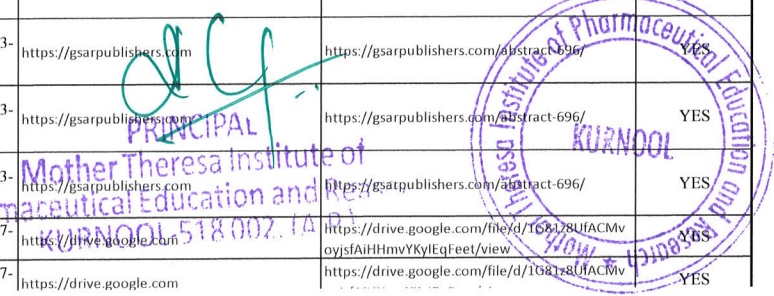


## 3.3.1.(1) Link Landing to The Research Paper and Link to the Journal Website/UGC care/wos/Scopus.

S.No	Title of the paper	of the author/authors	Dept of the teacher	Name of the journal	year of the publication	ISSN no.	Link to the recognition in UGC enlistment of the journal / digital object		
							Link to website of the journal	Link to article/ paper/ Abstract of the article	Is it listed in UGC care list
1	Phyllanthus niruri Linn. aqueous extract inhibits 2, 4-dinitrophenylhydrazine-induced anemia in rats.	K. Suresh	Pharmacognosy	Indo American journal of Agricultural and veterinary sciences	2018	ISSN: 2321-9602	<a href="https://www.iajavs.com">https://www.iajavs.com</a>	<a href="https://www.iajavs.com/iajavsadmin/upload/ijlbps_65292728ae759.pdf">https://www.iajavs.com/iajavsadmin/upload/ijlbps_65292728ae759.pdf</a>	YES
2	Phyllanthus niruri Linn. aqueous extract inhibits 2, 4-dinitrophenylhydrazine-induced anemia in rats.	M. Raj Kumar	Pharmaceutics	Indo American journal of Agricultural and veterinary sciences	2018	ISSN: 2321-9602	<a href="https://www.iajavs.com">https://www.iajavs.com</a>	<a href="https://www.iajavs.com/iajavsadmin/upload/ijlbps_65292728ae759.pdf">https://www.iajavs.com/iajavsadmin/upload/ijlbps_65292728ae759.pdf</a>	YES
3	Phyllanthus niruri Linn. aqueous extract inhibits 2, 4-dinitrophenylhydrazine-induced anemia in rats.	R. Raghuvveer	Pharmacology	Indo American journal of Agricultural and veterinary sciences	2018	ISSN: 2321-9602	<a href="https://www.iajavs.com">https://www.iajavs.com</a>	<a href="https://www.iajavs.com/iajavsadmin/upload/ijlbps_65292728ae759.pdf">https://www.iajavs.com/iajavsadmin/upload/ijlbps_65292728ae759.pdf</a>	YES
4	Development and validation of a Gliadin induced Intestinal Enteropathy Rat model of non celiac gluten sensitivity	R. Raghuvveer	Pharmacology	Indo American journal of Agricultural and veterinary sciences	2018	ISSN: 2321-9602	<a href="https://www.iajavs.com">https://www.iajavs.com</a>	<a href="https://www.iajavs.com/iajavsadmin/upload/ijlbps_652927d86b088.pdf">https://www.iajavs.com/iajavsadmin/upload/ijlbps_652927d86b088.pdf</a>	YES
5	Development and validation of a Gliadin induced Intestinal Enteropathy Rat model of non celiac gluten sensitivity	M. Raj Kumar	Pharmaceutics	Indo American journal of Agricultural and veterinary sciences	2018	ISSN: 2321-9602	<a href="https://www.iajavs.com">https://www.iajavs.com</a>	<a href="https://www.iajavs.com/iajavsadmin/upload/ijlbps_652927d86b088.pdf">https://www.iajavs.com/iajavsadmin/upload/ijlbps_652927d86b088.pdf</a>	YES
6	Development and validation of a Gliadin induced Intestinal Enteropathy Rat model of non celiac gluten sensitivity	K. Suresh	Pharmacognosy	Indo American journal of Agricultural and veterinary sciences	2018	ISSN: 2321-9602	<a href="https://www.iajavs.com">https://www.iajavs.com</a>	<a href="https://www.iajavs.com/iajavsadmin/upload/ijlbps_652927d86b088.pdf">https://www.iajavs.com/iajavsadmin/upload/ijlbps_652927d86b088.pdf</a>	YES
7	Analysis of the Efficacy of Topical Aqueous Creams Containing Azadirachta Indica Leaf Extract for Healing Wounds	K. Sreeja	Pharmaceutics	Indo American journal of Agricultural and veterinary sciences	2018	ISSN: 2321-9602	<a href="https://www.iajavs.com">https://www.iajavs.com</a>	<a href="https://www.iajavs.com/iajavsadmin/upload/ijlbps_652928773ad9a.pdf">https://www.iajavs.com/iajavsadmin/upload/ijlbps_652928773ad9a.pdf</a>	YES
8	Analysis of the Efficacy of Topical Aqueous Creams Containing Azadirachta Indica Leaf Extract for Healing Wounds	G Pavan Kumar	Pharma Chemistry	Indo American journal of Agricultural and veterinary sciences	2018	ISSN: 2321-9602	<a href="https://www.iajavs.com">https://www.iajavs.com</a>	<a href="https://www.iajavs.com/iajavsadmin/upload/ijlbps_652928773ad9a.pdf">https://www.iajavs.com/iajavsadmin/upload/ijlbps_652928773ad9a.pdf</a>	YES
9	Analysis of the Efficacy of Topical Aqueous Creams Containing Azadirachta Indica Leaf Extract for Healing Wounds	U. Mahalakshmi	Pharmaceutics	Indo American journal of Agricultural and veterinary sciences	2018	ISSN: 2321-9602	<a href="https://www.iajavs.com">https://www.iajavs.com</a>	<a href="https://www.iajavs.com/iajavsadmin/upload/ijlbps_652928773ad9a.pdf">https://www.iajavs.com/iajavsadmin/upload/ijlbps_652928773ad9a.pdf</a>	YES
10	Antimicrobial Evaluation of Novel Metals Complexes of nIsonicotinamido-2-hydroxy-5-methoxybenzalaldimine	R. Raghuvveer	Pharmacology	Indo American journal of pharma and bio sciences	2019	ISSN: 2347-2251	<a href="https://www.iajpb.com">https://www.iajpb.com</a>	<a href="https://www.iajpb.com/iajpbadmin/upload/ijlbps_65292a2a229f5.pdf">https://www.iajpb.com/iajpbadmin/upload/ijlbps_65292a2a229f5.pdf</a>	YES
