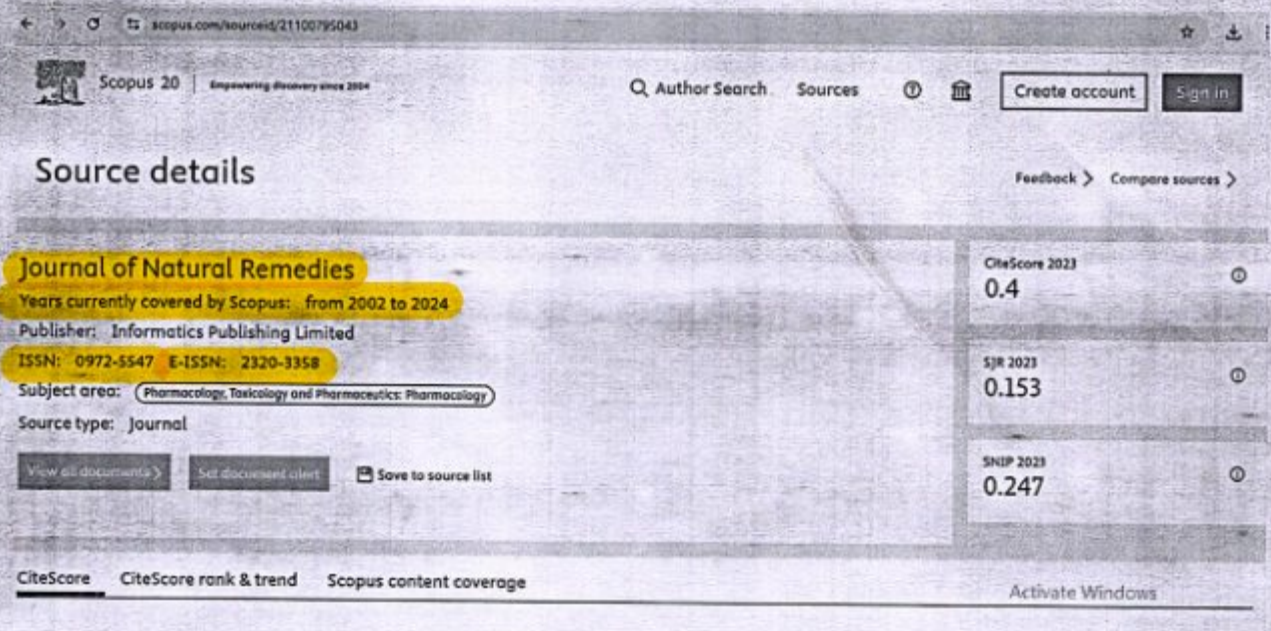

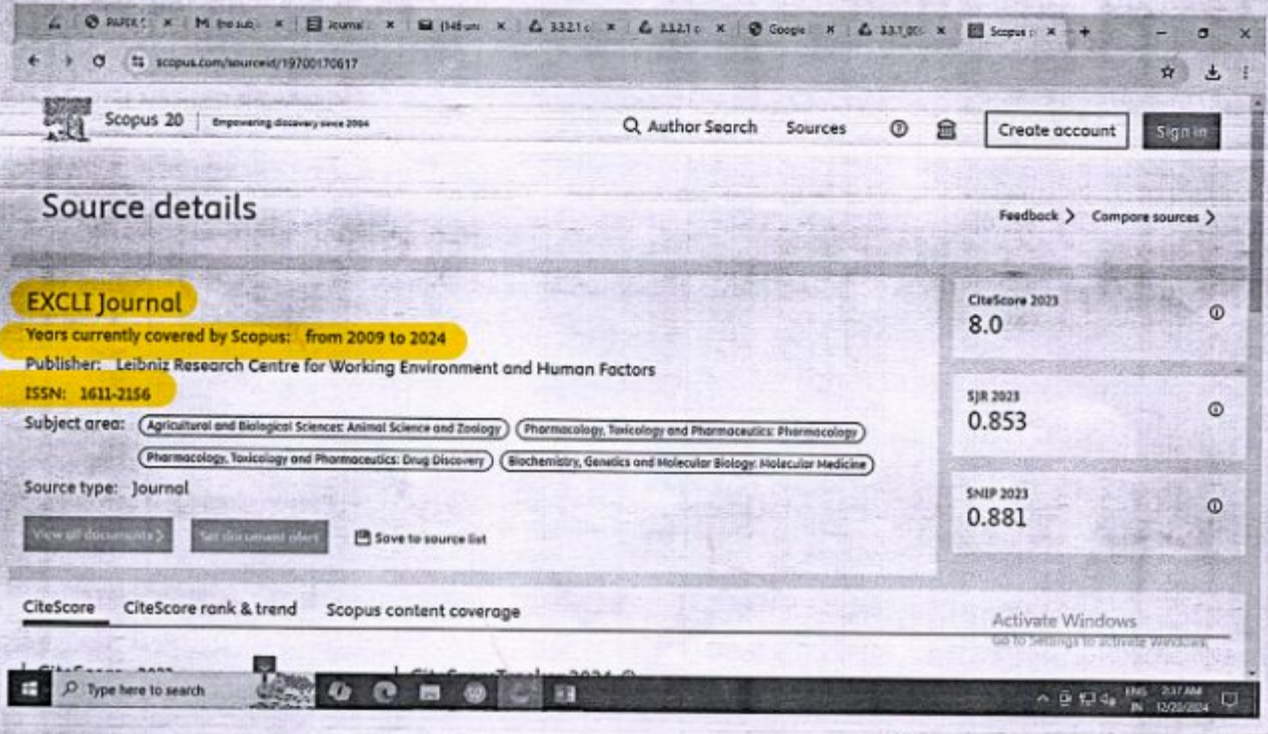

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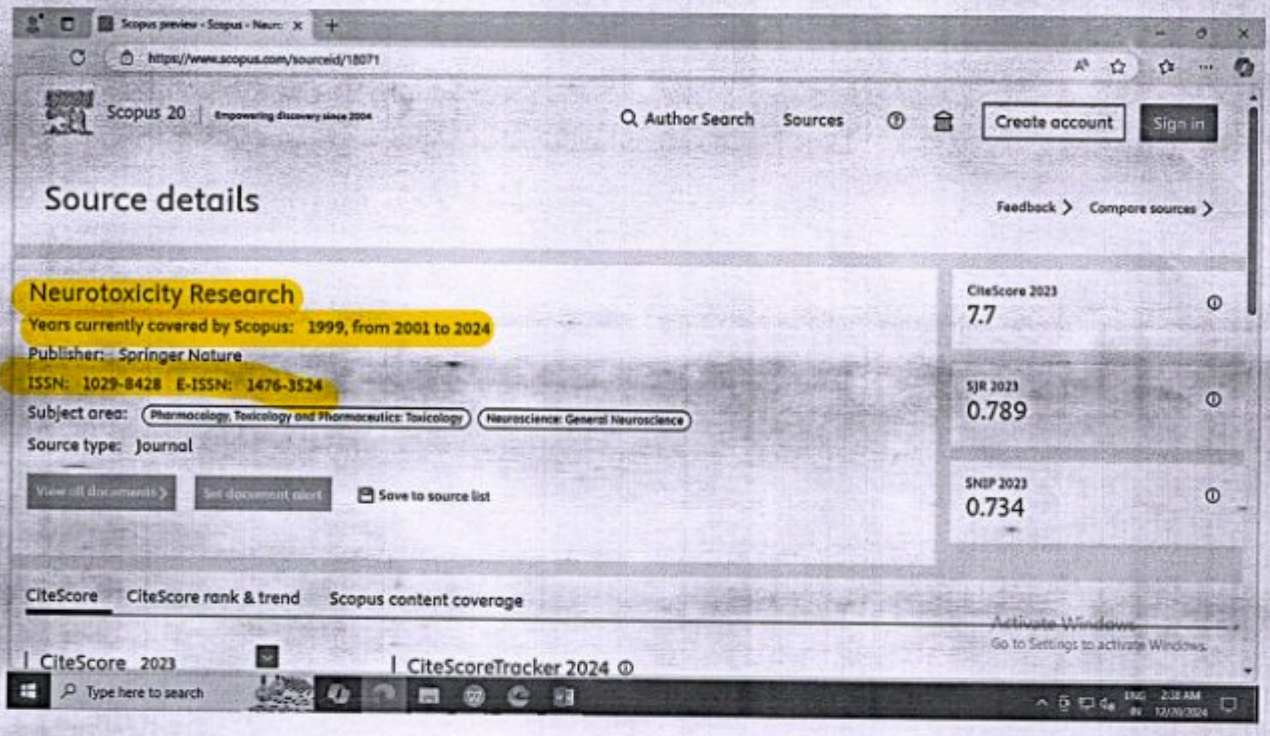

