

### **3.2.1 Institution has created an ecosystem for innovations and has initiatives for creation and transfer of knowledge.**

Research and Promotion Policy establishes the research environment within which teachers, research scholars as well as postgraduate research students carry out their research. It also provides a suitable framework for the development and implementation of research management at institute. The Institute shall ensure that research in all fields that include trans and multidisciplinary types grows exponentially, keeping the ethical norms and research standards intact. This policy works - to create an excellent research ambiance and infrastructure; to facilitate inter-, multi- and trans-disciplinary research; to publish papers in reputed international journals, file patents and transfer technologies to relevant industries; to continuously monitor the research outputs for ensuring quality by appropriate committees; to recognize both faculty and students on their research output by a research award; to promote the globalization of research to achieve global visibility. The research facilities are being upgraded from time to time by the Institute. The Institute has a well defined policy for promotion of research at students and teachers level. The Institute has Academic Research Incentive (ARI) Policy to motivate the faculty members of institute to undertake quality research, consultancy and other research related activities.

The scope of the policy envisages, in particular:

1. To motivate our faculty members to concentrate on research related activities, in addition to the teaching, so as to publish research articles in reputed refereed international and national journals with impact factor.
2. To pursue efforts to write books/monographs for publication by the International and National publishers.
3. To evince interest among the members of faculty so that they take efforts to establish collaborative research projects with their counterparts in reputed Institutes/Universities.
4. To encourage our faculty members to submit proposals and secure funded research projects from various funding agencies in India and Abroad.
5. To undertake consultancy projects sponsored by government & private, industrial and other organizations.

6. To encourage creativity in the minds of faculty members, so that they make original contributions by way of products, concepts etc. and obtain patents.

The Institutional Innovation Cell (IIC) and All India Survey on Higher Education (AISHE) acts in coordination to achieve the different research goals. Institute has Research Labs in Pharmaceutical Chemistry and Pharmaceutics. The Institution provides state-of-the-art laboratories equipped with sophisticated instruments in the Central Instrumentation Room (CIR) like UV-Visible spectrophotometer, Brookfield viscometer, Digital Melting Point Apparatus, Digital Flame Photometer, Water Testing Kit, Digital Photo Fluorometer, Colorimeter, Centrifuge, Horizontal Paper Electrophoresis, Nephelometer, Polarimeter and Conductivity meter. Medicinal/Herbal garden and uninterrupted power supply is provided in the campus. The library is provided with separate reference/periodical section with back volumes and current journals/dissertations/thesis/Delnet for accessing e-journals for ready reference. The Institution has a number of linkages/collaborations with reputed Institutions and Universities for the promotion of research activities.

In the past five years, the institution has published 20 research articles in peer reviewed journals, presented 20 research Article in national and international seminars and conferences and written 2 books/book chapters and Published 5 Patents and 2 Grant Patents.

Many state/national level seminars sponsored by HPTU/ PCI/PharmaLok and guest lecturers have been organized and research awards have been won at national and international seminars and conferences.

The Institution facilitates effective implementation of research projects by providing full autonomy to the Principal Investigator for the procurement of instruments/consumables. Staff is given incentives and registration and travelling expenses for getting grants, publishing and presenting research findings and authoring books.

Director, Principal Investigator  
Gautam College of Pharmacy  
Hamirpur (H.P.)-177001



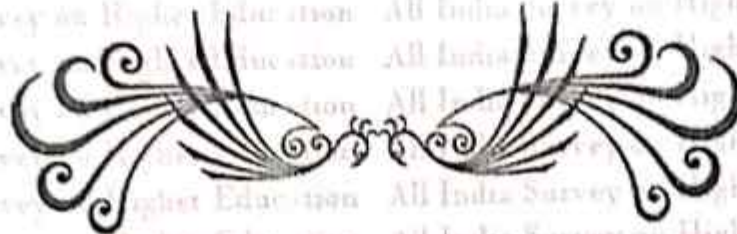
Government of India  
Ministry of Education

Department of Higher Education

Statistics Division

New Delhi

# Certificate



**Reference No.** C-62929-2022

This is to certify that Ravinder Khatri of Gautam College of Pharmacy Hamirpur has successfully uploaded the data of All India Survey on Higher Education(AISHE) 2022-2023.

*R Rajesh*

( Shri R. Rajesh )

Deputy Director General

**Dated:** 20/03/2024



**MoE's  
INNOVATION CELL**  
(GOVERNMENT OF INDIA)



**INSTITUTION'S  
INNOVATION  
COUNCIL**  
Ministry of Education, Government of India



# CERTIFICATE OF ESTABLISHMENT

This is to certify that

**Gautam College of Pharmacy Hamirpur, Hamirpur**

has established an Institution's Innovation Council (IC202431553) in the campus as per the norms of Innovation Cell, Ministry of Education, Govt. of India during the academic calendar year 2023-24

*Abhay Jere*

**Dr. Abhay Jere**  
Chief Innovation Officer  
Ministry of Education's Innovation Cell  
Certificate No: 21060

*Dipan Sahu*

**Shri. Dipan Kumar Sahu**  
Assistant Innovation Director  
Ministry of Education's Innovation Cell  
Aisha Code: C-63029


Director  
Gautam College of Pharmacy  
Hamirpur  
Date: 28-06-2024  
77001

## GAUTAM COLLEGE OF PHARMACY, Hamirpur (H.P.)

Members of IIC:

S.No.	Name	Designation	Teaching/Student/External member	IIC position
1.	Dr. Sanjay Kumar	Director cum Principal	Teaching Member	President/Convener
2.	Dr. Darsh Gautam	Prof. & HOD Pharmaceutics	Teaching Member	Vice President, Internship Activity Coordinator
3.	Mrs. Poonam	Associate Professor & HOD Pharmaceutical Chemistry	Teaching Member	IPR Activity Coordinator
4.	Mr. Ravinder khatri	Associate Professor & HOD Pharmacology	Teaching Member	Start up Activity Coordinator
5.	Mr. Akhil Moudgil	Assistant Professor (Pharmacology)	Teaching Member	Innovation Activity
6.	Mr. Aman Thakur	Assistant Professor (Pharmaceutics)	Teaching Member	Social Media Incharge
7.	Dr. Virender Bhardwaj	GM Quality and Regulatory head	External Member	Expert from nearby Industry
8.	Priya Mahajan	M.Pharm Student, (Pharmaceutical Chemistry)	Student Member	Innovation Coordinator
9.	Ruchi	M.Pharm Student, (Pharmaceutical Chemistry)	Student Member	IPR Coordinator
10.	Poonam Patyal	B.Pharm Student, (4 <sup>th</sup> year)	Student Member	Internship Coordinator
11.	Aditya Pathania	B.Pharm Student, (4 <sup>th</sup> year)	Student Member	Startup Coordinator
12.	Anshul Choudhary	B.Pharm Student, (3 <sup>rd</sup> year)	Student Member	Social Media Coordinator

Director, Pharmacy  
Gautam College of Pharmacy  
Hamirpur (H.P.)