11	Antimicrobial Evaluation of Novel Metals Complexes of nIsonicotinamido-2-hydroxy-5-methoxybenzalaldimine	M. Raj Kumar	Pharmaceutics	Indo American journal of pharma and bio sciences	2019	ISSN: 2347-2251	<a href="https://www.iajpb.com">https://www.iajpb.com</a>	<a href="https://www.iajpb.com/iajpbadmin/upload/ijlbps_65292a2a229f5.pdf">https://www.iajpb.com/iajpbadmin/upload/ijlbps_65292a2a229f5.pdf</a>	YES
12	Antimicrobial Evaluation of Novel Metals Complexes of nIsonicotinamido-2-hydroxy-5-methoxybenzalaldimine	B. Narayanamma	Pharma Analysis	Indo American journal of pharma and bio sciences	2019	ISSN: 2347-2251	<a href="https://www.iajpb.com">https://www.iajpb.com</a>	<a href="https://www.iajpb.com/iajpbadmin/upload/ijlbps_65292a2a229f5.pdf">https://www.iajpb.com/iajpbadmin/upload/ijlbps_65292a2a229f5.pdf</a>	YES
13	Pharmacological Treatment of Postoperative Sleep Disorders in the First Two Nights Examination in Detail	M. Rehana banu	Pharmacology	Indo American journal of pharma and bio sciences	2020	ISSN: 2347-2251	<a href="https://www.iajpb.com">https://www.iajpb.com</a>	<a href="https://www.iajpb.com/iajpbadmin/upload/ijlbps_65292b5acc8ed.pdf">https://www.iajpb.com/iajpbadmin/upload/ijlbps_65292b5acc8ed.pdf</a>	YES
14	Pharmacological Treatment of Postoperative Sleep Disorders in the First Two Nights Examination in Detail	S. Masum vali	Pharma Analysis	Indo American journal of pharma and bio sciences	2020	ISSN: 2347-2251	<a href="https://www.iajpb.com">https://www.iajpb.com</a>	<a href="https://www.iajpb.com/iajpbadmin/upload/ijlbps_65292b5acc8ed.pdf">https://www.iajpb.com/iajpbadmin/upload/ijlbps_65292b5acc8ed.pdf</a>	YES
15	Pharmacological Treatment of Postoperative Sleep Disorders in the First Two Nights Examination in Detail	M. Shakir Basha	Pharma Analysis	Indo American journal of pharma and bio sciences	2020	ISSN: 2347-2251	<a href="https://www.iajpb.com">https://www.iajpb.com</a>	<a href="https://www.iajpb.com/iajpbadmin/upload/ijlbps_65292b5acc8ed.pdf">https://www.iajpb.com/iajpbadmin/upload/ijlbps_65292b5acc8ed.pdf</a>	YES
16	Evaluation of Hepatoprotective and anti oxidants activity of Ethanolic extract of Artabotrys zeylanicus stem against various hepatotoxins induced hepatotoxicity in Albino Wister rats	K. Suresh	Pharmacognosy	Journal of Pharmaceutical Research International	2020	ISSN: 2456-9119	<a href="https://journaljpri.com">https://journaljpri.com</a>	<a href="https://journaljpri.com/index.php/JPRI/article/view/1971/3950">https://journaljpri.com/index.php/JPRI/article/view/1971/3950</a>	YES
17	Prescriptions of Strong Opioid Analgesics in Primary Care (Pharmacy Care)	K. Raju	Pharmaceutics	Indo American journal of life sciences and biotechnology	2020	ISSN: 2347-2243	<a href="https://iajlb.com">https://iajlb.com</a>	<a href="https://iajlb.com/iajlbadmin/upload/ijlbps_65292d3b8cb94.pdf">https://iajlb.com/iajlbadmin/upload/ijlbps_65292d3b8cb94.pdf</a>	YES
18	Prescriptions of Strong Opioid Analgesics in Primary Care (Pharmacy Care)	K. Haritha	Pharmacology	Indo American journal of life sciences and biotechnology	2020	ISSN: 2347-2243	<a href="https://iajlb.com">https://iajlb.com</a>	<a href="https://iajlb.com/iajlbadmin/upload/ijlbps_65292d3b8cb94.pdf">https://iajlb.com/iajlbadmin/upload/ijlbps_65292d3b8cb94.pdf</a>	YES
19	Prescriptions of Strong Opioid Analgesics in Primary Care (Pharmacy Care)	S. Manasa veena	Pharma Analysis	Indo American journal of life sciences and biotechnology	2020	ISSN: 2347-2243	<a href="https://iajlb.com">https://iajlb.com</a>	<a href="https://iajlb.com/iajlbadmin/upload/ijlbps_65292d3b8cb94.pdf">https://iajlb.com/iajlbadmin/upload/ijlbps_65292d3b8cb94.pdf</a>	YES
20	Cardioprotective Effects of Ginsenoside Rg1 in Patients with Acute Myocardial Infarction	M. Raj Kumar	Pharmaceutics	Indo American journal of life sciences and biotechnology	2020	ISSN: 2347-2243	<a href="https://iajlb.com">https://iajlb.com</a>	<a href="https://iajlb.com/iajlbadmin/upload/ijlbps_652933b9aee44.pdf">https://iajlb.com/iajlbadmin/upload/ijlbps_652933b9aee44.pdf</a>	YES
21	Cardioprotective Effects of Ginsenoside Rg1 in Patients with Acute Myocardial Infarction	R. Raghuvveer	Pharmacology	Indo American journal of life sciences and biotechnology	2020	ISSN: 2347-2243	<a href="https://iajlb.com">https://iajlb.com</a>	<a href="https://iajlb.com/iajlbadmin/upload/ijlbps_652933b9aee44.pdf">https://iajlb.com/iajlbadmin/upload/ijlbps_652933b9aee44.pdf</a>	YES
22	Cardioprotective Effects of Ginsenoside Rg1 in Patients with Acute Myocardial Infarction	N. Swapna	Pharma Analysis	Indo American journal of life sciences and biotechnology	2020	ISSN: 2347-2243	<a href="https://iajlb.com">https://iajlb.com</a>	<a href="https://iajlb.com/iajlbadmin/upload/ijlbps_652933b9aee44.pdf">https://iajlb.com/iajlbadmin/upload/ijlbps_652933b9aee44.pdf</a>	YES