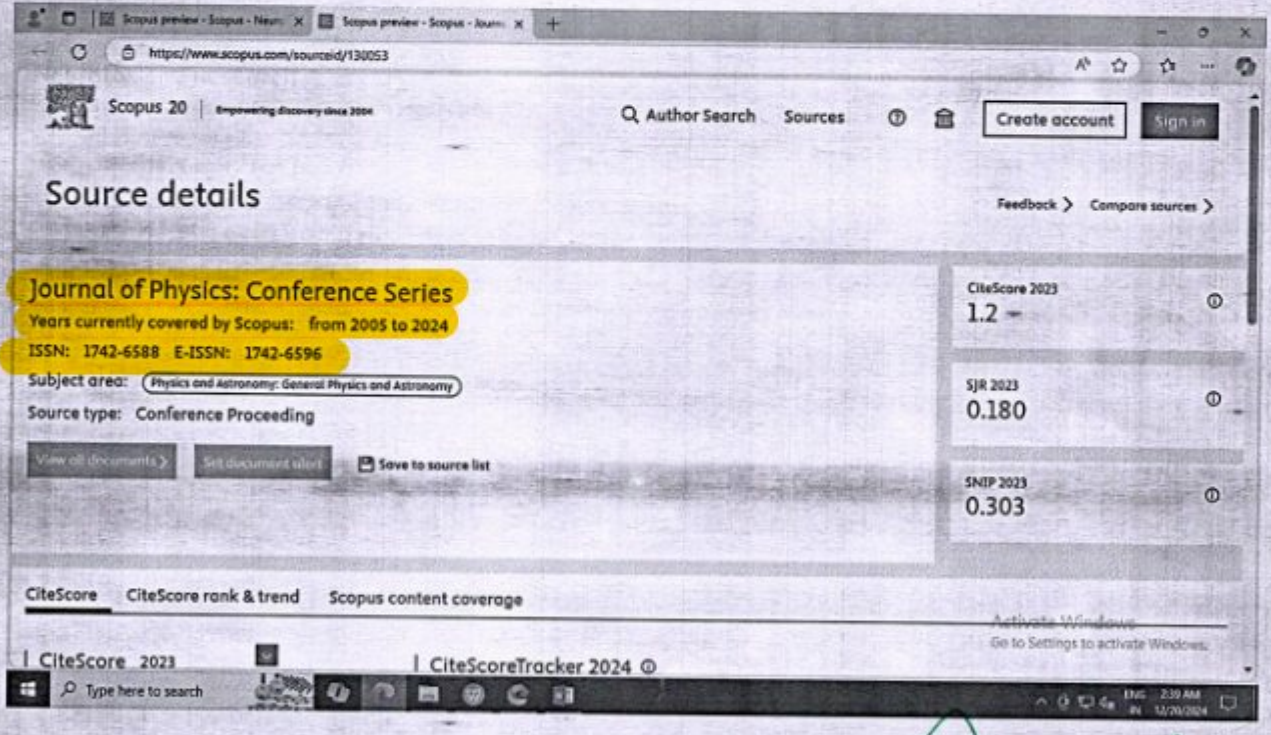

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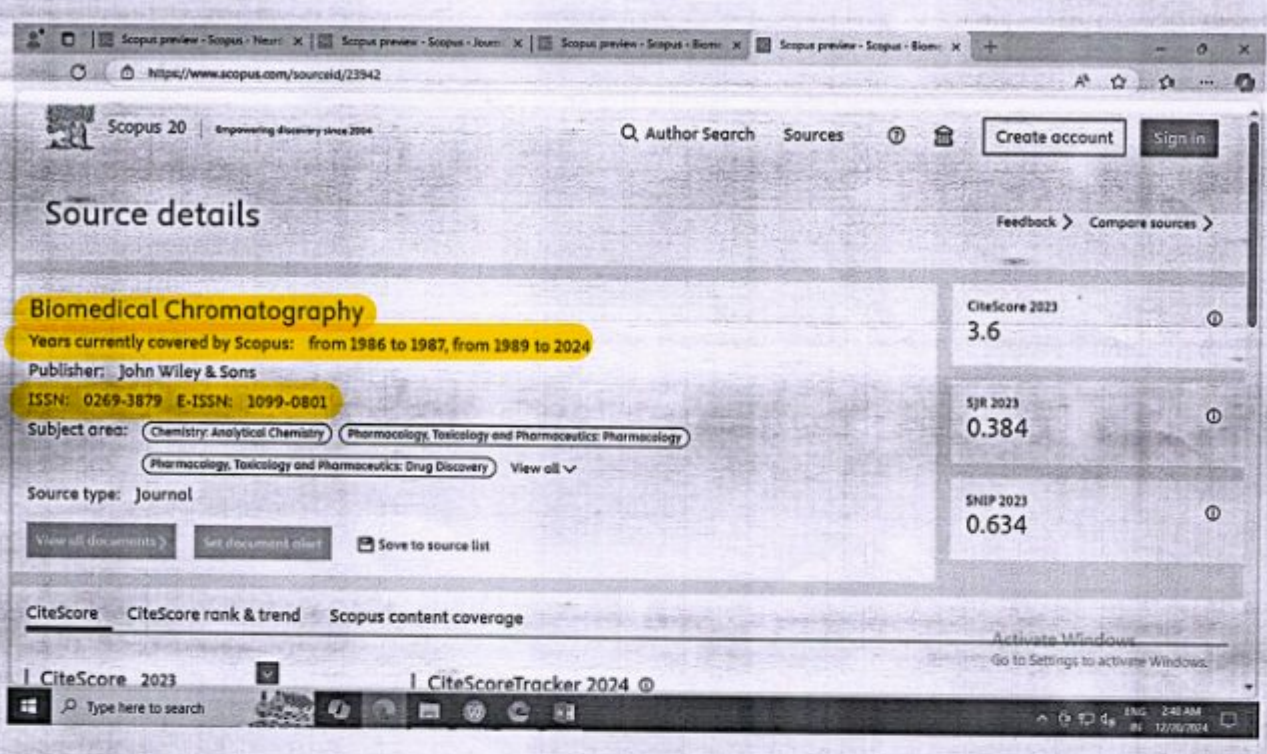