**Proforma Tax Invoice**



**DELNET-Developing Library Network**  
 JNU Campus, Nelson Mandela Road, Vasant Kunj  
 New Delhi-110070  
 GSTIN/UIN: 07AAAAD2288G1ZV  
 Email: sangskaut2003@yahoo.co.in  
 Ph.No. +91-11-26742222, 26741232  
 Fax. +91-11-26741122

Invoice No  
 2024 / 67505

Date  
 05-June-2024

Membership No.  
 NewMember

Mode Of Payment  
 DD/Multicity-Cheque/NEFT

Reference No:

Gautam College of Pharmacy  
 Hamirpur  
 Pin: 177001  
 Himachal Pradesh  
 GSTIN/UIN:

S. No	Particulars	GST RATE	Amount ₹
1	Admission Fee	18%	5,000.00
2	Annual Institutional Membership Fee for the year 2024-25	18%	11,500.00
	IGST		2970.00
	<b>Total.</b>		<b>₹ 19,470.00</b>

Scan & Pay



DELNET Bank Details

A/C Holder Name: DELNET  
 Bank Name: Central Bank Of India  
 Branch: Khan Market, New Delhi-110003  
 A/c No:- 1065410992 (Saving Account)  
 IFSC CODE: CBIN0280310

E. & O.E

Amount Chargeable (in words)

₹ NINETEEN THOUSAND FOUR HUNDRED SEVENTY ONLY

SAC CODE:- 998431

Taxable Value	Integrated Tax	
	Rate	Amount
5000.00	18%	900.00
11500.00	18%	2070.00

Tax Amount (in words)

₹ TWO THOUSAND NINE HUNDRED SEVENTY ONLY

For Bank Transfer

**Kindly remit the amount through NEFT/RTGS only, DO NOT DEPOSIT THE CASH DIRECTLY TO DELNET BANK A/C.**

Remarks:

DELNET's PAN : AAAAD2288G

for DELNET- Developing Library Network  
 Authorised Signatory.

DD/CHEQUE SHOULD BE IN FAVOUR OF "DELNET". The DD should be made payable at "New Delhi" bank branch.

\*This is a Computer generated Invoice - The signatures are not required.\*

Director/Principal  
 Gautam College of Pharmacy  
 Hamirpur (H.P.) - 177001



# A & V Publications

RJPT House, Lokmanya Gnih Nirman Society, Rohanipuram, In-front of Sector- 1,  
Pt. Deendayal Upadhyay Nagar, Raipur 492 010. (CG) India.  
Phone No. 9406051618.  
E-mail: avpublications@gmail.com; Website: www.avpublication.org

SUBJECTED TO RAIPUR JURISDICTION

**TAX INVOICE**

INVOICE NUMBER:  
**AV/267/24-25**

INVOICE DATE:  
**13-May-2024**

**BANK DETAILS:**

Bank Name : State Bank Of India  
Bank Address : Ravishankar University, Raipur(CG) India - 492010  
A/C Number : 30863620032 IFSC Code : SBIN0003739  
Swift Code : SB IN IN BB 646 A/C Holder : A and V Publications

GSTIN : 22AAQFA7999C1Z4  
PAN No. : AAQFA7999C  
TIN No. : 22521107048  
LEGAL NAME: A and V Publications

**Billed To / Details of Receiver:**

Name : The Principal, Gautam College of Pharmacy  
Address : Ward No. 10, Ramnagar, Hamirpur-177001 Himachal Pradesh. Phone:- +91 94180 10420 Email:-  
ggchmr@gmail.com  
City/State/Country : Hamirpur, Himachal Pradesh (2), India

Scan to View Invoice



GSTIN :

Sr.No	Particulars	HSN/SAC	Qty	Unit Price	Amount	Discount	Taxable Value	GST Rate (%)	Net Amount
1	RJPT - Research Journal of Pharmacy and Technology (Jan-2024 TO Dec-2024   Print Subscription)	49029020	1	4000.00	4000.00	600.00	3400.00	0.00	3400.00
2	AJRC - Asian Journal of Research in Chemistry (Jan-2024 TO Dec-2024   Print Subscription)	49029020	1	2000.00	2000.00	300.00	1700.00	0.00	1700.00
3	RJPDF1 - Research Journal of Pharmaceutical Dosage Forms and Technology (Jan-2024 TO Dec-2024   Print Subscription)	49029020	1	2000.00	2000.00	300.00	1700.00	0.00	1700.00
4	RJPP - Research Journal of Pharmacognosy and Phytochemistry (Jan-2024 TO Dec-2024   Print Subscription)	49029020	1	2000.00	2000.00	300.00	1700.00	0.00	1700.00
5	RJPPD - Research Journal of Pharmacology and Pharmacodynamics (Jan-2024 TO Dec-2024   Print Subscription)	49029020	1	2000.00	2000.00	300.00	1700.00	0.00	1700.00
6	RJST - Research Journal of Science and Technology (Jan-2024 TO Dec-2024   Print Subscription)	49029020	1	2000.00	2000.00	300.00	1700.00	0.00	1700.00
7	AJPS - Asian Journal of Research in Pharmaceutical Sciences (Jan-2024 TO Dec-2024   Print Subscription)	49029020	1	2000.00	2000.00	300.00	1700.00	0.00	1700.00
8	AJPT - Asian Journal of Pharmacy and Technology (Jan-2024 TO Dec-2024   Print Subscription)	49029020	1	2000.00	2000.00	300.00	1700.00	0.00	1700.00
9	AJPR - Asian Journal of Pharmaceutical Research (Jan-2024 TO Dec-2024   Print Subscription)	49029020	1	2000.00	2000.00	300.00	1700.00	0.00	1700.00
10	AJPA - Asian Journal of Pharmaceutical Analysis (Jan-2024 TO Dec-2024   Print Subscription)	49029020	1	2000.00	2000.00	300.00	1700.00	0.00	1700.00
11	RJTCS - Research Journal of Topical and Cosmetic Sciences (Jan-2024 TO Dec-2024   Print Subscription)	49029020	1	1000.00	1000.00	500.00	500.00	0.00	500.00

In Words: Nineteen Thousand Two Hundred Only.

**Total (INR) = 19200**  
Round Off: - 0

Sr.No	HSN/SAC	Taxable Value	SGST Rate (%)	SGST Amt	CGST Rate (%)	CGST Amt	IGST Rate (%)	IGST Amt	Total Tax Amt
1	49029020	3400.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	49029020	1700.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	49029020	1700.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	49029020	1700.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	49029020	1700.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	49029020	1700.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	49029020	1700.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	49029020	1700.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	49029020	1700.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	49029020	1700.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	49029020	500.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Tax Amount (in words) Zero Only.

**Total Tax Amount (INR) = 0**  
Round Off: - 0

The sum of INR 19200/- is a payment on account of subscription by online transfer at account A and V Publications 30863620032 of State Bank Of India dated 13-May-2024.