S.No	Title of the paper	Name of the authors	Dept of the teacher	Name of the journal	year of the publication	ISSN	Link to the recognition in UGC enlistment of the journal / digital object		
							Link to website of the journal	Link to article/ paper/ Abstarct of the article	Is it listed in UGC care list
23	Antioxidant activities and hepatoprotective potential of Ethanol leaf extract of Justicia quinqueangularis against selected hepato toxins induced hepatotoxicity in Albino Wister rats	K. Suresh	Pharmacognosy	Journal of Pharmaceutical Research International	2021	ISSN: 2456-9119	<a href="https://journaljpri.com">https://journaljpri.com</a>	<a href="https://journaljpri.com/index.php/IPRI/article/view">https://journaljpri.com/index.php/IPRI/article/view</a>	YES
24	Phyto chemical Screening and invitro evaluation of wound healing activity of polyherbal preparation using chick embryo model	K. Suresh	Pharmacognosy	Journal of Pharmaceutical advanced Research	2022	ISSN: 2581-6160	<a href="https://jparonline.com">https://jparonline.com</a>	<a href="https://jparonline.com/research/JPAR-2208-RSA-00264-Mr.%20K.Suresh.pdf">https://jparonline.com/research/JPAR-2208-RSA-00264-Mr.%20K.Suresh.pdf</a>	YES
25	Coronavirus Patients Taking Chloroquine and Azithromycin Together in 2019	S. Shahensha	Pharma Chemistry	History of Medicine studies	2022	ISSN: 1300-669X	<a href="https://hmsjournal.com/issues.php?id=125">https://hmsjournal.com/issues.php?id=125</a>	<a href="https://hmsjournal.com/admin/uploads/8.pdf">https://hmsjournal.com/admin/uploads/8.pdf</a>	YES
26	Coronavirus Patients Taking Chloroquine and Azithromycin Together in 2019	K. Sreeja	Pharmaceutics	History of Medicine studies	2022	ISSN: 1300-669X	<a href="https://hmsjournal.com/issues.php?id=125">https://hmsjournal.com/issues.php?id=125</a>	<a href="https://hmsjournal.com/admin/uploads/8.pdf">https://hmsjournal.com/admin/uploads/8.pdf</a>	YES
27	Coronavirus Patients Taking Chloroquine and Azithromycin Together in 2019	B. Narayanamma	Pharma Analysis	History of Medicine studies	2022	ISSN: 1300-669X	<a href="https://hmsjournal.com/issues.php?id=125">https://hmsjournal.com/issues.php?id=125</a>	<a href="https://hmsjournal.com/admin/uploads/8.pdf">https://hmsjournal.com/admin/uploads/8.pdf</a>	YES
28	Synergistic Growth Inhibitory Effects of Lycium barbarum (Goji berry) Extract with Doxorubicin against Human Breast Cancer Cells	S. Venu	Pharma Chemistry	History of Medicine studies	2022	ISSN: 1300-669X	<a href="https://hmsjournal.com/issues.php?id=124">https://hmsjournal.com/issues.php?id=124</a>	<a href="https://hmsjournal.com/admin/uploads/9.pdf">https://hmsjournal.com/admin/uploads/9.pdf</a>	YES
29	Synergistic Growth Inhibitory Effects of Lycium barbarum (Goji berry) Extract with Doxorubicin against Human Breast Cancer Cells	K. Suresh	Pharmacognosy	History of Medicine studies	2022	ISSN: 1300-669X	<a href="https://hmsjournal.com/issues.php?id=124">https://hmsjournal.com/issues.php?id=124</a>	<a href="https://hmsjournal.com/admin/uploads/9.pdf">https://hmsjournal.com/admin/uploads/9.pdf</a>	YES
30	Synergistic Growth Inhibitory Effects of Lycium barbarum (Goji berry) Extract with Doxorubicin against Human Breast Cancer Cells	D.J. Sravanthi	Pharma Analysis	History of Medicine studies	2022	ISSN: 1300-669X	<a href="https://hmsjournal.com/issues.php?id=124">https://hmsjournal.com/issues.php?id=124</a>	<a href="https://hmsjournal.com/admin/uploads/9.pdf">https://hmsjournal.com/admin/uploads/9.pdf</a>	YES
31	Analysis of the Thermodynamic Properties of a Binary Mixture of Pharmaceutical Residual Solvents	J. Ravi Kumar Reddy	Pharmaceutics	History of Medicine studies	2023	ISSN: 1300-669X	<a href="https://hmsjournal.com/issues.php?id=127">https://hmsjournal.com/issues.php?id=127</a>	<a href="https://hmsjournal.com/admin/uploads/10.pdf">https://hmsjournal.com/admin/uploads/10.pdf</a>	YES
32	Analysis of the Thermodynamic Properties of a Binary Mixture of Pharmaceutical Residual Solvents	K. Jyoshna Jayaraju	Pharmacology	History of Medicine studies	2023	ISSN: 1300-669X	<a href="https://hmsjournal.com/issues.php?id=127">https://hmsjournal.com/issues.php?id=127</a>	<a href="https://hmsjournal.com/admin/uploads/10.pdf">https://hmsjournal.com/admin/uploads/10.pdf</a>	YES
33	Analysis of the Thermodynamic Properties of a Binary Mixture of Pharmaceutical Residual Solvents	J. Niranjana	Pharmacology	History of Medicine studies	2023	ISSN: 1300-669X	<a href="https://hmsjournal.com/issues.php?id=127">https://hmsjournal.com/issues.php?id=127</a>	<a href="https://hmsjournal.com/admin/uploads/10.pdf">https://hmsjournal.com/admin/uploads/10.pdf</a>	YES
34	Experiential learning in pharma/health care education: Enhancing competence and preparedness	J. Ravi kumar reddy	Pharmaceutics	Journal of Pharmaceutical sciences and Research	2023	ISSN: 0975-1459	<a href="https://www.jpsr.pharmainfo.in">https://www.jpsr.pharmainfo.in</a>	<a href="https://www.jpsr.pharmainfo.in/Documents/Volumes/vol15issue05/jpsr15052307.pdf">https://www.jpsr.pharmainfo.in/Documents/Volumes/vol15issue05/jpsr15052307.pdf</a>	YES
35	Experiential learning in pharma/health care education: Enhancing competence and preparedness	R. Rahuveer	Pharmacology	Journal of Pharmaceutical sciences and Research	2023	ISSN: 0975-1459	<a href="https://www.jpsr.pharmainfo.in">https://www.jpsr.pharmainfo.in</a>	<a href="https://www.jpsr.pharmainfo.in/Documents/Volumes/vol15issue05/jpsr15052307.pdf">https://www.jpsr.pharmainfo.in/Documents/Volumes/vol15issue05/jpsr15052307.pdf</a>	YES
36	Experiential learning in pharma/health care education: Enhancing competence and preparedness	M. Raj Kumar	Pharmaceutics	Journal of Pharmaceutical sciences and Research	2023	ISSN: 0975-1459	<a href="https://www.jpsr.pharmainfo.in">https://www.jpsr.pharmainfo.in</a>	<a href="https://www.jpsr.pharmainfo.in/Documents/Volumes/vol15issue05/jpsr15052307.pdf">https://www.jpsr.pharmainfo.in/Documents/Volumes/vol15issue05/jpsr15052307.pdf</a>	YES
37	Experiential learning in pharma/health care education: Enhancing competence and preparedness	S. Shahensha	Pharm Chemistry	Journal of Pharmaceutical sciences and Research	2023	ISSN: 0975-1459	<a href="https://www.jpsr.pharmainfo.in">https://www.jpsr.pharmainfo.in</a>	<a href="https://www.jpsr.pharmainfo.in/Documents/Volumes/vol15issue05/jpsr15052307.pdf">https://www.jpsr.pharmainfo.in/Documents/Volumes/vol15issue05/jpsr15052307.pdf</a>	YES
38	Comparative studies on Solubility enhancement of Irbesartan by using complexation and solid dispersion techniques	M. Raj Kumar	Pharmaceutics	World Journal of pharmacy and Pharmaceutical sciences	2023	ISSN: 2278-4357	<a href="https://storage.googleapis.com">https://storage.googleapis.com</a>	<a href="https://storage.googleapis.com/journal-uploads/wjpps/article_issue/1690974226.pdf">https://storage.googleapis.com/journal-uploads/wjpps/article_issue/1690974226.pdf</a>	YES
39	Emerging role of medical devices in Chronic disease management: A retrospective review	J. Ravi kumar reddy	Pharmaceutics	Journal of Pharmaceutical Research International	2023	ISSN: 2456-9119	<a href="https://journaljpri.com">https://journaljpri.com</a>	<a href="https://journaljpri.com/index.php/IPRI/article/view/7378">https://journaljpri.com/index.php/IPRI/article/view/7378</a>	YES
40	A review on science of attention and developmental studies on neuroscience	J. Ravi kumar reddy	Pharmaceutics	Global journal of clinical medicine and medical research	2023	ISSN: 2583-987X	<a href="https://gsarpublishers.com">https://gsarpublishers.com</a>	<a href="https://gsarpublishers.com/abstract-696/">https://gsarpublishers.com/abstract-696/</a>	YES
41	A review on science of attention and developmental studies on neuroscience	K. Suresh	Pharmacognosy	Global journal of clinical medicine and medical research	2023	ISSN: 2583-987X	<a href="https://gsarpublishers.com">https://gsarpublishers.com</a>	<a href="https://gsarpublishers.com/abstract-696/">https://gsarpublishers.com/abstract-696/</a>	YES
42	A review on science of attention and developmental studies on neuroscience	S. Shahensha	Pharma Chemistry	Global journal of clinical medicine and medical research	2023	ISSN: 2583-987X	<a href="https://gsarpublishers.com">https://gsarpublishers.com</a>	<a href="https://gsarpublishers.com/abstract-696/">https://gsarpublishers.com/abstract-696/</a>	YES
43	A review on science of attention and developmental studies on neuroscience	S. Venu	Pharma Chemistry	Global journal of clinical medicine and medical research	2023	ISSN: 2583-987X	<a href="https://gsarpublishers.com">https://gsarpublishers.com</a>	<a href="https://gsarpublishers.com/abstract-696/">https://gsarpublishers.com/abstract-696/</a>	YES
44	A review on science of attention and developmental studies on neuroscience	N. Sai Bhavana	Pharmacology	Global journal of clinical medicine and medical research	2023	ISSN: 2583-987X	<a href="https://gsarpublishers.com">https://gsarpublishers.com</a>	<a href="https://gsarpublishers.com/abstract-696/">https://gsarpublishers.com/abstract-696/</a>	YES
45	A review on Traditional plants with potential Anti-Arthritic activity	S. Shahensha	Pharma Chemistry	Mukt Shabd Journal	2023	ISSN: 2347-3150	<a href="https://drive.google.com">https://drive.google.com</a>	<a href="https://drive.google.com/file/d/1G8178UfACMv0yjsfAIHmVYKvIEqFeet/view">https://drive.google.com/file/d/1G8178UfACMv0yjsfAIHmVYKvIEqFeet/view</a>	YES
46	A review on Traditional plants with potential Anti-Arthritic activity	K. Suresh	Pharmacognosy	Mukt Shabd Journal	2023	ISSN: 2347-3150	<a href="https://drive.google.com">https://drive.google.com</a>	<a href="https://drive.google.com/file/d/1G8178UfACMv0yjsfAIHmVYKvIEqFeet/view">https://drive.google.com/file/d/1G8178UfACMv0yjsfAIHmVYKvIEqFeet/view</a>	YES