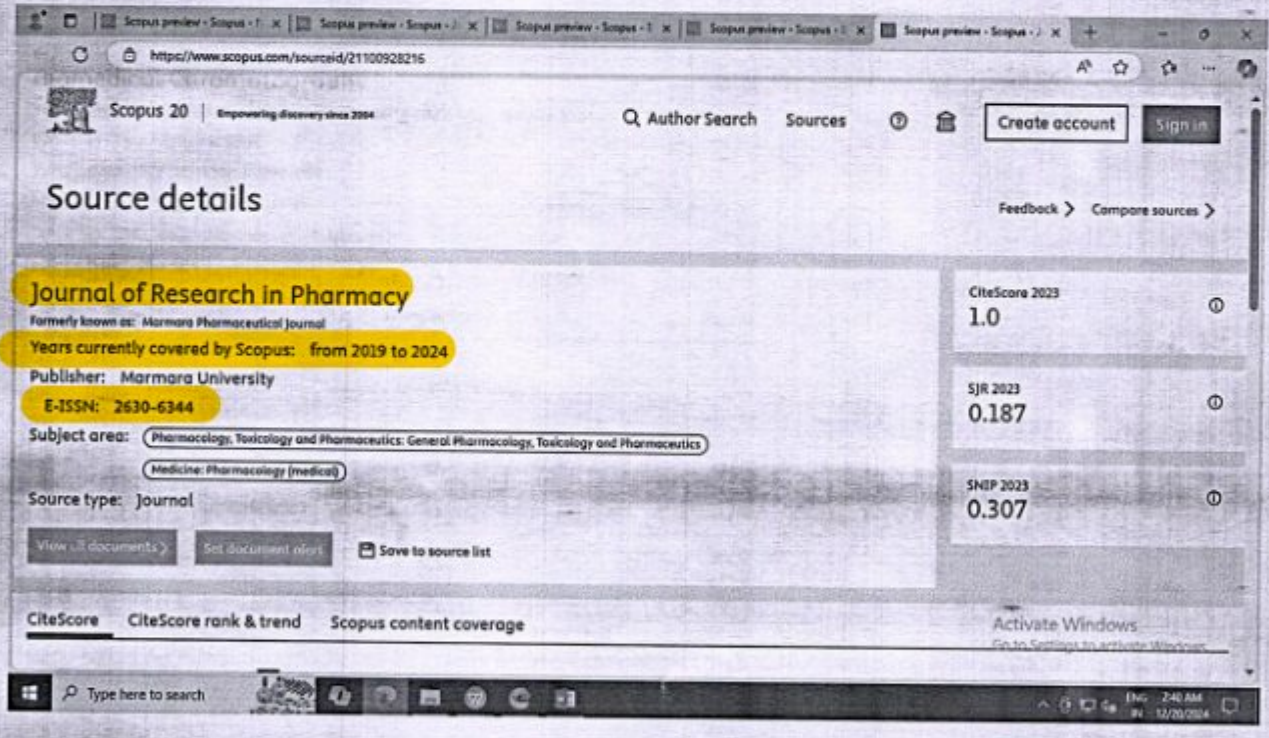

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Komarapalayam
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Dr. N.SENTHILKUMAR,
PRINCIPAL,
JKK MUNIRAJAH MEDICAL RESEARCH FOUNDATION
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ETHIRMEDU, KOMARAPALAYAM - 638 183,
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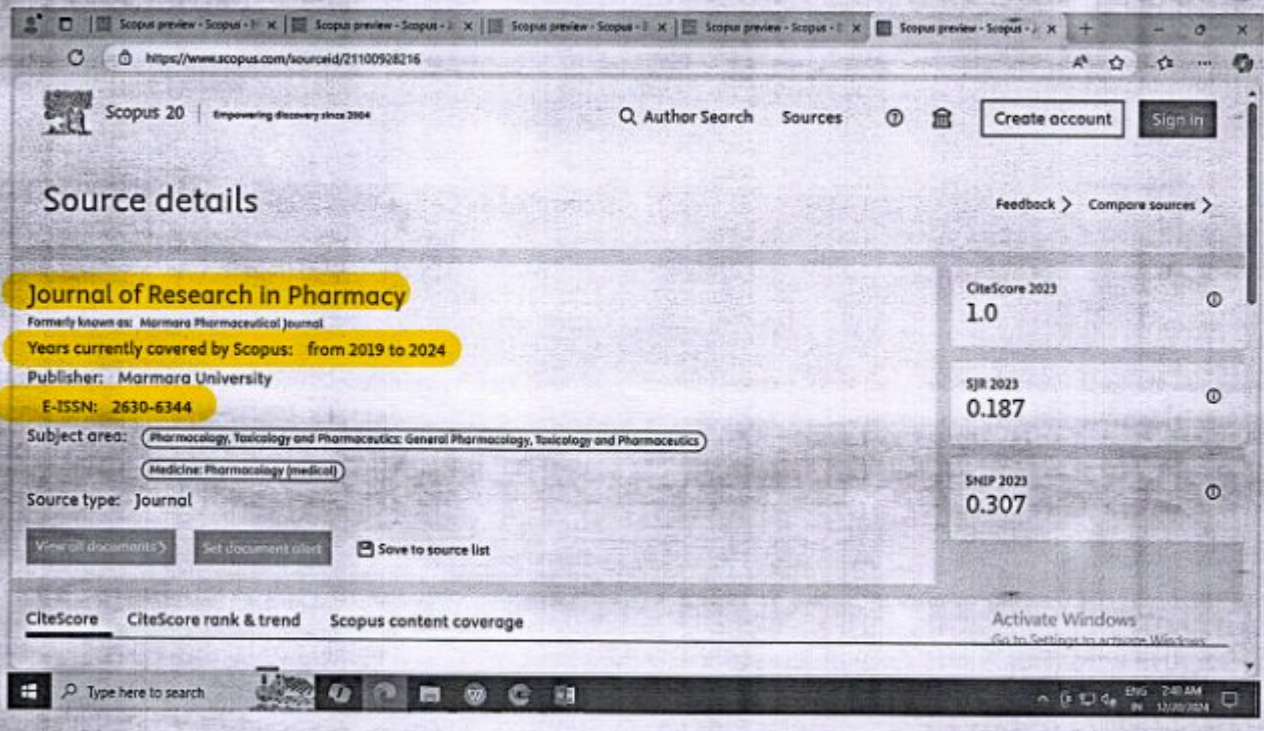