**Terms & Conditions:**

- All subscription amount mentioned is as per year fee (Between January and December).
- Missing numbers will not be supplied if claims are received more than six months.
- The Publisher cannot accept responsibility for foreign delivery when records indicate posting has been made.
- Invoice subject to realization of demand draft/cheque.

This computer generated invoice is available online at: <http://avpublication.org/invoice.aspx?i=24515182048>



*D Sharma*

For, A and V Publications  
Authorised Signatory

Director Principal  
Gautam College of Pharmacy  
Hamirpur-177001

Print on plain paper | Print on letterhead



**HEALTH EDUCATION BUREAU**  
 (Bringing Innovations in Health & Learning)  
 Address: 55/20, Rajat Path, Mansarovar,  
 Jaipur, Rajasthan, Pin:302020  
 Contact:0141-2783681, 9636348191  
 Mail: serviceheb@gmail.com, support@heb-nic.in  
 Website: www.heb-nic.in

**INVOICE**

PAN NO: AJAPA7570J		GST Reg. No: 08AJAPA7570J128		INVOICE NO: JOHP/1734/2023			
Gautam College of Pharmacy Near bus stand Hamirpur, Distt. Hamirpur Himachal Pradesh PIN 177001.		FORM: A	PRODUCT CODE: HP-JEN	SUB PRODUCT CODE: ONLINE	BOOKING EXECUTIVE CODE: MHMAK		
CLIENT LOCATION: Hamirpur							
SR. NO.	DESCRIPTION	SUBSCRIPTION		AMOUNT IN RUPEES	GST	NET PRICE	CATEGORY
		FROM	TO				
1	Journal of Hospital Pharmacy (Print + Online free)	June-23	May-24	2970 ₹	NOT APPLICABLE	2970 ₹	INSTITUTION
AMOUNT IN WORDS: Two Thousand Nine Hundred and Seventy Rupees Only							

PAYMENT RECEIVED					BALANCE TO COLLECT				
MODE	AMOUNT	TRANS. NO.	DATE	BANK	MODE	AMOUNT	TRANS. NO.	DATE	BANK
NEFT/RTGS					NEFT/RTGS				
ANY OTHER	2970 ₹	--	--	--	ANY OTHER				
PAYMENT RECEIVED: Two Thousand Nine Hundred and Seventy Rupees Only					BALANCE TO COLLECT:				

FOR HEALTH EDUCATION BUREAU



AUTHORISED SIGNATORY  
 DATE: 10/05/2023

Bill Paid

*[Handwritten Signature]*

Account details for NEFT/RTGS

Name of A/C Holder: Health Education Bureau

Name of the Bank: UCO Bank

Account Number: 20960210003121

IFSC code: UCBA0002096

MICR Code: 302028023

Bank Branch Name & Code: Mansarovar, Jaipur Branch  
 Code: 002096

District & State: Jaipur, Rajasthan  
 Gautam College of Pharmacy  
 Hamirpur (H.P.)-177001





102-B, Poonam Chambers, A Wing,  
1st Floor, Dr. Annie Besant Road,  
Worli, Mumbai - 400 010.  
Maharashtra, India  
GSTIN/UIN: 27AAAT13594D1ZO  
State Name : Maharashtra, Code : 27  
Contact : 24874398 / 24944624 / 66626701, 9821866758  
E-Mail : account@idmaindia.com  
www.idma-essn.org

IDMA/0094/23-24	16-May-23
Delivery Note	Mode/Terms of Payment
Reference No. & Date.	Other References
Buyer's Order No.	Dated
Dispatch Doc No.	Delivery Note Date
Dispatched through	Destination
Terms of Delivery	

Buyer (Bill to)  
**Gautam College of Pharmacy-Hamirpur**  
Near Bus Stand, Hamirpur, Himachal Pradesh  
-177001  
State Name : Himachal Pradesh, Code : 02  
E-Mail : leeladevi.egranth@gmail.com

Sl No.	Particulars	HSN/SAC	GST Rate	Amount
1	Subscription (PI)	490290	0%	2,000.00
Total				2,000.00

Amount Chargeable (in words)  
**INR Two Thousand Only**

HSN/SAC	Taxable Value	
490290	2,000.00	
Total		2,000.00

Tax Amount (in words) : NIL

Remarks:  
Subscription Fees - Indian Drugs Journal - Jun'2023 to May'2024.

Company's PAN : AAAT13594D

Declaration  
We declare that this invoice shows the actual price of the services described and that all particulars are true and correct.

Company's Bank Details  
A/c Holder's Name : Indian Drug Manufacturers' Association  
Bank Name : Bank of Baroda - Current A/c (0242)  
A/c No. : 76080200000242  
Branch & IFS Code : WORLI & BARB0DBWORL  
SWIFT Code : BARBINBBWRB  
for Indian Drug Manufacturers' Association (IDMA)



SUBJECT TO MAHARASHTRA JURISDICTION

This is a Computer Generated Invoice

Bill Paid  
&  
Verified



Director Principal  
Gautam College of Pharmacy  
Hamirpur (H.P.)-177001

**IJPER**

**INDIAN JOURNAL OF PHARMACEUTICAL EDUCATION  
AND RESEARCH**

Association of Pharmaceutical Teachers of India  
Krupanidhi College of Pharmacy  
Chikka Bellandur, Carmelram Post, Varthur Hobli,  
Bangalore 560035, Karnataka, India  
Call Us : +91 9008888415, Email : aptenquiry@gmail.com

Date : 25-May-2023

No : IJPER/SB249/2023

**RECEIPT**

Ref.No : 000000000735

Received with thanks a sum of Rs. 8500 from Gaurtam College of Pharmacy vide Online ,  
Dated : 02-05-2023 for the Subscription Of IJPER for year 2023

SL No.	Description	Quantity	Year
1	For Institutions / Individuals Indian Journal of Pharmaceutical Education & Research Bi-monthly, 6 Issues per year, Subscribe your copy for 2023 (Vol 57)	6 issues	2023

\* This is Auto Generated Receipt, does not require signature.  
Amount Received : Rs.8500/-

**Important Note:**

1. All our journals are posted through IndiaPost the docket no will be notified to subscribed email id / mobile via sms, as and when journals dispatch.
2. In case of non-deliverability, the subscriber need to revert back within 15 days of email / sms. For us to help track the journal.
3. Queries regarding non-deliverability of journals beyond 30 days of dispatch notification would not be processed.