## Antimicrobial Evaluation of Novel Metals Complexes of n-Isonicotinamido-2-hydroxy-5-methoxybenzalaldimine

Mr. R. Raghuveer, M.Pharm. (Ph.D), Mr. Raj Kumar Marikanti, Mrs. B. Narayanamma

### Abstract

The emergence of antimicrobial-resistant bacteria has increased the need for new, more effective medications to treat illnesses. The interaction of several agents with metal ions has been proven to increase their antibacterial activity. Polydentate ligand complexes of metal ions have been the subject of much study because of their intriguing spectroscopic, magnetic, and biological features.

The microwave synthesis method was used to create new isoniazid-based compounds and their transition metal complexes (cobalt (II), copper (II), nickel (II), and zinc (II)). Multiple spectroscopy methods (including FT-IR, UV/visible electronic, mass, and <sup>13</sup>C NMR and <sup>1</sup>H NMR spectra) were used to completely describe all of the produced compounds, including the free ligand and their metal complexes. We also used a combination of spectroscopic data including CHN, XRFA, and AAS to determine the exact ligand to metal ratio and shape. *Candida albicans* (ATCC 10231), *Aspergillus niger* (ATCC 16404), *Escherichia coli* (ATCC 25922), and *Staphylococcus aureus* (ATCC 29213) were used in agar-well diffusion assays to assess the antibacterial activity of the produced ligands and their complexes in vitro.

**Keywords:** Antimicrobial activity; Metal complexes and Schiff base

### 1. Introduction

There are a number of variables, such as the rise of multidrug-resistant microbial infections and the emergence of new infectious illnesses, that make it difficult to effectively manage infectious diseases. New antimicrobial agents are needed despite the availability of a number of chemotherapeutics and antibiotics for use in medicine. Since many bacteria have developed resistance to existing classes of antimicrobial medications, there is also an immediate need for novel molecules with antimicrobial activity, most likely through new mechanisms of action. Many biological activities rely on metal ions, including the catalytic activity of metalloenzymes, the control of nucleic acid replication, and the transport of oxygen via hemoglobin's iron-porphyrin complexes. Its role as an oxygen transporter is linked to iron's reversible control over oxygen molecules [1]. Since amine (or Schiff base) compounds readily form stable complexes with the vast

majority of transition metal ions [2;3], they play an important role in inorganic chemistry. Condensation of a carbonyl molecule with a primary amine (aldehydes or ketones) produces an azomethine group (-N=CHR) that is characteristic of these compounds [4]. The unsaturated double bond and the poor electronegativity of nitrogen in the azomethine group (>C=N) provide for a good donor and Schiff base forming active ligands because of the presence of a lone pair of electrons at the nitrogen atom. How well a ligand bonds is determined by the steric and electronegativity properties of the atoms involved in the coordination process. Chelates' structural characteristics provide extra steadiness to the complexes, especially those with a five- or six-membered ring. Therefore, an additional component in providing stability will be the existence of a functional group next to > C=N with a replaceable hydrogen atom.

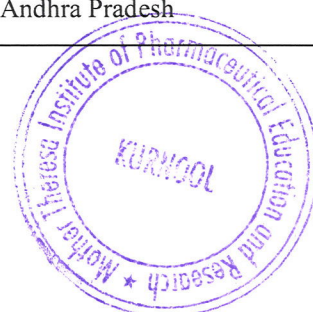
Associate Professor<sup>1,2</sup>, Assistant Professor

Dept. of Pharmacology, Pharmaceutics, Pharmaceutical Analysis

Mother Theresa Institute of Pharmaceutical Education and Research, Kurnool, Andhra Pradesh

  
PRINCIPAL

Mother Theresa Institute of  
Pharmaceutical Education and Research  
KURNOOL-518002. (A.P)





## Pharmacological Treatment of Postoperative Sleep Disorders in the First Two Nights. Examination in Detail

Mrs. M. Rehana Bhanu, M.Pharm., Mr. S. Masum Vali, Mr. M. Shakir Basha

### Abstract

The restorative benefits of sleep are especially important to take into account in the immediate postoperative period. Acute sleep disturbances after surgery are seldom discussed in the medical literature. Most pharmaceutical treatments include the use of benzodiazepines, however because of their potential for adverse effects, it is highly advised that a tailored approach be used. The purpose of this narrative review was to analyze effective pharmacological treatments for acute sleep problems in the first 48 hours after surgery in patients who had planned medical operations. A narrative search was performed in the databases of Embase, PubMed, and Cochrane. No studies other than randomized controlled trials and systematic reviews were examined. The effectiveness of pharmaceutical therapies for acute sleep problems, the methods of administration, and the effect on postoperative descents were the major outcomes. The original search turned up 271 papers, however only 7 were suitable for inclusion. Pharmacological treatments like 5mg of Zolpidem before bed and >900mg of Gabapentin are often used. The first postoperative phase is crucial for treating these diseases, and it has been found that Dexmedetomidine IV infusion at a dosage of 0.05 mcg/kg/h is effective.

**Keywords:** Acute Pain; Postoperative Period; Sleep Disorders; Hypnotics and Sedatives; Adrenergic  $\alpha$ -Agonists

### 1. Introduction

Age, surgery, anesthetics, postoperative anxiety, and other physical and mental stresses [1-3] (Table 1) all increase the risk of developing a sleep problem in the postoperative period. In most cases, the symptoms of these diseases only endure for a few days and go away completely after the underlying cause

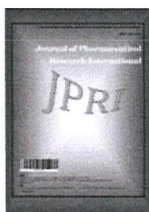
of stress has been removed or the individual has learned to cope with it.