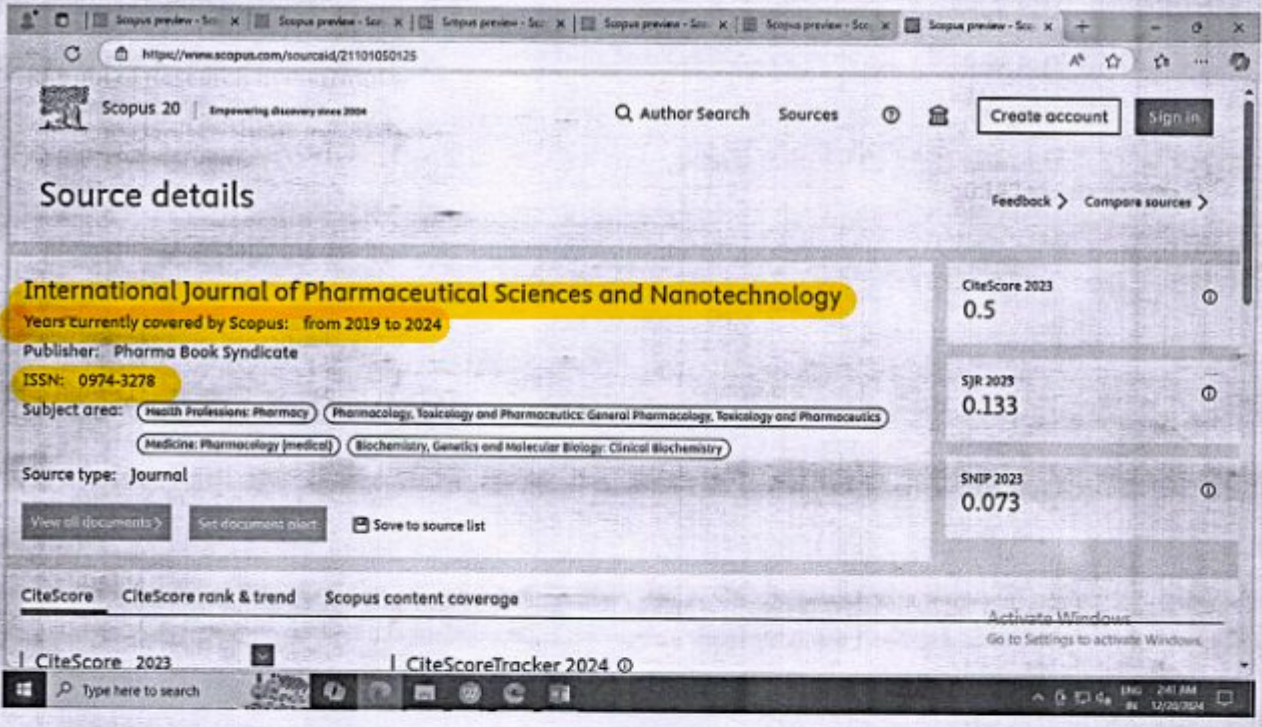

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Komarapalayam
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PRINCIPAL,
JKK MUNIRAJAH MEDICAL RESEARCH FOUNDATION
ANNAI JKK SAMPOORANI AMMAL COLLEGE OF PHARMACY,
ETHIRMEDU, KOMARAPALAYAM - 638 183,
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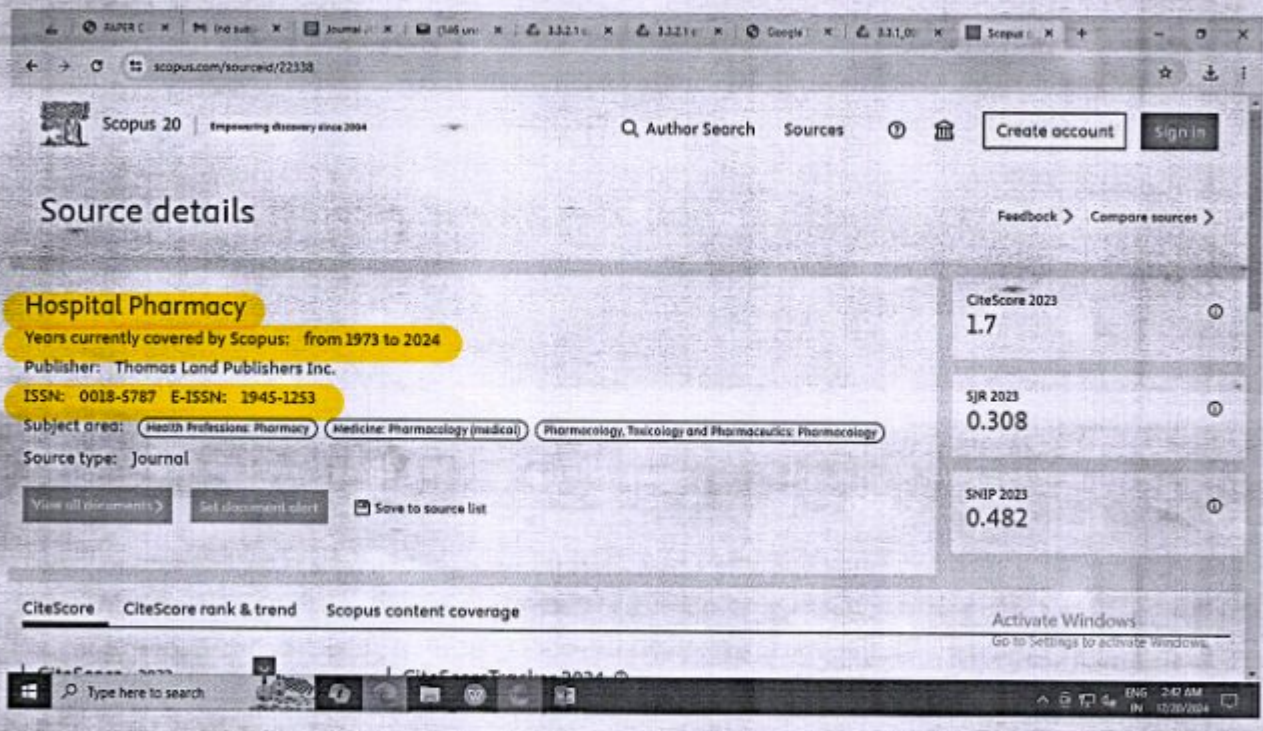

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Komarapalayam
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Dr. N.SENTHILKUMAR,
PRINCIPAL,
JKK MUNIRAJAH MEDICAL RESEARCH FOUNDATION
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Article | PDF Available

Exploring Nephroprotective Properties of Wedelia chinensis: In Vitro, In Silico, and In Vivo Investigations

April 2024 · Journal of Natural Remedies
DOI: 10.18311/jnr/2024/35412
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Authors:

Durgesh Toliram Gautam

Thangavel Venkatachalam
JKKMMRFs ANNAI JKK SAMPOORANI AMMAL COLLEGE OF PHARMACY

S. R. Senthilkumar

References (83)

Abstract

The purpose of this research work is to investigate the nephroprotective efficacy of Wedelia chinensis leaf extracts against gentamicin-induced nephrotoxicity for in vitro, in silico, and in vivo techniques. The extracts of Wedelia chinensis leaf rich in flavonoids were subjected to an in silico method for ligands and target proteins. The results of the in vitro antioxidant study of extracts were tested for cytoprotective MTT assay and anti-inflammatory efficacy by protein denaturation assay using Human Embryonic Kidney cells (HEK293). The in vivo nephroprotective potential of the extract was evaluated with the two doses of 250mg/kg and 500mg/kg body weight in gentamicin nephrotoxicity in rats. The biochemical parameters observed for changes in the histopathology of the kidney. While comparing with other extracts of Wedelia chinensis Hydroalcoholic Extract (WCHAE) shows great binding affinity with bonding interactions of flavonoids and phenolics-based ligands observed with the target proteins that provided early information. The in vitro cell lines study revealed no cytotoxicity and better anti-inflammatory effect on HEK293 cells with cytoprotective and nephroprotective efficacy of WCHAE. The in vivo nephroprotective activity improved at a dose of 500mg/kg of WCHAE than Wedelia chinensis Ethanolic Extract (WCEE). The histopathological findings revealed the improvement in gentamicin-induced renal toxicity by the WCHAE orally treated group compared to normal and negative control groups. These results of WCHAE are more satisfactorily effective than WCEE with marked in vitro antioxidant, and cytoprotective effects in HEK293 cells. In in silico docking, it shows good interaction scores of ligands for target proteins like (kidney injury molecule) KIM-1 and Neutrophil Gelatinase-Associated Lipocalin (NAGAL) that helps to correlate nephroprotective potential benefits of antioxidants in plant extracts against gentamicin induced nephrotoxicity in rats.

JOURNAL OF NATURAL REMEDIES
DOI: 10.18311/jnr/2024/35412

RESEARCH ARTICL

Exploring Nephroprotective Properties o
Wedelia chinensis: In Vitro, In Silico, and

Durgesh Toliram Gautam[1], T. Venkatachalam[2]* and S. R. Senthilkumar

[1]JKKMMRF's Annai JKK Sampoorani Ammal College of Pharmacy Ethirmedu, The Tamil Nadu Dr. MGR University, Namakkal – 638183, Tamil Nadu, India

[2]Department of Pharmaceutical Chemistry, JKKMMRF's Annai JKK Sampoorani Ammal College of Pharmacy Ethirmedu, The Tamil Nadu Dr. MGR University, Namakkal – 638183, Tamil Nadu, India
venkatachalammpharm@yahoo.co.i

[3]Department of Pharmaceutics, Arulmigmu Kalasalingam, College of Pharmacy, The Tamil Nadu Dr. MGR University, Virudhunagar – 626126, Tamil Nadu, India

Abstract

The purpose of this research work is to investigate the nephroprotective efficacy of *Wedelia chinensis* leaf extracts against gentamicin-induced nephrotoxicity for *in vitro*, *in silico*, and *in vivo* techniques. The extracts of *Wedelia chinensis* leaf rich in flavonoids were subjected to an *in silico* method for ligands and target proteins. The results of the *in vitro* antioxidant studies of extracts were tested for cytoprotective MTT assay and anti-inflammatory efficacy by protein denaturation assay using Human Embryonic Kidney cells (HEK293). The *in vivo* nephroprotective potential of the extract was evaluated with the two doses of 250mg/kg and 500mg/kg body weight in gentamicin nephrotoxicity in rats. The biochemical parameters observed for changes in the histopathology of the kidney. While comparing with other extracts of *Wedelia chinensis* Hydroalcoholic Extract (WCHAE) shows great binding affinity with bonding interactions of flavonoids and phenolics-based ligands observed with the target proteins that provided early information. The *in vitro* cell lines study revealed no cytotoxicity and better anti-inflammatory effect on HEK293 cells with cytoprotective and nephroprotective efficacy of WCHAE. The *in vivo* nephroprotective activity improved at a dose of 500mg/kg of WCHAE than *Wedelia chinensis* Ethanolic Extract (WCEE). The histopathological findings revealed the improvement in gentamicin-induced renal toxicity by the WCHAE orally treated group compared to normal and negative control groups. These results of WCHAE are more satisfactorily effective than WCEE with marked *in vitro* antioxidant, and cytoprotective effects in HEK293 cells. In *In silico* docking, it shows good interaction scores of ligands for target proteins like (kidney injury molecule) KIM-1 and Neutrophil Gelatinase-Associated Lipocalin (NAGAL) that helps to correlate nephroprotective potential benefits of antioxidants in plant extracts against gentamicin induced nephrotoxicity in rats.