Regards  
Association Of Pharmaceutical Teachers Of India





# The Indian Pharmaceutical Association

Kalina, Santacruz (E), Mumbai - 400 008. Tel. : + 91 - 22 - 26671072 • Fax : + 91 - 22 - 26670744 • Website : www.ipharma.org

No. R-2148 Date: 2023-06-07 17:48:33 Memb. No. HP PT-ON SUB-000001 Valid upto: 2023-12-31 00:00:00  
Received From: THE PRINCIPAL  
GAUTAM COLLEGE OF  
PHARMACY

Member Type	Adm Fee	Bank chq	Postage	Misc	S. Tax
PT	3500				3500
The sum of	INR 3500				
for which subscription for the year is	2023-06-07 17:48:33-2023-12-31 00:00:00				
Cheque* Cash DD No	INR/FT				

Hon. Treasurer

Note: This receipt is computer generated and no signature is required



Bill Paid & Verified   


Bill Paid  
V V  
  
Director, Principal  
Gautam College of Pharmacy  
Hamirpur (P) 177001

Receipt No: 1A83  
Date: 02-05-2023

**ATHENAEUM SOLUTIONS PVT. LTD.**  
**अथेनियम सोल्युशन्स प्रा. ली.**

Print & e-Media Subscription Services

7/2, First Floor, Yashaka Banglow, Chandroday Society, Swastik Park, Chembur, Mumbai 400 071

Email: athenaeumsolutions@gmail.com, info@athenaeumsolutions.com, Contact No. 9769245636 / 9833848283

CIN : U22210MH2016PTC279956

GST : 27AAOCA3367R1ZT

Received with Thanks from Mr / Mrs / College

The Principal

Gautam College of Pharmacy, Hamirpur

A Sum of

Rs. 20,750.00 (In Words)

Rupees Twenty Thousand Seven Hundred Fifty Only

Payment Received by-NEFT-N122232440918114

Drawn On :

Date : 02-05-2023

Payment for Journals Supply 2023-24

Against of Invoice No

3178

Date 2-1-03-2023

For ATHENAEUM SOLUTIONS PVT. LTD.



City Signatory

Director, Principal  
Gautam College of Pharmacy  
Hamirpur, Jammu 191001

# ATHENAEUM SOLUTIONS PVT. LTD.

Print Media Subscription Services

7/2 First Floor, Yashaka Banglow, Chandroday Society, Swastik Park, Chembur, Mumbai 400 071

Contact No. 9769245636/ 9833848283, Email :- athenaeumsolutions@gmail.com, info@athenaeumsolutions.com



CIN : U32100MH2014PTC119354

GST : 27AAOCA3381R127

The Principal

Gautam College of Pharmacy, Hamirpur

Near Bus Stand, Hamirpur, Distt. Hamirpur

Himachal Pradesh - 177001

gchmr@gmail.com, leeladevi.eeranth@gmail.com

Invoice	3178
Date :	21-03-2023
Ref :	E.Mail
Date :	21-03-2023

Subscription Period : January to December 2023

Sr. No	Journal Name	Frqncy	Currency	Sub.Rate	Rate of Year
1	Indian Journal of Pharmacology	6	INR	9150.00	2023 Rate
2	International Journal of Applied Pharmaceutics	6	INR	5500.00	2023 Ra
3	International Journal of Pharmaceutical Chemistry and Analysis	4	INR	6100.00	2023 Rate
Total				20750.00	

Rupees Twenty Thousand Seven Hundred Fifty Only

For Athenaeum Solutions Pvt. Ltd.



### Our Terms

- We quote Publishers' price only With Delivery to Library
- No handling charges from our side
- We accept the payment in advance as we need to pay in advance to the publishers
- 6 - 8 weeks for Indian Journals and 10 - 14 weeks for foreign journals for starting after receipt of the order. Please inform us for non-receipt of issues in once in a month.
- Subscription once enlisted cannot be cancelled / refunded
- All disputes are subject to Mumbai Jurisdiction only.
- Complaints for missing issues will be entertained only if received within two months of the missing issue's date
- As per the provisions of GST Laws, supply of Printed version of Magazines, Periodicals, News Journals, etc. are exempt and not chargeable to GST

- Please Make Cheque / DD in favor of "ATHENAEUM SOLUTIONS PRIVATE LIMITED"

### NEFT / RTGS Details

Name of Bank : ICICI Bank Ltd.

Name of Account : ATHENAEUM SOLUTIONS PRIVATE LIMITED

Account No : 121405000227

RTGS / NEFT IFSC code : ICIC0001214

Tilak Nagar, Chembur Branch, Mumbai-400089

Bill Paid

Verified

Director  
Gautam College of Pharmacy  
Hamirpur (H.P.)-177001



**HEALTH EDUCATION BUREAU**  
*(Bringing Innovations in Health & Learning)*  
 Address: 55/20, Rajat Path, Mansarovar  
 Jaipur, Rajasthan, Pin:302021  
 Contact:0141-2783681, 9636348191  
 Mail: serviceheb@gmail.com, support@heb-nc.lt  
 Website: www.heb-nc.lt

**INVOICE**

PAN NO: AGAIA7570J

GST Reg. No: 08AIA7570J1ZB

INVOICE NO: JOHP/1734/2022

DATE: 21/03/2022

Gautam College of Pharmacy  
 near bus stand Hamirpur, Distt. Hamirpur  
 Himachal Pradesh PIN 177001.

FORM:	PRODUCT CODE:	SUB PRODUCT CODE:	BOOKING EXECUTIVE CODE:
A	HP-JEN	ONLINE	MIIMAK

CLIENT LOCATION: Hamirpur

SR. NO.	DESCRIPTION	SUBSCRIPTION		AMOUNT IN RUPEES	GST	NET PRICE	REMARKS	CATEGORY
		FROM	TO					
1	JOHP (PRINT)	JAN-22	DEC-22	2970 ₹	NOT APPLICABLE	2970 ₹	-	INSTITUTION

AMOUNT IN WORDS: Two Thousand Nine Hundred Seventy Only

**PAYMENT RECEIVED**

**BALANCE TO COLLECT**

MODE	AMOUNT	TRANS. NO.	DATE	BANK	MODE	AMOUNT	TRANS. NO.	DATE	BANK
D. CHEQUE					D.D./CHEQUE				
NEFT/RTGS	2970 ₹	-	15.03.2022	-	NEFT/RTGS				
ANY OTHER					ANY OTHER				

PAYMENT RECEIVED: Two Thousand Nine Hundred Seventy Only

BALANCE TO COLLECT:

FOR HEALTH EDUCATION BUREAU

**Account details for NEFT/RTGS**

Name of A/C Holder: Health Education Bureau  
 Name of the Bank: UCO Bank  
 Account Number: 20960210003121  
 IFSC code: UCBA0002096



Director  
 Health Education Bureau  
 Hamirpur (H.P.)-177001

ail

Mail - P.W. Shubhag...