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## Evaluation of Hepatoprotective and Antioxidant Activity of Ethanolic Extract of *Artabotrys zeylanicus* Stem against Various Hepatotoxins Induced Hepatotoxicity in Albino Wister Rats

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### Authors' contributions

This work was carried out in collaboration among all authors. Author KS has designed the study, performed the statistical analysis, wrote the protocol and wrote the first draft of the manuscript. Authors HAA and SVS managed the analyses of the study. All authors read and approved the final manuscript.

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### ABSTRACT

**Aim:** The objective of the present study was to investigate the antioxidant and hepatoprotective activity of ethanolic stem extract of *Artabotrys zeylanicus* against paracetamol (PCT), Ethanol (ETN) and Isoniazid and Rifampicin (IR) induced hepatotoxicity in Albino wister rats.

**Methodology:** The material was dried in shade, they were powdered and extracted with ethanol. Preliminary Phytochemical tests were done. The hepatoprotective activity of the ethanol extract was assessed in Albino wister rats. PCT (3 g/kg), ETN (5 gm/kg) and IR (100 mg/kg) has enhanced

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## Prescriptions of Strong Opioid Analgesics in Primary Care (Pharmacy Care)

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### Abstract

Every person experiences pain at some point, and persistent pain is a common symptom of illnesses like cancer. Opioid analgesics have a crucial role in the treatment of persistent cancer pain. This study looked back at VITAE-approved prescriptions for powerful opioid analgesics from January through March of 2015. Adult patients at the Oncology Institute in Kosice were given powerful analgesic prescriptions. All individuals analyzed who were prescribed opioids had a diagnosis of cancer. Retrospective assessments of prescriptions looked at patient demographics, cancer diagnosis, and the generic and brand versions of opioid analgesics provided to treat pain. The research found that throughout the study period, the East-Slovak Oncology Institute in Koice, Slovakia, prescribed 332 doses of powerful opioids to 151 patients (54% male; 46% female) with cancer. Female patients ranged in age from 27 to 88, with 27 being the youngest. Males were most often diagnosed with lung and thoracic cancer, while females were most often diagnosed with breast cancer. The total quantity of packages Fentanyl (44%), buprenorphine (26%), oxycodone (12%), tapentadol (10%), and morphine (7%) accounted for 543 of the powerful opioids. Our data showed that other opioids such as fentanyl, buprenorphine, oxycodone, and the novel chemical tapentadol are given more often than morphine, despite morphine's continued status as the gold standard in oncologic pain management. All of these drugs were recommended to alleviate excruciating pain brought on by various stages of tumor growth.

**Keywords:** Clinical praxis; Oncologic diseases; Pain; Prescription

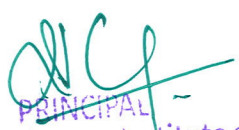
### 1. Introduction

#### 1.1 Pain and the cancer

Pain from cancer tends to be chronic or recurrent, with frequent nociceptive stimulation and an emotional component. It's been described as a "total pain" [1, 2] because to its multifaceted nature (involvement of the body, mind, society, and spirit). Age of patient, cancer phase, cancer type, and cancer treatment all have a role in cancer-related discomfort. Oncologic illness and treatment are responsible for around 65% to 85% of all cancer-related discomfort. Tumor and his metastases immediately stimulate cancer pain by, among other

things, compressing and infiltrating nerve structures, clogging blood arteries, blocking valvular organs, and obstructing blood flow. After the disease itself, 15–25% of cancer pain is caused by anticancer therapy, including things like surgery, invasive diagnostic and therapeutic procedures, chemotherapy toxicity, and early and late treatment results. Infections, muscular aches in patients who are unable to move, and other types of associated pain account for an estimated 3–10% of all cases of pain [3].

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## Cardioprotective Effects of Ginsenoside Rg1 in Patients with Acute Myocardial Infarction

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### Abstract

Ginsenoside Rg1 (Rg1), the active component of Panax notoginseng, has a cardioprotective effect. However, Rg1's effectiveness against acute myocardial infarction (MI) remains unclear. The purpose of this research was to learn how Rg1 provides cardio-protection.

The aim of this study was to produce myocardial infarction in wistar rats by occluding their left anterior descending coronary artery. Immunohistochemical staining was used to assess neutrophil and macrophage infiltration, and the terminal deoxynucleotidyl transferase-mediated dUTP-biotin nick end labeling (TUNEL) assay was used to detect apoptosis. 2,3,5-triphenyltetrazolium chloride (TTC) staining was used to detect infarct size. Principal Results: Superoxide dismutase (SOD) activity was considerably increased and myocardial infarct size was decreased after treatment with Extract Rg1 (P 0.01) or Ferment Rg1 (P 0.01). Then, HE and PTAH stain showed that Extract Rg1 and Ferment Rg1 protected heart structure, particularly sarcomere integrity. Extract Rg1 (P 0.001) and Ferment Rg1 (P 0.001) both decreased the amount of apoptotic cells and blocked neutrophil infiltration into the cardiac infarct site.


**Keywords:** Myocardial Infarction; Extract; Ferment; Ginsenoside Rg1

### Introduction

A heart attack, also known as a myocardial infarction (MI), occurs when blood supply to the heart is suddenly reduced or even stopped due to coronary blockage, causing severe and prolonged acute ischemia and hypoxia in the associated myocardium. In 2017, ischemic heart disease was a major contributor to mortality rates in China. More than 20 million people die every year from MI across the globe [1]. There is a lack of cardioprotective drugs for MI at the moment. More potential medications to develop for MI patients are needed immediately. Panax notoginseng is a popular Chinese herbal remedy because of its well-documented ability to improve blood flow and prevent

or treat pathological clotting [2-4]. The bioactive component ginsenoside Rg1 (Rg1) is mostly found in Panax notoginseng. Recent literature has shown a variety of clinical and physiological benefits of Rg1, including its ability to preserve myocardial shape and cardiac function by boosting angiogenesis and to reduce left ventricular myocardial fibrosis in a rat model of myocardial ischemia-reperfusion (MI) [5-7]. In addition to its stated cardioprotective effects, our prior animal experiment research also demonstrated that Rg1 inhibited vascular remodeling in both large conductance and small resistance arteries [8].

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## Chloroquine with Azithromycin for Coronavirus in 2019

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### Abstract

The average age was 33.60 and the male to female ratio was 2.17 to 1. No incidences of severe toxicity were reported. Two occurrences of QTc prolongation and one case of hypokalemia were observed. In all three situations, discontinuing treatment was an effective strategy. Meanwhile, the vast majority of adverse events were minor in nature, with the majority of patients experiencing gastrointestinal and neuropsychiatric symptoms that responded well to symptomatic treatment. Patients with coronavirus sickness in 2019 who take both chloroquine and azithromycin seem to be safe doing so. However, care and proper monitoring are required.

**Keywords:** COVID-19; Chloroquine; Azithromycin; QTc prolongation

### Introduction


One of the most used antimalarials over the last 60 years, chloroquine is a 4-aminoquinoline molecule. In the midst of a pandemic, doctors are willing to test everything, even this generic antiviral medication that has been proved to be effective against the SARS-CoV-2 virus. To deal with all adult cases of coronavirus illness 2019 (COVID-19), the Moroccan Ministry of Health implemented a statewide protocol in early March 2020. The regimen called for combining the first-line antibiotic azithromycin with either chloroquine or hydroxychloroquine. It's important to consider the potential dangers of treatment in light of this increased use.