Keywords: Gentamicin-induced Nephrotoxicity, HEK-293, *In Silico*, *In Vitro*, Nephroprotective Activity, *Wedelia chinens*

1. Introduction

Globally, the disease rankings indicate that over 10% of the world's population suffers from Chronic Kidney Injury (CKI), which stands as one of the predominant non-communicable causes of death[1]. The number of patients suffering from CKI has been increasing throughout the globe and in our country[2]. In In approximately 38% of deaths increase in propor due to kidney failure[3]. Nephrotoxicity and kic disorders are affected due to many risk factors obesity diabetes mellitus, hypertension, and r failure due to drug therapies[4]. The common drawl associated with the renal system is the toxicity of d

*Author for correspondence

Article Received on: 23.10.2023 Revised on: 28.02.2024 Accepted on: 01.03.2

and chemicals, which may arise due to exposure to several medications and environmental substances that result in either temporary or permanent renal failure[5]. Gentamicin, a potent aminoglycoside antibiotic, is extensively utilized in the treatment of severe and critical infections caused by gram-negative bacteria. However, its usage is restricted due to its significant nephrotoxic side effects. The prevalence of gentamicin-used nephrotoxicity is approximately 13–30% and incidences are increasing every year. The actual

The occurrence and frequency of drug-indu kidney injury have risen over the past two dec due to changes in healthcare practices (freq use of possible nephrotoxic drugs like NSA and antimicrobial agents recently. Pre-exis comorbidities and parameters directly related to illness are among the many causes of the increased of long-term consequences and early death follov AKI[6]. Apoptosis, necrosis, autophagic cell de tubular injury, reduced GFR, and endothelial

EXCLI Journal 2024;23:727-762 – ISSN 1611-2156
Received: January 24, 2024, accepted: April 26, 2024, published: May 14, 2024

Review article:

MOLECULAR PATHWAYS AND THERAPEUTIC STRATEGIES IN DERMATOFIBROSARCOMA PROTUBERANS (DFSP): UNRAVELLING THE TUMOR'S GENETIC LANDSCAPE

Harpreet Singh[1*], Heena Bholaram Choudhary[2], Deepa Satish Mandlik[2], Manoj Subhash Magre[2], Sourav Mohanto[3], Mohammed Gulzar Ahmed[3], Bhuvnesh Kumar Singh[4], Arun Kumar Mishra[5], Arvind Kumar[1], Amrita Mishra[6], T. Venkatachalam[7], Hitesh Chopra[8]

1 School of Pharmaceutical Sciences, IFTM University, Moradabad, Uttar Pradesh, 244102, India
2 Department of Pharmacology, BVDU, Poona College of Pharmacy, Pune, 411038, Maharashtra, India
3 Department of Pharmaceutics, Yenepoya Pharmacy College & Research Centre, Yenepoya (Deemed to be University), Mangalore, Karnataka, 575018, India
4 Faculty of Pharmacy, Moradabad Educational Trust, Moradabad, Uttar Pradesh, 244001, India
5 SOS School of Pharmacy, IFTM University, Moradabad, Uttar Pradesh, 244102, India
6 School of Pharmaceutical Sciences, Delhi Pharmaceutical Sciences and Research University, New Delhi, 110017, India
7 Department of Pharmaceutical Chemistry, JKKMMRFs-Annai JKK Sampoorani Ammal College of Pharmacy, Komarapalayam, The Tamil Nadu Dr. MGR Medical University, Chennai, Tamil Nadu, 638183, India
8 Department of Biosciences, Saveetha School of Engineering, Saveetha Institute of Medical and Technical Sciences, Chennai - 602105, Tamil Nadu, India

* **Corresponding author:** Harpreet Singh, School of Pharmaceutical Sciences, IFTM University, Moradabad, Uttar Pradesh, 244102, India. E-mail: harpreetproctor@rediffmail.com

https://dx.doi.org/10.17179/excli2024-7164

ABSTRACT

Dermatofibrosarcoma Protuberans (DFSP) is a rare soft tissue sarcoma distinguished by its infiltrative growth pattern and recurrence potential. Understanding the molecular characteristics of DFSP is essential for enhancing its diagnosis, prognosis, and treatment strategies. The paper provides an overview of DFSP, highlighting the significance of its molecular understanding. The gene expression profiling has uncovered unique molecular signatures in DFSP, highlighting its heterogeneity and potential therapeutic targets. The Platelet-Derived Growth Factor Receptors (PDGFRs) and Fibroblast Growth Factor Receptors (FGFRs) signaling pathways play essential roles in the progression and development of DFSP. The abnormal activation of these pathways presents opportunities for therapeutic interventions. Several emerging therapies, i.e., immunotherapies, immunomodulatory strategies, and immune checkpoint inhibitors, offer promising alternatives to surgical resection. In DFSP management, combination strategies, including rational combination therapies, aim to exploit the synergistic effects and overcome resistance. The article consisting future perspectives and challenges includes the discovery of prognostic and

Neurotoxicity Research
https://doi.org/10.1007/s12640-023-00670-3

REVIEW

BIN1 in the Pursuit of Ousting the Alzheimer's Reign: Impact on Amyloid and Tau Neuropathology

Ishnoor Kaur[1] · Tapan Behl[2] · G. Sundararajan[3] · P. Panneerselvam[4] · A. R. Vijayakumar[4] · G. P. Senthilkumar[4] · T. Venkatachalam[5] · Dharmender Jaglan[6] · Shivam Yadav[7] · Khalid Anwer[8] · Neeraj Kumar Fuloria[9,10] · Aayush Sehgal[11] · Monica Gulati[12,13] · Sridevi Chigurupati[14,15]

Received: 13 December 2022 / Revised: 12 September 2023 / Accepted: 19 September 2023

Abstract

Alzheimer's disease contributes to 60–70% of all dementia cases in the general population. Belonging to the BIN1/amphiphysin/RVS167 (BAR) superfamily, the bridging integrator (BIN1) has been identified to impact two major pathological hallmarks in Alzheimer's disease (AD), i.e., amyloid beta (Aβ) and tau accumulation. Aβ accumulation is found to increase by BIN1 knockdown in cortical neurons in late-onset AD, due to BACE1 accumulation at enlarged early endosomes. Two BIN1 mutants, KR and PL, were identified to exhibit Aβ accumulation. Furthermore, BIN1 deficiency by BIN1-related polymorphisms impairs the interaction with tau, thus elevating tau phosphorylation, altering synapse structure and tau function. Even though the precise role of BIN1 in the neuronal tissue needs further investigation, the authors aim to throw light on the potential of BIN1 and unfold its implications on tau and Aβ pathology, to aid AD researchers across the globe to examine BIN1, as an appropriate target gene for disease management.

Keywords Gene expression · Alzheimer's disease · Disease association · Amyloid · Tau

Background

Being the most common form of dementia, Alzheimer's disease (AD) constitutes 60–70% of the cases (Holtzman et al. 2011). It is characterized by two major cerebral lesions, intracellular aggregation of phosphorylated tau protein into neurofibrillary tangles (NFTs) as well as extracellular accumulation of amyloid beta (Aβ) peptide into senile plaques. Additionally, sporadic and familial AD-specific cytopathological characteristics may also be reported, such as enlargement of early endosomes in neuronal cells (Cataldo et al. 2000). The mutations in PSEN1, APP, and PSEN2 are the cause of familial AD, at the genetic level. A strong genetic component is exhibited by the sporadic form of AD, which is a multifactorial disease with 60–80% of estimated risk (Gatz et al. 2006a). In addition to environmental factors, genetic factors have been identified to be responsible for AD pathogenesis (Gatz et al. 2006b). The bridging integrator 1 (BIN1) is one of the factors, which is present in chromosome 2q14.2 and after APOE, and has been recognized as the most primarily related risk factor with AD, in Caucasian in extensive genome-wide association studies (GWAS) (Bertram et al. 2007; Lambert et al. 2013; Naj et al. 2011). The risk for AD in the East Asian population was reported to be affected by BIN1 rs744373 polymorphisms (Liu et al. 2013). Also, genetic variants in BIN1 were also found to be significantly related to AD in the Han Chinese (Tan et al. 2014a, 2013).