Manika Gautam <wondergirlvalshu@gmail.com>

Subscription Added

L MOUDGIL <moudgil@ippharma.org>  
<wondergirlvalshu@gmail.com>

Mon, Mar 21, 2022 at 3:0

Forwarded message

From: <admin@ippharma.net>  
Date: Mon, Mar 21, 2022, 15:05  
Subject: Subscription Added  
To: <moudgil@ippharma.org>  
Cc: <ipaccounts@ippharma.org>, <magazine@ippharma.org>



# The Indian Pharmaceutical Association

Kalina, Santacruz (E), Mumbai - 400 098. Tel. : + 01 - 22 - 26671072 • Fax : + 01 - 22 - 26670744 • Website : [www.ippharma.org](http://www.ippharma.org)

No: 1081 Date: 2022-03-21 Memb. No.: HRUCHWON/IPS/000202 Valid upto: 2022-12-31  
Received From: THE PRINCIPAL  
GAUTAM COLLEGE  
OF PHARMACY,  
WARD NO. 10,  
NEAR BUS STAND,  
HAMIRPUR, DIST  
HAMIRPUR,  
HIMACHAL  
PRADESH 177001  
HR 177001

Mem Fee	Member Type	Adm. Fee	Bank chg	Postage	Misc.	S. Tax.	Total (Rs.)
3500		0.00				0	3500

The sum of : Three Thousand Five Hundred Rupees  
towards subscription for the year/s : 2022-2027  
Cheque\* /Cash/DD/No. : NEFT

\*Cheque subject to realisation Hon. Treasurer

Note : This receipt is computer generated and no signature is required

Director/Principal  
Gautam College of Pharmacy  
Hamirpur (H.P.)-177001

Acknowledgement - IJPER Subscription No.: IJPER/SB154/2022

AKHIL MOUDGIL <moudgil.akhilpharma@gmail.com>  
wondergirlvaishu@gmail.com

Mon, Mar 21, 2022 at 12:2

----- Forwarded message -----  
From: APTI <info@aptiindia.org>  
Date: Fri, Mar 18, 2022 at 4:07 AM  
Subject: Acknowledgement - IJPER Subscription No.: IJPER/SB154/2022  
To: <moudgil.akhilpharma@gmail.com>, <aptenquiry@gmail.com>

IJPER

INDIAN JOURNAL OF PHARMACEUTICAL EDUCATION AND RESEARCH

Association of Pharmaceutical Teachers of India  
KLE College of Pharmacy  
P.B.No. 1062, II Block, Rajajinagar  
Bengaluru - 560010, Karnataka State - India  
Call Us : +91 9008888415 , Email : aptienquiry@gmail.com

No : IJPER/SB154/2022

Date : 16-Mar-2022

RECEIPT

Received with thanks a sum of Rs. 6500 from Gautam College of Pharmacy vide Online , Ref.No : SBIN0032295 Dated : 15-03-2022 for the Subscription Of IJPER for year 2022

Sl. No.	Description	Quantity	Year
1	For Institutions / Individuals Indian Journal of Pharmaceutical Education & Research Vol. 58, 1 to 4, January - December, 2022	4 Issues	2022

\* This is Auto Generated Receipt, does not require signature.

Amount Received : Rs.6500/-

- Important Note:
1. All our journals are posted through IndiaPost the docket no will be notified to subscribed email id / mobile via sms, as and when journals dispatch.
  2. In case of non-deliverability, the subscriber need to revert back within 15 days of email / sms. For us to help track the journal.
  3. Queries regarding non-deliverability of journals beyond 30 days of dispatch notification would not be processed.

Regards  
Association Of Pharmaceutical Teachers Of India

Director Principal  
Gautam College of Pharmacy  
Hamirpur (H.P.) - 191001





# Gautam College of Pharmacy

## Hamirpur (H.P.) 177001

Ref. No.....

Dated.....

## LIST OF JOURNALS SUBSCRIBED - 2022

S.NO	NAME OF JOURNAL	FREQUENCY	PUBLISHERS
1	International Journal of Pharmaceutical Sciences & Research	Quarterly	AkiNik Publishers
2	Journal of Hospital Pharmacy	Quarterly	Health education bureau
3	Indian Journal of Pharmaceutical Sciences	Quarterly	Medknow publishers
4	Indian Journal of Pharmaceutical Sciences & Research	Quarterly	Association of pharmaceutical teachers of India
5	Indian Drugs Journal	Quarterly <i>monthly</i>	Indian drug manufacturer association
6	Indian Journal of Natural Product and Resources	Quarterly	National institute of science communication and information Resources
7	Indian Journal of Chemistry	Monthly	National institute of science communication and information Resources
8	Pharma Times	Monthly	Elsevier
9	Drug Today	Quarterly	Drug today group of publication

*[Signature]*  
Director Principal  
Gautam College of Pharmacy  
Hamirpur (H.P.)-177001

*[Signature]*  
05/04/2022  
Director Principal  
Gautam College of Pharmacy  
Hamirpur (H.P.)-177001

TAX INVOICE (GST)

(ORIGINAL FOR RECIPIENT)



Indian Drug Manufacturers' Association (IDMA)  
 102, Poonam Chambers, A Wing,  
 1st Floor, Dr. Annie Besant Road,  
 Worli, Mumbai - 400 018,  
 Maharashtra, India  
 GSTIN/UIN: 27AAAT13594D1ZO  
 State Name : Maharashtra, Code : 27  
 Contact : 24974308 / 24944624 / 95626901, 9821666753  
 E-Mail : accounts@idmaindia.com

Invoice No.	Dated
IDMA/0862/21-22	15-Mar-22
Delivery Note	Mode/Terms of Payment
Reference No. & Date.	Other References
Buyer's Order No.	Dated
Dispatch Doc No.	Delivery Note Date
Dispatched through	Destination
Terms of Delivery	

Buyer (Bill to)  
**Gautam College of Pharmacy Hamirpur**  
 MGM8+8QC, ward 10, Ram Nagar, Hamirpur,  
 Himachal Pradesh-177001, ggchmr@gmail.  
 com  
 State Name : Himachal Pradesh, Code : 02

Sl No	Particulars	HSN/SAC	GST Rate	Amount
1	Subscription-Indian Drugs Journal	4902	0 %	2,000.00
Total				₹ 2,000.00

Amount Chargeable (in words) E. & O.E.  
**INR Two Thousand Only**

HSN/SAC	Taxable Value
4902	2,000.00
Total	2,000.00

Tax Amount (in words) : NIL

Remarks:  
 Subscription for Indian Drug Journal for the year 2022.

Company's PAN : AAAT13594D

Declaration  
 We declare that this invoice shows the actual price of the services described and that all particulars are true and correct.

Company's Bank Details  
 A/c Holder's Name : Indian Drug Manufacturers' Association  
 Bank Name : Bank of Baroda - Current A/c (0242)  
 A/c No. : 76080200000242  
 Branch & IFS Code: Worli & BARB0VJWORLD

for Indian Drug Manufacturers' Association (IDMA)  
 For Indian Drug Manufacturers' Association

Authorized Signatory

SUBJECT TO MAHARASHTRA JURISDICTION

This is a Computer Generated Invoice. Melvin Rodrigues  
 Sr. Manager  
 Commercial & Administration

Director  
 Gautam College of Pharmacy  
 Hamirpur (H.P.)-177001



Monika Gautam <wondergirlvalshu@gmail.com>

wd: Subscription Added  
1 message

Mon, Mar 21, 2022 at 3:0

AKHIL MOUDGIL <moudgil.akhilpharma@gmail.com>  
To: wondergirlvalshu@gmail.com

Forwarded message  
From: <admin@ipapharma.net>  
Date: Mon, Mar 21, 2022, 14:59  
Subject: Subscription Added  
To: <moudgil.akhilpharma@gmail.com>  
Cc: <paaccounts@ipapharma.org>, <magazine@ipapharma.org>