In one ward at the Mohammad VI University Hospital in Marrakesh, we performed a prospective research between March 2 and April 1, 2020. Patients older than 15 years old, infected with SARS-COV-2, and experiencing acute adverse reactions to the combination of chloroquine (CHQ) and azithromycin (AZT) were included in our research. Our goal was to determine how dangerous CHQ+AZT was for these people. Cases of COVID-19 were often characterized by the patient's history of exposure rather than by symptoms including fever, cough, flu syndrome, sore throat, runny nose, and sneezing. Clinical factors were used to identify five levels of COVID-19 severity:

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# Synergistic Growth Inhibitory Effects of *Lyciumbarbarum*(Gojiberry) Extract with Doxorubicin against Human Breast Cancer Cells

Mr.S. Venu<sup>1</sup>, Suresh Kasarala<sup>2</sup>, D.J. Sravanthi<sup>3</sup>

## Abstract

Goji berries, or *Lyciumbarbarum L.*, have been used medicinally for thousands of years. The purpose of this research was to examine the cytotoxic impact of *Lyciumbarbarum* fruit extract (LBE) on MCF-7 and MDA-MB-231 breast cancer cells, as well as the effect of LBE in combination with doxorubicin. The MTT test demonstrated that doxorubicin had a substantial cytotoxic impact on the MCF-7 and MDA-MB-231 cell lines after a single treatment. Fractional effect analysis (FA) and the estimated combination index (CI) demonstrated that LBE plus doxorubicin had a synergistic cytotoxic impact on MCF-7 and MDA-MB-231 cells. *L. barbarum* fruits are chemosensitizing and chemoprotective because they increase anticancer effects while also protecting against dose-limiting effects such as cardiotoxicity caused by anthracycline antibiotics.

**Keywords:** *L. barbarum*; Gojiberry; Breast cancer; Pharmacodynamics drug interactions; Combination therapy


## 1. Introduction

Goji berries, or *Lyciumbarbarum L.* (Solanaceae), have been used as a traditional Chinese medicine or dietary supplement for centuries. The fruit is the most important portion of the plant for therapeutic uses. Polysaccharides and proteoglycans make up around 23% of the dry mass of *L. barbarum* fruit, while other components include carotenoids (mostly zeaxanthin dipalmitate), vitamins (riboflavin, thiamin, and ascorbic acid), fatty acids, free amino acids, flavonoids, phenolic acids, and anthocyanins [1, 2]. The fruits of *L. barbarum* have been linked to several health benefits, the most prominent of which are antioxidant and anticancer activity [3-6]. The anthracycline antibiotic doxorubicin is often used to treat a variety of

cancers, including breast cancer. Intercalation in the structure of DNA and RNA, which results in inhibition of synthesis, is the primary mechanism of action. Free radical production and subsequent inhibition of topoisomerase II lead to chain breakage [7]. Doxorubicin's detrimental impact on the heart limits how much of the drug may be used to treat cancer. It may prevent the therapy from working or possibly cause death [8]. It has been hypothesized that elevated oxidative stress [9] is the major mechanism through which cardiotoxicity occurs. The primary goal of this paper is to assess how well two breast cancer cell lines respond to doxorubicin in combination with *L. barbarum* fruit extract (LBE).

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# Analysis of the Thermodynamic Properties of a Binary Mixture of Pharmaceutical Residual Solvents

J. Ravi Kumar Reddy<sup>1</sup>, K. Jyosha Jayaraju<sup>2</sup>, J. Niranjana<sup>3</sup>

## Abstract

Deep examination on thermodynamic characteristics (Enthalpy, Entropy, Free energy) across the complete composition range from 298.15 K to 323.15 K at atmospheric pressure was used to study the molecular interaction of pharmaceutical residual solvents mixture (2-Butanol with m-Xylene). The solvation process, or the removal of molecules from their natural environment, is used to make sense of the data and provide context for the results. Then, the Redlich-Kister polynomial equation was used to fit the computed excess thermodynamic characteristics. The molecular interactions between 2-Butanol and m-Xylene are addressed in light of the computed excess characteristics.

**Keywords:** Residual solvent; Thermodynamic property; Binary mixture; 2-Butanol; m-Xylene


## 1. Introduction

In terms of output, the pharmaceutical sector is a major consumer of organic solvents[1-3]. Properties of binary liquid mixtures are of interest to pharmacists, medical scientists, condensed-matter theorists, experimental chemists, physicists, etc. since organic solvents are present throughout the pharmaceutical manufacturing process. Understanding the intermolecular forces responsible for the many phenomena seen in experiments is crucial for both fundamental and applied research. The physical, chemical, and transport characteristics of fluids are of interest since they are the most common form in which materials are handled in chemical process industries. Understanding the intermolecular interaction between the component molecules and processing product formation are both greatly aided by thermodynamic analysis of liquid mixtures consisting of polar and nonpolar components for a variety of industrial and technical applications. Testing for residual solvents has evolved into an integral aspect of drug quality assurance [4, 5].

Organic volatile molecules utilized or created in the manufacture of drug ingredients or excipients, or in the production of drug products, are referred to as residual solvents in the pharmaceutical industry. In terms of pharmacological significance, 2-butanol (or 2-Bu-OH) and xylene stand out among the residual solvents[6,7]. 2-Bu-OH is a polar chemical molecule that often appears as a racemic mixture of the two stereoisomers, (R)-(-)-2-Bu-OH and (S)-(+)-2-Bu-OH. This secondary alcohol is flammable, odorless, and colorless; it dissolves in water and is totally miscible with polar organic solvents like ethers and other alcohols [8, 9]. As a solvent, in the production of chemicals and pharmaceuticals, and in the field of medicine and dentistry [10, 11], xylene has several applications. The most prevalent form of xylene, known as m-xylene (or m-Xln), is a benzene derivative with two methyl groups substituted for the carbon atoms where "m" stands for "meta," designating positions 1 and 3 for the two methyl substituents on the aromatic ring.

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# Experiential Learning in Pharma/Health Care Education: Enhancing Competence and Preparedness

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## Abstract:

Pharmaceutical education plays a crucial role in preparing future pharmacists for the complex and dynamic healthcare landscape. To effectively meet the demands of the profession, traditional didactic approaches are being complemented and enriched by the integration of experiential learning methods. This article explores the significance of experiential learning in pharmaceutical education, focusing on its benefits, implementation strategies, case studies of implementation, statistical analysis methods, potential outcomes and future directions.

**Keywords:** Experiential Learning, Pharma Education, Health Care, Teaching-Learning

## INTRODUCTION:

Experiential learning engages students in active participation, enabling them to acquire practical skills, critical thinking abilities, and a deeper understanding of real-world scenarios. By incorporating simulated patient interactions, case studies, laboratory experiments, internships, and inter-professional collaborations, experiential learning cultivates students' ability to apply theoretical knowledge in authentic situations [1]. This approach promotes the development of key competencies, including effective communication, problem-solving, ethical decision-making, and teamwork.

Furthermore, the article highlights the various techniques and technologies used to facilitate experiential learning in pharmaceutical education. These may include virtual reality simulations, role-playing exercises, standardized patient encounters, and community engagement initiatives. The integration of technology in experiential learning not only enhances student engagement but also provides opportunities for personalized and adaptive learning experiences [2].