The authors aim to elucidate the connection between BIN1 and two neuropathological hallmarks of AD, Aβ aggregation and tau accumulation, for which the manuscript has been divided into two major sub-sections. In late-onset AD, the Aβ production is enhanced by BIN1 deficiency. This occurs due to BACE1 cleavage of APP in enlarged early endosomes, which is not rescued by BIN1 mutants. Overexpression of BIN1 mutants recapitulated the phenotype of BIN1 deficiency. Therefore, BIN1 is reported to be the general regulator of endocytic recycling. Furthermore, BIN1 protein levels

Highlights
- BIN1 in Aβ accumulation: variants impact on early endosome size, Aβ profile, BACE1 and endocytic signaling.
- BIN1 in tau accumulation: impact on spine morphology and release of tau.
- BIN1 and synaptic transmission liaisons.
- Future prospects of BIN1 in AD.

Extended author information available on the last page of the article

Published online: 17 October 2023

IOP Publishing
Journal of Physics: Conference Series **2801** (2024) 012016 doi:10.1088/1742-6596/2801/1/012016

Design, Synthesis, and In-vitro anti-tuberculosis activity of 2-substituted-1,5-diphenyl-1,2-dihydro-3H-1,2,4-triazole-3-thione Derivatives

T Venkatachalam[1*], P Sasi[2], N Senthilkumar[1], M Muthukrishnan[3], A Asrar Ahamed[4], R Premkumar[5]

[1]Department of Pharmaceutical Chemistry, JKKMMRF's-Annai JKK Sampoorani Ammal College of Pharmacy, Komarapalayam, Namakkal Dt-638183, Tamil Nadu, India, E-mail: venkatachalammpharm@yahoo.co.in

[2]G.P. Pharmacy College, Jolarpet-635851, Tamil Nadu, India

[3]Department of Physics, Sona College of Technology, Salem- 636005, Tamil Nadu, India

[4]Department of Chemistry, Jamal Mohamed College (Autonomous), Affiliated to Bharathidasan University, Trichy - 20, Tamil Nadu, India

[5]Department of Physics, N.M.S.S.V.N. College, Nagamalai, Madurai-625019, Tamil Nadu, India

Abstract. In the present study, the novel mycobacterium tuberculosis (M. tuberculosis) inhibitors, 2-substituted 1,5-diphenyl-1,2-dihydro-3H-1,2,4-triazole-3-thione derivatives, were designed and synthesized. FT-IR, ^{1}H-NMR, ^{13}C-NMR, and Mass spectrum were used to characterize the synthesized molecules. The docking analysis showed that the synthesized molecules have moderate to considerable interactions with the M. tuberculosis targeted enzyme. The molecules 3a (−16.33 kcal mol^{-1}) and 3b (−15.36 kcal mol^{-1}) show comparable C-docker energies to the standard M. tuberculosis drug, isoniazid (−16.95 kcal mol^{-1}). The in vitro anti-tuberculosis efficacies **were** examined in the strain of M. tuberculosis H37Rv with the help of the LRP technique. At concentrations of 100 and 500 µg/ml, all tested molecules show a significant percentage of inhibition (89-98.6%). The derivatives 3a and 3b substituted with morpholine exhibit greater affinity toward strain of M. tuberculosis H37Rv at both concentration levels among the synthesized molecules.

Keywords: Mycobacterium tuberculosis, Docking study, C-docker, Invitro, LRP method, Antituberculosis activity.

Biomedical Chromatography / Volume 38, Issue 9 / e5938

RESEARCH ARTICLE

Analytical method development and validation for simultaneous estimation of Bempedoic acid and Ezetimibe in pure and its pharmaceutical dosage form by RP-HPLC

Aakash Suresh, Anbarasi Balakrishnan, Vijayamirtharaj Ramaswamy, Senthilkumar Natesan

First published: 26 June 2024
https://doi.org/10.1002/bmc.5938

Abstract

A simple, accurate and precise method was developed for the simultaneous estimation of the bempedoic acid and ezetimibe in pure and tablet dosage form. The developed method was validated as per International Conference on Harmonization guidelines. The chromatographic separation was achieved isocratically on a Waters- C_{18}, 250 × 4.6 mm, 5 µm column. Mobile phase containing K_2HPO_4–methanol in the ratio 60:40 in buffer at pH 4.3 was pumped through column at a flow rate of 1.0 ml/min. The temperature was maintained at 25°C. The optimized wavelength selected was 242 nm. The separation of bempedoic acid and ezetimibe showed retention times of 3.090 and 4.268 min respectively. The RSD values of the bempedoic acid and ezetimibe were 0.34 and 0.08 respectively. The accuracy of method was determined at three levels (50,100 and 150%). The percentage recovery was obtained as 100.0 and 100.0% for bempedoic acid and ezetimibe, respectively. The limits of determination and quantitation obtained from regression equations of bempedoic acid and ezetimibe were 1.065, 3.550 and 0.203, 0.677, respectively. The regression equation of bempedoic acid is $y = 20{,}795x +$ 24,168, and it is $y = 6{,}885.7x +$ 11000 for ezetimibe. The retention times were decreased and the run time was decreased so that the method developed is simple and economical that can be adopted for regular quality control tests in industry.

JRP Journal of Research in Pharmacy

Research Article

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Neuroprotective Effect of Ethanolic Extract of *Pedalium murex* Linn Leaf in 3-Nitropropionic acid Induced Neurodegeneration

Suresh VELAYUTHAM [1] *, Arunprasanth Sundararaju [1], Thamotharan GOVINDHASWAMY [1], Muthukumaran Gurupackiyam [1], Anbukarasi Balakrishnan [1], Mohamed Yasar ABDUL [2], Chetan ASHOK [2], Srikanth JEYABALAN [2] *

[1] Department of Pharmacology, Faculty of Pharmacy, JKK Munirajah Medical Research Foundation, Annai Sampoorani Ammal College of Pharmacy, Komarapalayam – 638138, Nammakkal, India.

[2] Department of Pharmacology, Sri Ramachandra Faculty of Pharmacy, Sri Ramachandra Institute of Higher Education and Research, Chennai - 600052, India.

* Corresponding Author. E-mail: srikanth.j@sriramachandra.edu.in (S.J.); Tel. +91-9094020093

Received: 12 November 2022 / Revised: 02 March 2023 / Accepted: 03 March 2023

ABSTRACT: This study was designed to investigate the effect of ethanolic extract of *Pedalium murex* linnleaf (EEPML) in 3-Nitropropionic acid (3-NPA) induced neurodegeneration in a Sprague Dawley rat model. EEPML at a dose of 200 and 400mg/kg was given orally to desired group of animals for a period of 14 days. Neurodegeneration was induced by administering 3-Nitropropionic acid (10 mg/kg/i.p) on 14th day. Two hours after drug administration on 14th day of drug treatment, parameters such as *in vitro* anticholinesterase activity, DPPH Radical Scavenging Activity, behavioural test for memory and learning (Rotarod test, Open field test), Acetylcholine (ACh) content, Acetylcholinesterase (AChE) activity, Superoxide dismutase (SOD) level in brain homogenate were analysed. EEPML at both doses, i.e., 200 and 400 mg/kg, decreased the acetylcholinesterase in neurodegenerated rats. The EEPML 400 mg/kg/i.p had more pronounced effect on memory, learning test and motor coordination. The EEPML also decreased the body weight of neurodegenerated animals. Acetylcholine was found to be decreased in untreated neurodegenerated rats due to neuronal inflammation. The EEPML at both doses increased the acetylcholine level in neurodegenerated rats. Modulation of Acetylcholine level by the EEPML is related with its potential anti-oxidant and cholinesterase inhibitory activity.