# The Indian Pharmaceutical Association

Kalina, Santacruz (E), Mumbai - 400 098. Tel. : + 91 - 22 - 26671072 • Fax : + 91 - 22 - 26670744 • Website : www.ipapharma.org

No: 2248 Date: 2022-03-21 17:28:50 Memb. No.: HP/PT/ON/SUB/000001 Valid upto: 2022-12-31 00:00 0

Received From: THE PRINCIPAL  
GAUTAM COLLEGE  
OF PHARMACY,

Member Type	Adm. Fee	Bank chg	Postage	Misc.	S. Tax.
	3000				3000

The sum of :3000  
towards subscription for the year/s : 2022-03-21 17:28:50-2022-12-31 00:00:00  
Cheque\* /Cash/DD/No. :NEFT

\*Cheque subject to realisation Hon. Treasurer

Note : This receipt is computer generated and no signature is required

Director/Principal  
Gautam College of Pharmacy  
Hamber (H.P.)-177001



# Gautam College of Pharmacy, Hamirpur

(Approved by PCI - New Delhi & Himachal Government)

01972-292018, 221493 ggchmr@gmail.com

Affiliated to Himachal Pradesh Technical University, Hamirpur & Himachal Pradesh Technical Education Board, Dharamshala  
Address: - Ward No. 10 Hamirpur (Himachal Pradesh)

Memo No: GCPH(HMR)/

Date:-16-04-2022

## Academic Research Incentive Policy

### 1. Purpose

The purpose of this policy is to promote and encourage academic research within the Gautam Group of Colleges. This policy aims to recognize and reward faculty members and students who contribute significantly to research activities, thereby enhancing the institution's academic reputation and fostering a culture of innovation and inquiry.

### 2. Objectives

- 2.1. To encourage faculty and students to engage in high-quality research activities.
- 2.2. To provide financial and non-financial incentives for published research.
- 2.3. To support and enhance the research infrastructure and resources available to researchers.
- 2.4. To foster interdisciplinary and collaborative research efforts.

### 3. Eligibility

- 3.1. Faculty members, research scholars; and students who have conducted research and published their work in recognized journals, conferences, or other reputable platforms.
- 3.2. Research work that aligns with the institution's academic goals and contributes to the advancement of knowledge in the respective field.

### 4. Incentives

#### 4.1 Financial Incentives:

##### 4.1.1 Publication in Indexed Journals:

- 4.1.1.1 Faculty members and students who publish research papers in Scopus-indexed or Web of Science-indexed journals will receive a monetary reward.
- 4.1.1.2 Additional bonuses for publications in high-impact factor journals.

##### 4.2 Conference Presentations:

- 4.2.1 Financial support for travel and accommodation to present research at national and international conferences.
- 4.2.2 Monetary reward for papers presented at prestigious conferences.

##### 4.3 Research Grants:

- 4.3.1. Faculty members can apply for internal research grants to support their research projects.
- 4.3.2. Additional funds for projects that secure external funding.

##### 4.4 Non-Financial Incentives:

###### 4.4.1 Recognition and Awards:

- 4.4.1.1 Annual awards for outstanding research contributions.
- 4.4.1.2 Certificates of recognition for significant research achievements.

###### 4.4.2 Research Support:

- 4.4.2.1 Access to advanced research facilities and resources.
- 4.4.2.2 Administrative support for research-related activities.

###### 4.4.3 Professional Development:

- 4.4.3.1 Opportunities for faculty to attend workshops, seminars, and training programs related to research and publication.

## 5. Application Process

### 5.1 Submission:

5.1.1 Researchers must submit their research work along with proof of publication or conference presentation to the Research Committee.

### 5.2 Review:

5.2.1 The Research Committee will review the submissions based on the quality and impact of the research.

### 5.3. Approval:

5.3.1 Approved applicants will be notified and provided with the details of the incentive disbursement.

## 6. Monitoring and Evaluation

6.1. The Research Committee will monitor the implementation of this policy and evaluate its effectiveness annually.

6.2 Feedback from faculty and students will be gathered to improve and update the policy as needed.

## 7. Responsibilities of Research Committee:

7.1. To oversee the application and evaluation process.

7.2. To ensure fair and transparent distribution of incentives.

7.3. To actively engage in research activities and adhere to ethical standards.

7.4. To submit accurate and timely documentation for incentive applications.

## 8. Review and Amendments

8.1 This policy will be reviewed periodically and may be amended as necessary to reflect the evolving research landscape and institutional goals.



Managing Director  
Gautam Group of Colleges



Managing Secretary  
Gautam Group of Colleges



Director Principal  
Gautam College of Pharmacy  
Hamirpur (H.P.)-177001

S. No.	Inventor (s)	Title of Invention	Date of Publication/Grant by Patent Office of India/Others Country	Application Number/Design Number	Status
<b>List of Patent Granted during last five Years</b>					
1	Ms. Varsha Devi etc.	Breast cancer detection device using micro calcification.	17-06-2024 (UK Patent)	6370920	Grant
2	Mr. Ravinder Khatri etc.	AI based ocular drug delivery device to control diabetic retinopathy.	11-06-2024 (UK Patent)	6369427	Grant
<b>List of Patent Published during last five Years</b>					
1	Dr. Sanjay Kumar etc.	Immediate release granules formulation for management of hypertension	10-5-2024 (Indian Patent)	20241102221A	Published
2	Dr. Sanjay Kumar, Mr. Akhil Moudgil, Mrs. Kumari Varsha, Mrs. Shivali etc.	Formulation comprising extracts of brassica juncea seeds for wound healing activity	01-09-2023 (Indian Patent)	202311053137	Published
3	Dr. Sanjay Kumar, Mr. Akhil Moudgil, Mrs. Kumari Varsha etc.	A polyherbal formulation as an immunity booster	17-03-2023 (Indian Patent)	202311011797 A	Published
4	Mr. Akhil Moudgil, Mrs. Kumari Varsha etc.	Method for formulation of Immediate release tablets	02-09-2022 (Indian Patent)	202211049644 A	Published
5	Dr. Sanjay Kumar etc.	Machine learning based automatic waste management for e-environment	15-01-2021 (Indian Patent)	202021053077 A	Published

  
 Director (Patent)  
 Gauhati Intellectual Property Office  
 Harypur (H.A. No. 17703)



Intellectual  
Property  
Office

## Certificate of Registration for a UK Design

Design number: 6370920

Grant date: 17 June 2024

Registration date: 10 June 2024

### This is to certify that,

in pursuance of and subject to the provision of Registered Designs Act 1949, the design of which a representation or specimen is attached, had been registered as of the date of registration shown above in the name of

Dr. Manish Kumar, Mrs. Amruta Ravindra Patil, Miss Varsha Devi, Dr. Shadma

Wahab, Miss Jyoti Ashok Shiwankar, Mrs. Avani Mishra, Dr. Tasneem

Mohammed, Dr. Sangeeta Dureja, Miss. Nasrina Abdin, Dr. Himani Dureja

in respect of the application of such design to:

**BREAST CANCER DETECTION DEVICE USING MICRO CALCIFICATION**

International Design Classification:

Version: 14-2023

Class: 24 MEDICAL AND LABORATORY EQUIPMENT

Subclass: 01 APPARATUS AND EQUIPMENT FOR DOCTORS, HOSPITALS  
AND LABORATORIES

*Adam Williams*

**Adam Williams**

Comptroller-General of Patents, Designs and Trade Marks

Intellectual Property Office

The attention of the Proprietor(s) is drawn to the important notes overleaf.