Moreover, the article discusses the positive outcomes associated with experiential learning in pharmaceutical education. Research studies have demonstrated its effectiveness in improving students' self-confidence, professional identity formation, and overall competence. Additionally, experiential learning contributes to a smoother transition from academia to practice, as students gain exposure to real-world challenges, patient-centered care, and interprofessional collaboration [4].

In conclusion, the incorporation of experiential learning methodologies in pharmaceutical education offers numerous benefits and opportunities for students. By bridging the gap between theory and practice, this approach fosters the development of competent and well-rounded pharmacists equipped to address the evolving needs of patients and the healthcare system [5]. As pharmaceutical education continues to evolve, further research and collaboration are needed to optimize the integration and effectiveness of experiential learning in preparing future pharmacy professionals.

## Methods of Experiential Learning in Health Care Education:

Experiential learning in healthcare education involves various methods and approaches that engage students in active, hands-on experiences to enhance their learning and skills development. Here are some commonly used methods of experiential learning in healthcare education [6-8]:

1. Simulations: Simulations provide realistic scenarios that mimic clinical or healthcare settings. Students can practice skills, decision-making, and critical thinking in a safe and controlled environment. Simulations can range from low-fidelity task trainers to high-fidelity mannequins or virtual reality simulations.
2. Case-based Learning: Students analyze and discuss real or fictional patient cases, applying their knowledge to solve clinical problems and make decisions. Case-based learning encourages critical thinking, problem-solving, and clinical reasoning skills.
3. Standardized Patient Encounters: Students interact with trained individuals who portray patients with specific medical conditions or symptoms. This method allows students to practice communication skills, history taking, physical examination, and patient-centered care in a controlled setting.
4. Inter-professional Education (IPE): IPE brings together students from different healthcare disciplines, such as medicine, nursing, pharmacy, and allied health professions, to learn collaboratively. Through interprofessional activities, students develop teamwork, communication, and interdisciplinary problem-solving skills.
5. Externships and Clinical Placements: Students engage in supervised clinical experiences in healthcare settings, such as hospitals, clinics, or community pharmacies. These placements provide opportunities for direct patient care, observation, and application of theoretical knowledge in real-world contexts.

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## COMPARATIVE STUDIES ON SOLUBILITY ENHANCEMENT OF IRBESARTAN BY USING COMPLEXATION AND SOLID DISPERSION TECHNIQUES

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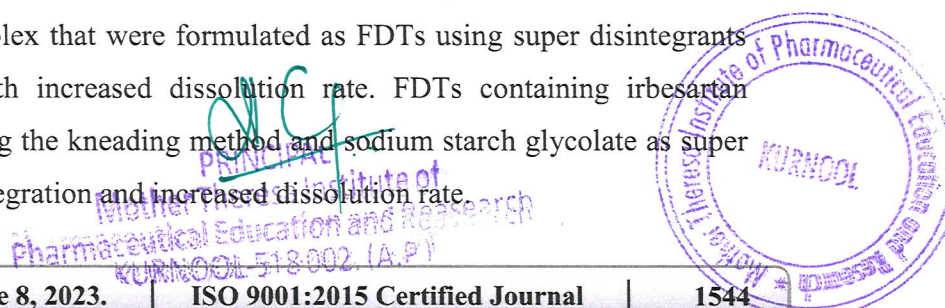
Dr. M. Raj Kumar

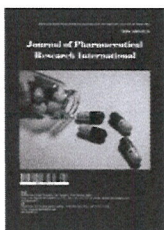
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### ABSTRACT

The objective of the present investigation was to enhance the solubility and dissolution rate of poorly soluble drug irbesartan by preparing it as inclusion complexes and solid dispersions and formulating it as fast-dissolving tablets (FDTs) and compared formulated tablet *invitro* dissolution studies with marketed AVAPRO 75mg tablets. Irbesartan is poorly soluble in water, and this low aqueous solubility in addition to its poor wettability leads to poor bioavailability of the drug. Inclusion complexes were prepared by using HP- $\beta$ -Cyclodextrin and Solid dispersions were prepared using PVP and PEG 4000, as carriers. The dispersions were prepared using the kneading methods in a 1:1, 1:2,

1:3 ratio of drug and carrier. These formulations were characterized for solid state properties using X-ray powder diffraction and Fourier transform infrared spectroscopy spectral studies. Formulations were further evaluated for dissolution. The aqueous solubility of irbesartan in inclusion complex was improved by the presence of HP- $\beta$ -Cyclodextrin when compared with solid dispersion developed from other carriers. Solid state characterization indicated that irbesartan was inserted as guest into the Host carrier. This was due to efficient entrapment of the drug in polymer. Thus, the complexes prepared with HP- $\beta$ -Cyclodextrin would be useful for delivering poorly soluble irbesartan with enhanced solubility and dissolution rate. Furthermore, the inclusion complex that were formulated as FDTs using super disintegrants showed faster drug release with increased dissolution rate. FDTs containing irbesartan inclusion complex prepared using the kneading method and sodium starch glycolate as super disintegrant showed faster disintegration and increased dissolution rate.





# Emerging Role of Medical Devices in Chronic Disease Management: A Retrospective Review

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## Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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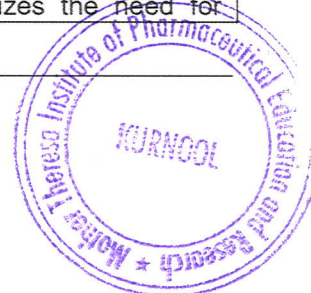
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## ABSTRACT

Medical devices have revolutionized the field of healthcare by providing advanced technologies and innovative solutions for managing chronic diseases. This retrospective review aims to explore the evolving role of medical devices in various chronic therapies, by examining past studies, clinical trials, and technological advancements, this article offers a comprehensive analysis of the impact of medical devices on the management of chronic conditions. The article begins by discussing the prevalence of chronic diseases and their associated burden on individuals and healthcare systems. It highlights the limitations of traditional treatment approaches and emphasizes the need for

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# Abstract

## **A Review on Science of Attention and Developmental Studies in Neuro Science**

**Objectives:** This article comprises the definition of attention and provides some measures for it, then discuss its development, particularly in infancy and early childhood as incredible changes in behaviour which we are all very familiar with, are mirrored by changing neural networks underlying control systems. The article also covers training attentional control, training self-regulation and control in children and adults, and finally the application of this work to mental health.

**Methods:** The article reviewed the research work done by neuroscientists over the past two decades including Mary Rothbart and Michael I. Posner the brain and behavioural mechanisms that underlie attentional networks and the developing control system of the human infant and child.

**Findings:** Studies found that all of the white matter tracks surrounding the anterior cingulate were increased in a statistic called fractional anisotropy which is the degree to which water molecules diffuse in a single direction which may traces arguably the efficiency of the white matter pathway.

**Novelty:** Because of the attention network test, there has been a whole cottage industry of studies running people with different kinds of mental health or normal aging or neurological disorders or mental health disorders like Alzheimer's and Schizophrenia and so on in trying to find out which attention networks are affected.

**Keywords:** Science of Attention, Meditation, Neuroscience, Mental Health

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## Analysis of the Efficacy of Topical Aqueous Creams Containing Azadirachta Indica Leaf Extract for Healing Wounds

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### Abstract

In context, wounds are a kind of health problem that may have serious monetary and social consequences for the person who sustains them and their loved ones. Azadirachta indica leaf aqueous extract (AEAIL) has been shown to have wound healing capability. The AEAIL may be more useful as a wound therapy if it were developed into a topical aqueous cream.