KEYWORDS: Acetylcholinesterase; Pedalium murex Linn; superoxide dismutase; Huntington's disease.

1. INTRODUCTION

Huntington's disease (HD) is an inherited (autosomal dominant) disorder characterised by choreichyperkinesias (dance-like movements of limbs and rhythmic movements of tongue and face) and dementia with progressive brain degeneration. It is caused by a genetic error in huntingtin gene and subsequent abnormal synthesis of a huntingtin protein that contains several repeats of polyglutamine, in which GABA ergicstriatonigral pathway is impaired, which leads to large decreases in striatal GABA concentrations, whereas somatostatin and dopamine concentrations are relatively preserved [1].

The HTT gene on chromosome 41 harbours a CAG trinucleotide repeat that expands in HD, an autosomal-dominant progressive neurological disease. People who have one HTT allele with 40 or more CAG repeats are almost always affected by the disease, whereas people who have both alleles with less than 36 CAG repeats are not affected by the disease. Symptoms develop insidiously, either as a movement disorder manifest by brief, jerk like movements of the extremities, trunk, face, and neck (chorea) or as personality changes or both [1, 2]. According to estimates, there are 5 HD cases for every 100,000 persons [3].

The Pedaliaceae family includes Pedalium murex Linn. It is the most valuable medicinal herb, possessing a wide range of medical characteristics. *P. murex* is employed in medical systems such as Ayurveda, Folk medicine, Unani, and Siddha. *P. murex* is known by several common and vernacular names, including Bada Gokhuru in Hindi, Brihat Gokshuraka in Sanskrit, and Caltrops in English, Anainerunji in Tamil, Kadva

How to cite this article: Velayutham S, Sundararaju A, Govindhaswamy T, Gurupackiyam M, Balakrishnan A, Abdul MY, Ashok C, Jeyabalan S. Neuroprotective Effect of Ethanolic Extract of Pedalium murex Linn Leaf in 3-Nitropropionic acid Induced Neurodegeneration. J Res Pharm. 2023; 27(4): 1388-1401

ISSN: 2630-6344

http://dx.doi.org/10.29228/jrp.426

JRP Journal of Research in Pharmacy

Research Article

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Anti-Alzheimer Effect of Ethanolic Extract of *Barleria Prionitis* Leaf in Lipopolysaccharide Induced Neurodegeneration

Suresh VELAYUTHAM [1], Manimegalai ARJUNAN [1], Thamotharan GOVINDHASWAMY [1], Muthukumaran GURUPACKIYAM [1], Deepan NATARAJAN [1], Vivek SRINIVASAN [2], Chetan ASHOK [2], Srikanth JEYABALAN [2]*

[1] Department of Pharmacology, JKKMMRF Annai Sampoorani Ammal College of Pharmacy, Komarapalayam-638183, Nammakkal District, Tamil Nadu, India.

[2] Department of Pharmacology, Sri Ramachandra Faculty of Pharmacy, Sri Ramachandra Institute of Higher Education and Research (DU), Porur, Chennai - 600116, India.

* Corresponding Author. E-mail: srikanth.j@sriramachandra.edu.in (S.J.); Tel. +91 9094020093.

Received: 17 November 2022 / Revised: 15 January 2023 / Accepted: 16 January 2023

ABSTRACT: This study was designed to investigate the effect of ethanolic extract of *Barleria prionitis* leaf in Lipopolysaccharide induced neurodegeneration. Neurodenegeration was induced by administering Lipopolysaccharide (LPS) (1 mg/kg/i.p.) in a Sprague Dawley rat model. Ethanolic extract of *Barleria prionitis* leaf (EEBPL) at a dose of 200 and 400 mg/kg was given orally to desired group of animals for a period of 14 days. After 14 days of drug treatment, parameters such as in vitro anticholinesterase activity, DPPH Radical Scavenging activity, behavioural test for memory and learning (Elevated plus maze test, Open field test), Acetylcholine (ACh) content, Acetylcholinesterase (AChE) activity, Superoxide dismutase (SOD) activity in brain homogenate were analysed. EEBPL at both doses, i.e., 200 and 400mg/kg, decreased the Acetylcholinesterase level in neurodegenerated rats. The EEBPL (400 mg/kg/p.o) had more pronounced effect on memory and learning which is supported by the results of improvement in the body weight and decreased transfer latency time of neurodegenerated animals in elevated plus maze test. Acetylcholine was found to be decreased in untreated neurodegenerated rats due to neuronal inflammation. The EEBPL (400 mg/kg) doses significantly ($P<0.001$) increased the SOD activity in neurodegenerated rats. Modulation of acetylcholine level by the EEBPL is related with its potential anti-oxidant and cholinesterase inhibitory activity. Further studies are needed to carry out the isolation of active constituents responsible for the activity.

KEYWORDS: Acetylcholinesterase; *Barleria prionitis*; superoxide dismutase (SOD); neurodegeneration; Alzheimer's disease.

1. INTRODUCTION

Alzheimer's disease (AD) is a progressive neurological condition in elderly, which continues to be a major challenge for neuroscientists. Multiple neurotransmitter systems are dysfunctional in AD in addition to conventional cholinergic impairment, which is primarily to blame for reduced cognitive abilities [1]. It is the primary contributor of dementia, which affects millions of older people worldwide [2]. Around 36 million individuals globally were affected by AD in 2010, yet the number of cases is rising by 7.7 million each year. According to estimates, there will be 144 million AD sufferers globally by the year 2050 [3].

Alzheimer's disease mostly affects the brain. It causes cognitive function to deteriorate. Neurons in Alzheimer's disease eventually become damaged. Furthermore, the neurons in charge of performing essential biological tasks are destroyed [4]. This disease has a complex aetiology. Many other hypotheses have been proposed to explain the multifaceted character of this disease, including as the cholinergic theory, the Aβ hypothesis, the tau hypothesis, the oxidative stress hypothesis, and the inflammatory hypothesis [5]. To understand the genes linked to the disease, scientists at the Mount Sinai Icahn School of Medicine in New York City conducted research. With the help of their investigations, they were able to identify the gene ATP6VA1 as the master regulator of this neural network and show that altering its expression genetically or pharmacologically enhanced neuronal function in flies and cultured cells. Another study conducted at the

How to cite this article: Velayutham S, Arjunan M, Govindhaswamy T, Gurupackiyam M, Natarajan D, Srinivasan V, Ashok C, Jeyabalan S. Anti-Alzheimer Effect of Ethanolic Extract of *Barleria Prionitis* Leaf in Lipopolysaccharide Induced Neurodegeneration. J Res Pharm. 2024; 28(3): 880-890.

ISSN: 2630-6344

https://doi.org/10.12991/jrp.2019.00

IJPSN
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Home / Archives / Vol. 17 No. 3 (2024): May-June 2024 / Research Articles

A Comparitive Study of Physical Activity, Academic Performance and Stress Level Among Pharmacy and Non-Pharmacy Students - Before, During and After Covid19 Lockdown

DOI:

https://doi.org/10.37285/ijpsn.2024.17.3.3

ARULPRAKASAM K C
JKKMRF Annai JKK Sampoorani Ammal College of Pharmacy, B.Komarapalayam, Nammakal
https://orcid.org/0000-0001-8131-1692

Glady Gloria Grant C.J.
JKKMRF Annai JKK Sampoorani Ammal College of Pharmacy, B.Komarapalayam, Nammakal

V.SUDHARSAN
JKKMRF Annai JKK Sampoorani Ammal College of Pharmacy, B.Komarapalayam, Nammakal

M HELENNA
JKKMRF Annai JKK Sampoorani Ammal College of Pharmacy, B.Komarapalayam, Nammakal

T MUNEER
JKKMRF Annai JKK Sampoorani Ammal College of Pharmacy, B.Komarapalayam, Nammakal

NISSY ESTHER JOHN
JKKMRF Annai JKK Sampoorani Ammal College of Pharmacy, B.Komarapalayam, Nammakal

ABSTRACT

Aims and Objectives: To compare the impact of COVID19 lockdown on physical activity, academic performance and stress levels among Pharmacy and Non-Pharmacy students in 3 timeframes- before, during and after lockdown.