Intellectual Property Office is an operating name of the Patent Office

www.ukipo

Director, Principal  
Gautam, College of Pharmacy  
Hamirpur, P.O. 177001



Intellectual  
Property  
Office

## Certificate of Registration for a UK Design

Design number: 6369427

Grant date: 11 June 2024

Registration date: 31 May 2024

This is to certify that,

in pursuance of and subject to the provision of Registered Designs Act 1949, the design of which a representation or specimen is attached, had been registered as of the date of registration shown above in the name of

Dr. Rahul Bhagwat Patil, Dr. Satnam Singh, Prof. Yousif Mohamed Abdallah, Mr.

Ravinder Khatri, Dr. Tasneem Mohammed, Dr. Balakrishnan Ramajayam

Asokan, Mr. Tirthesh Devichand Paratwar, Mrs. Gitanjali Shivaji Bhatjire, Miss.

Priyanka Padurang Thore, Ms. Sonali Angadrao Gore

in respect of the application of such design to:

AI Based Ocular Drug delivery device to control diabetic Retinopathy

International Design Classification:

Version: 14-2023

Class: 24 MEDICAL AND LABORATORY EQUIPMENT

Subclass: 02 MEDICAL INSTRUMENTS, INSTRUMENTS AND TOOLS FOR LABORATORY USE

*Adam Williams*

**Adam Williams**

Comptroller-General of Patents, Designs and Trade Marks

Intellectual Property Office

The attention of the Proprietor(s) is drawn to the important notes overleaf.



Intellectual Property Office is an operating name of the Patent Office

Director, Principal  
Gautam College of Pharmacy  
Hamirpur, J.K.P. 177001



(12) PATENT APPLICATION PUBLICATION

(21) Application No.202411032221 A

(19) INDIA

(22) Date of filing of Application :23/04/2024

(43) Publication Date : 10/05/2024

(54) Title of the invention : IMMEDIATE RELEASE GRANULES FORMULATION FOR MANAGEMENT OF HYPERTENSION

(51) International classification :A61P0009120000, A23L0027300000, A61K0009160000, A61K0009200000, A61K0031540000

(86) International Application No :NA  
Filing Date :NA

(87) International Publication No : NA

(61) Patent of Addition to Application Number :NA  
Filing Date :NA

(62) Divisional to Application Number :NA  
Filing Date :NA

(71)Name of Applicant :

1)Ms. Rajni Devi

Address of Applicant :Research Scholar, Department of Pharmaceutical and Health Sciences, Career Point University, Hamirpur, Himachal Pradesh- 176041 Hamirpur -----

2)Dr. Sanjay Kumar

3)Dr. Anjana Devi

4)Mrs. Kiran Thakur

Name of Applicant : NA  
Address of Applicant : NA

(72)Name of Inventor :

1)Ms. Rajni Devi

Address of Applicant :Research Scholar, Department of Pharmaceutical and Health Sciences, Career Point University, Hamirpur, Himachal Pradesh- 176041 Hamirpur -----

2)Dr. Sanjay Kumar

Address of Applicant :Director cum Principal, Gautam College of Pharmacy Hamirpur, Himachal Pradesh-177001 Hamirpur -----

3)Dr. Anjana Devi

Address of Applicant :Assistant Professor, Department of Pharmaceutical and Health Sciences, Career Point University Hamirpur, Himachal Pradesh- 176041 Hamirpur -----

4)Mrs. Kiran Thakur

Address of Applicant :Research Scholar, Department of Pharmaceutical and Health Sciences, Career Point University, Hamirpur, Himachal Pradesh- 176041 Hamirpur -----

(57) Abstract :

ABSTRACT The present disclosure relates to an immediate release granules formulation for management of hypertension. The formulation includes a thiazide drug; Super disintegrants; Bulking materials; Emulsifying agents; Flavours and sweeteners; and Lubricants. Figure 1

No. of Pages : 26 No. of Claims : 7

Director Principal  
Gautam College of Pharmacy  
Hamirpur (P.)-177001



Office of the Controller General of Patents, Designs & Trade Marks  
Department of Industrial Policy & Promotion,  
Ministry of Commerce & Industry,  
Government of India

(<http://ipindia.nic.in/index.htm>)



(<http://ipindia.nic.in/index.htm>)

### Application Details

APPLICATION NUMBER	202311053137
APPLICATION TYPE	ORDINARY APPLICATION
DATE OF FILING	08/08/2023
APPLICANT NAME	1 . Dr. Sanjay Kumar 2 . Mr. Tarun Kumar 3 . Mrs. Upasana Thakur 4 . Mrs. Archana Chaudhary 5 . Mrs. Shavinder Kumari 6 . Mr. Keshav Dhiman 7 . Dr. Nayan Ashok Gujarathi 8 . Mr. Akhil Modugl 9 . Mrs. Kumari Varsha 10 . Mrs. Shivali
TITLE OF INVENTION	FORMULATION COMPRISING EXTRACTS OF BRASSICA JUNCEA SEEDS FOR WOUND HEALING ACTIVITY
FIELD OF INVENTION	CHEMICAL
E-MAIL (As Per Record)	info@unipatrde.com
ADDITIONAL-EMAIL (As Per Record)	neha.goyal@unipatrde.com
E-MAIL (UPDATED Online)	
PRIORITY DATE	
REQUEST FOR EXAMINATION DATE	--
PUBLICATION DATE (U/S 11A)	01/09/2023

### Application Status

Director (Patents)  
Gautam College of Pharmacy  
Hamirpur - 177001

(22) Date of filing of Application : 08/08/2023

(54) Title of the invention : FORMULATION COMPRISING EXTRACTS OF BRASSICA JUNCEA SEEDS FOR WOUND HEALING ACTIVITY

(51) International classification A61K009900000, A61P0017020000, A61E0031635000,  
A61K0011380000, A61K0099060000

(86) International Application No. NA  
Filing Date NA

(87) International Publication No. NA

(61) Patent of Addition to Application Number NA  
Filing Date NA

(62) Divisional to Application Number NA  
Filing Date NA

(71) Name of Applicant :  
1) Dr. Nanjay Kumar  
Address of Applicant : Associate Professor, Department of Pharmacognosy, Laureate Institute of Pharmacy, Kathog, Himachal Pradesh-176031, India Kathog -----  
2) Mr. Tarun Kumar  
3) Mrs. Upasana Thakur  
4) Mrs. Archana Chaudhary  
5) Mrs. Shavinder Kumari  
6) Mr. Keshav Dhiman  
7) Dr. Nayan Ashok Gujarathi  
8) Mr. Akhil Modugil  
9) Mrs. Kumari Varsha  
10) Mrs. Shivali  
Name of Applicant : NA  
Address of Applicant : NA