Objectives: Using hydroxyproline (HXP) as a biochemical marker, the purpose of this work was to manufacture aqueous topical creams containing different concentrations of AEAIL as bioactive components, and then to assess their stability and wound healing activity in male Wistar rats.

Using DMSO, cholesterol, and distilled water as controls, we tested the wound healing capabilities of creams containing 1.0, 1.5, 2.0, and 3.0% w/w AEAIL on male Wistar rats over the course of 14 days.

The animals treated with the cream containing 1.5% w/w of AEAIL had the greatest tissue HXP level ( $p > 0.05$ ), and all batches of cream were stable in terms of color, pH, viscosity, etc. Animals given DMSO, cholesterol, or distilled water had decreased tissue HXP levels compared to those given test creams ( $p < 0.05$ ). Their HXP levels were somewhat lower than those of the control creams, but the difference was statistically significant ( $p < 0.05$ ).

The wound-healing properties of an aqueous cream containing an extract of Azadirachta indica leaves were shown to be stable. As a result, this novel formulation may be employed to heal wounds to the human body.


**Key words:** Wound healing; Aqueous cream; *Azadirachta indica* leaves; Bioactive ingredient; Hydroxyproline; Wistar rats

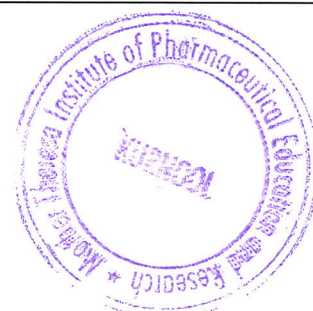
### Introduction

Injuries to the skin or other hard tissues of the body are known as wounds [1]. It weakens the victim's social network and their ability to make ends meet [2]. Damage to tissue can be caused by a variety of factors, including physical contact, chemicals, heat, bacteria, and the immune system [3, 4]. Damage is typically classified according to its severity, recovery rate, underlying pathology, mortality risk, and impact on the victim's quality of life [5, 6]. An open wound is defined as a break in the skin caused by a cut, abrasion, or a puncture.

A closed wound is recorded if a bruise results from a blunt force trauma. A burn is an injury caused by direct contact with an oxidizing or reducing agent, such as fire, heat, radiation, chemicals, electricity, or sunlight [3,4]. Recovering from an injury is a long and complex process that requires the injured part of the body to undergo a series of cellular and biochemical reactions that will lead to the restoration of the fundamental and functional constitution of the tissues as they were before the injury.

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## Development and Validation of a Gliadin Induced Intestinal Enteropathy Rat Model of Non-Celiac Gluten Sensitivity

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### Abstract

Ingestion of gluten-containing foods has been linked to a condition known as non-celiac gluten sensitivity (NCGS). Here, we create and verify a rat model of NCGS.

The experimental group received 0.02 M acetic acid solution while the control group received 1.5 mg/g of body weight of gliadin in acetic acid solution. It was administered intragastrically through gavage to rats beginning on postnatal day 2 and continuing for a total of six weeks, three times per week. Changes in body weight, intestinal permeability, histology, proinflammatory cytokines, and IgG antibodies against gliadin (AGA). A lactulose/mannitol solution (500/250 mg/kg respectively) was administered 24 hours before sacrifice, and urine was collected to determine intestinal permeability. Small intestines were obtained, fixed, and hematoxylin and eosin stained for histological analysis. Breast cancer resistance protein (ABCG2) and P-glycoprotein (MDR1a) uptake transporter gene expression in the intestine was analyzed by quantitative real-time polymerase chain reaction (qRT-PCR). Total anti-gliadin antibodies (AGA), AGA-IgA, AGA-IgM, and pro-inflammatory cytokines were measured in the blood samples taken.


**Keywords:** Celiac disease, non-Celiac gluten sensitivity, enteropathy, gluten, gliadin, animal model

### Introduction

Up to six percent of the U.S. population may suffer from non-celiac gluten sensitivity (NCGS), a reaction to eating or drinking anything containing gluten. Joint/muscle discomfort, headaches, weariness, and foggy thinking are only some of the systemic symptoms experienced by people with NCGS [1, 2]. Mass loss, sickness, inflammation, and other illnesses may also coexist [5, 6]. When gluten is removed from

the diet, these symptoms lessen, but they return when gluten is reintroduced. Increases in immunoglobulin A (IgA) and/or G (IgG) and positive anti-gliadin (AGA) or anti-deamidated gliadin peptide (anti-DGP) antibodies have also been found in individuals with NCGS [3, 4].

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## Phyllanthus niruri Linn. aqueous extract inhibits 2, 4-dinitrophenylhydrazine-induced anemia in rats.

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### Abstract

Jaundice, asthma, hepatitis, the flu, dropsy, diabetes, malaria, hemorrhages, diarrhea, and anemia are just some of the many conditions historically treated using the annual herb *Phyllanthus niruri* throughout Asia and Africa. The purpose of this research is to determine whether *P. niruri* has any antianemic properties by analyzing its haematological and biochemical characteristics in Wister rats with 2,4- dinitrophenylhydrazine-induced haemolytic anemia.

This investigation uses haematological and biochemical parameters and body weight to assess the plant extract's antianaemic activity in Wister rats with 2,4-dinitrophenylhydrazine-induced haemolytic anemia.

Folic acid served as a positive control, and three different dosages of plant extract (250, 500, and 1000 mg/ kg b.wt) were given to the test subjects. PCV, Hb, RBC, WBC, MCV, MCH, and Reticulocyte count were among the haematological markers tested. Total and unconjugated bilirubin and oxidative stress indicators (malonyl-CoA dehydrogenase, catalase, and superoxide dismutase) were also measured.

**Keywords:** *Phyllanthus niruri*; Antianaemic; 2,4-dinitrophenylhydrazine; Haemolytic anaemia; Oxidative stress markers

### Introduction

One of the most common blood-related illnesses in the world is anemia [1]. Although it may appear at any age, it is more common in pregnant women and small children [2]. Due to the frequency of malaria and other parasite illnesses that may reduce circulating red blood cells or hemoglobin level [3], anemia is more common in the tropics. WHO classifies anemia as a catastrophic public health issue (prevalence > 40%) in 69 countries for children less than five years old and in 68 countries

for pregnant women. National Family Health Survey (NFHS- 3) data shows that anemia affects 71% of people in the industrialized world, 84% of those in the developing world, and 79% of people worldwide [4]. Low iron levels are the leading cause of anemia. Malaria, parasite infection, dietary inadequacies, medication toxicity, and inherited or acquired defects are all potential causes of anemia [5].

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# A Review on Traditional Plants with Potential Anti-Arthritic Activity

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## Abstract

Traditional medicinal plants are used worldwide for the treatment of ailments like arthritis particularly in countries with abundant plant resources. The present review reflects plants profile dwelling throughout the world which are available in nature and their traditional use to treat arthritis. Although NSAIDS are used to treat inflammation they have several side effects, hence plant based anti-inflammatory agents can be preferred. Bibliographic study carried out by evaluating peer reviewed papers, obtaining worldwide recognized databases from the last few years. Various plants, plant parts and plant extracts used to treat arthritis are included in this review article. The plant profiles presented includes evidence about the scientific name, family, chemical constituents and Mechanism of action. Research status of twenty significant plant species with families have been provided.

## KEY WORDS

Arthritis, Types of Arthritis, Plant Distributions, Traditional Uses, Biological Activity

  
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