Methods: This is a Cross-sectional retrospective study conducted for a period of 6 months. The data was collected both online and offline. All college going students who had attended regular offline classes before lockdown were included. A total of 880 students were included in the study. A self-prepared questionnaire was used to collect data. The association was calculated using Chi-square test and p-value of less than or equal to 0.05 was fixed as level of significance.

Results: Analysing the data from 880 students, we found that while non-pharmacy students exercise regularly (67% vs 55.7%), they also spend more time (>8 hours/day) using electronic gadgets (62.9% vs 51.8%). Sleep duration was less, 4-6 hours/day for all students after lockdown (80%), due to sudden overload of class work. Both groups reported difficulty in online learning due to network issues, unfamiliarity with online classes, difficulty in notes taking and unavailability of book resources. Stress levels were high for all, but pharmacy students showed higher anxiety about academics and future careers, while non-pharmacy students reported greater stress in interpersonal relationships.

Conclusion: We thus conclude that Pharmacy students might benefit from targeted workshops on exam anxiety and future career planning, while Non-Pharmacy students might benefit from support groups or workshops on building positive interpersonal relationships. Both categories of students may benefit from counseling regarding time management, effective phone usage and the importance of 7-8 hours sleep at night.

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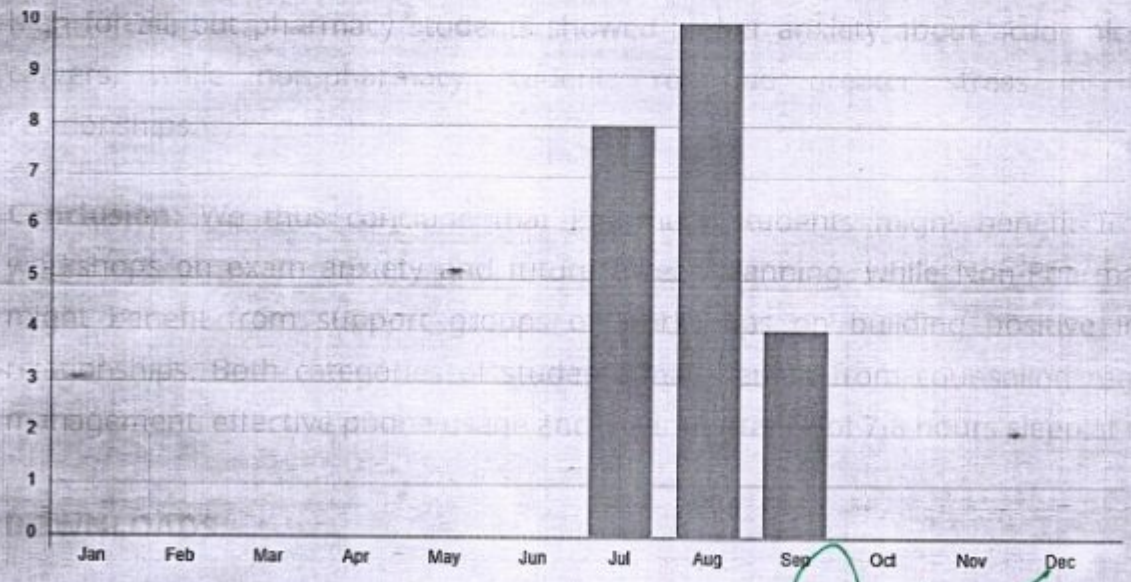

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How much fluid is too much fluid in a pulmonary stenosis parturient.?

[1]Barkha Bharti, [2]Mridul Dhar, [3]Vijay Adabala, [4]Mohammmed Shafiq Shajahan & [5]Deepika Karijigi

[1]DA Anaesthesiology, Junior Resident, AIIMS Rishikesh
[2]MD Anaesthesiology, Assistant Professor AIIMS Rishikesh
[3]MD Anaesthesiology, PDCC Pain Medicine, Senior Resident, AIIMS Rishikesh
[4]MD Anaesthesiology, Senior Resident, AIIMS Rishikesh
[5]MD Anaesthesiology, Junior Resident, AIIMS Rishikesh

Corresponding Author

Dr Barkha Bharti, Department of Anaesthesiology, 6th Floor, Academic Block, AIIMS Rishikesh, Uttarakhand-249203

Email Id: serviceheb@gmail.com

ABSTRACT

Cardiovascular changes in pregnancy and heart disease are a nightmare for an anaesthesiologist. We report here a case of severe pulmonary stenosis who underwent emergency caesarean section under general anaesthesia with satisfactory maternal and neonatal outcomes.

KEYWORDS: Caesarean section, general anaesthesia, pulmonary stenosis.

Access this Article Online	
Website:http://www.journalofhospitalpharmacy.in	Quick Response Code:
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JKK MUNIRAJAH MEDICAL RESEARCH FOUNDATION ANNAI JKK SAMPOORANI AMMAL COLLEGE OF PHARMACY Komarapalayam 638 183

Dr. N.SENTHILKUMAR,
PRINCIPAL,
JKK MUNIRAJAH MEDICAL RESEARCH FOUNDATION
ANNAI JKK SAMPOORANI AMMAL COLLEGE OF PHARMACY,
ETHIRMEDU, KOMARAPALAYAM - 638 183,
NAMAKKAL DISTRICT, TAMILNADU.

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(Constitutionally Entitled As Health-Education, Bureau)

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Clinical Patterns of Lower Respiratory Tract Infection and their Prescription Pattern Analysis of Pediatrics Patients in a Tertiary Care Hospital

Arul Prakasam K C[1]*, Senthilkumar N*[1]*, senthilkumar B*[1]*, Velsreeya R*[2]*.*

[1] Professor, Department of Pharmacy Practice JKKMMRF's Annai JKK Sampoorani Ammal College of Pharmacy, Komarapalayam, Tamil Nadu, India.
2. Pharm D Intent, Department of Pharmacy Practice, JKKMMRF's Annai JKK Sampoorani Ammal College of Pharmacy, Komarapalayam, Tamil Nadu, India

***Address for Correspondence:**
Dr. Arul Prakasam K C, M. Pharm, Ph. D, Professor and Head of the Department, Department of Pharmacy Practice, JKKMMRF's Annai JKK Sampoorani Ammal College of Pharmacy, Komarapalayam, Tamil Nadu- 638 183

Email Id: serviceheb@gmail.com

Abstract:

Background: Lower respiratory tract infection (LRTI) is infection below the level of the larynx and may be taken to include bronchiolitis, bronchitis and pneumonia. The presentation of these conditions will depend on age, infecting organism and site of infection. LTRI is the largest cause of morbidity among children under five across the world. The use of antimicrobial agents has become a routine practice for the treatment of pediatric illnesses, and antibiotics are among the most commonly prescribed drugs in pediatrics. Rational use of antibiotic is very necessary to avoid resistance. **Purpose of study:** The aim of the study to analyse the prescription pattern used in pediatric patients with lower respiratory tract infections. **Methods:** Data collected will subjected to descriptive statistical analysis using Microsoft Excel and GraphPad InStat. Results will be in numbers and percentages. Demographic characteristics and number of drugs and number of antibiotics per patient per prescription will be express in mean ± standard deviation (SD) with respect to the previous similar studies. **Results:** In this study we found that Amoxicillin + Clavulanic acid (31.32%) followed by azithromycin (25.99%) and ampicillin (15.55%) were the most frequently prescribed antibiotics. **Conclusion:** It was observed that prescription from NLEM was 3.35 drugs, suggesting rational approach in giving the treatment, but prescription by generic name was not there which needs the improvement. There is a need of educational programmes in order to bring rational use of antibiotics that requires development of standard guidelines for antibiotic prescription. It is also needed to create awareness in parents regarding the risk-benefit of antibiotics or other drugs for the self-limiting condition. This study will help the clinicians to know about pattern of antibiotics used and types of LRTI in pediatric patient.

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Website:http://www.journalofhospitalpharmacy.in	Quick Response Code:
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