(72) Name of Inventor :  
1) Dr. Nanjay Kumar  
Address of Applicant : Associate Professor, Department of Pharmacognosy, Laureate Institute of Pharmacy, Kathog, Himachal Pradesh-176031, India Kathog -----  
2) Mr. Tarun Kumar  
Address of Applicant : Assistant Professor, Department of Pharmaceutics, Laureate Institute of Pharmacy, Kathog, Himachal Pradesh-176031, India Kathog -----  
3) Mrs. Upasana Thakur  
Address of Applicant : Assistant Professor, Department of Pharmaceutics, Govt Pharmacy College Rakkar, Himachal Pradesh-177043, India Rakkar -----  
4) Mrs. Archana Chaudhary  
Address of Applicant : Assistant Professor, Department of Pharmaceutics, Laureate Institute of Pharmacy, Kathog, Himachal Pradesh-176031, India Kathog -----  
5) Mrs. Shavinder Kumari  
Address of Applicant : Assistant Professor, Department of Pharmacology, Laureate Institute of Pharmacy, Kathog, Himachal Pradesh-176031, India Kathog -----  
6) Mr. Keshav Dhiman  
Address of Applicant : Assistant Professor, Department of Pharmaceutics, Laureate Institute of Pharmacy, Kathog, Himachal Pradesh-176031, India Kathog -----  
7) Dr. Nayan Ashok Gujarathi  
Address of Applicant : Associate Professor, Vile Parle Kelavani Mandals Institute of Pharmacy, Dhule Maharashtra, India Dhule -----  
8) Mr. Akhil Modugil  
Address of Applicant : Assistant Professor, Department of Pharmacology, Gautam College of Pharmacy, Hamirpur, Himachal Pradesh-177001, India Hamirpur -----  
9) Mrs. Kumari Varsha  
Address of Applicant : Assistant Professor, Department of Pharmaceutics, Gautam College of Pharmacy, Hamirpur, Himachal Pradesh-177001, India Hamirpur -----  
10) Mrs. Shivali  
Address of Applicant : Assistant Professor, Department of Pharmaceutical Chemistry, Gautam College of Pharmacy, Hamirpur, Himachal Pradesh-177001, India Hamirpur -----

(57) Abstract  
ABSTRACT FORMULATION COMPRISING EXTRACTS OF BRASSICA JUNCEA SEEDS FOR WOUND HEALING ACTIVITY The present disclosure relates to a pharmaceutical formulation comprising extracts of Brassica juncea to heal wounds. The formulation is in coarse powder form and includes 1% w/w Silver sulfadiazine, aqueous seed extract of Brassica juncea, and Ethanolic seed extract ointment of Brassica juncea. The formulation is in spherical shape and is bitter in taste. Figure 1

No. of Pages : 26 No. of Claims : 7

Patent Office  
Hamirpur  
Himachal Pradesh  
177001

(12) PATENT APPLICATION PUBLICATION

(19) INDIA

(22) Date of filing of Application :21.02/2023

(21) Application No.202311011797 A

(43) Publication Date : 17/03/2023

(54) Title of the invention : A POLYHERBAL FORMULATION AS AN IMMUNITY BOOSTER

(51) International classification :A61K 361850, A61K 362200, A61K 391200, A61P 370400, B60N 022800

(86) International Application No : NA

(87) International Publication No : NA

(84) Patent of Addition to Application Number : NA

(82) Divisional to Application Number : NA

Filing Date : NA

(71) Name of Applicant :  
 1)Dr. Shashi Punam  
 Address of Applicant :Associate Professor Department of Social Work Sapt Sindhia Parwar-II, Dehra, District Kangra Central University of Himachal Pradesh -----  
 2)Dr. Manu Vineet Sharma  
 3)Dr. Indu Sharma  
 4)Dr. Sanjeet Kumar  
 5)Mr. Manoj Kumar Sharma  
 6)Dr. Sanjay Kumar  
 7)Dr. Ambrish Kumar Singh  
 8)Dr. Ajay Kumar Singh  
 9)Mr. Arvind Kumar  
 10)Mr. Akhil Moudgil  
 11)Mrs. Kumari Varsha  
 12)Dr. Rajeshwar Kamal kant Arya  
 13)Mr. Raj K. Keservani  
 Name of Applicant : NA  
 Address of Applicant : NA

(72) Name of Inventor :  
 1)Dr. Shashi Punam  
 Address of Applicant :Associate Professor Department of Social Work Sapt Sindhia Parwar-II, Dehra, District Kangra Central University of Himachal Pradesh -----  
 2)Dr. Manu Vineet Sharma  
 Address of Applicant :Assistant Professor, Department of Bio Sciences Career Point University Hamirpur Himachal Pradesh -----  
 3)Dr. Indu Sharma  
 Address of Applicant :Associate Professor, Department of Physics Career Point University Hamirpur Himachal Pradesh -----  
 4)Dr. Sanjeet Kumar  
 Address of Applicant :Assistant Professor, Department of Commerce and Management, Career Point University, Hamirpur, Himachal Pradesh -----  
 5)Mr. Manoj Kumar Sharma  
 Address of Applicant :Director, HIM Solar Hamirpur Himachal Pradesh -----  
 6)Dr. Sanjay Kumar  
 Address of Applicant :Associate Professor, Laureate institute of Pharmacy Kattiog, Kangra HP -----  
 7)Dr. Ambrish Kumar Singh  
 Address of Applicant :Assistant Professor, Pharmacy Ayurveda, Faculty of ayurveda, institute of Medical Sciences, Banaras Hindi University, RGSC, Mirzapur, Uttar Pradesh, india -----  
 8)Dr. Ajay Kumar Singh  
 Address of Applicant :Assistant Professor, Pharmacy Ayurveda, Faculty of ayurveda, institute of Medical Sciences, Banaras Hindi University, RGSC, Mirzapur, Uttar Pradesh, india -----  
 9)Mr. Arvind Kumar  
 Address of Applicant :Associate Professor, Professor, Faculty of B.Pharmacy CSM group of Institution, Prayagraj, UP -----  
 10)Mr. Akhil Moudgil  
 Address of Applicant :Assistant Professor, Gautam College of Pharmacy Hamirpur HP -----  
 11)Mrs. Kumari Varsha  
 Address of Applicant :Assistant Professor, Gautam College of Pharmacy Hamirpur HP -----  
 12)Dr. Rajeshwar Kamal kant Arya  
 Address of Applicant :Assistant Professor, Department of Pharmaceutical Sciences, Sir JC Bose Technical campus Bhimtal Kumaun University Nainital -----  
 13)Mr. Raj K. Keservani  
 Address of Applicant :Associate Professor, Faculty of B.Pharmacy, CSM group of Institution, Prayagraj, UP -----

(57) Abstract :  
 The present invention relates to a polyherbal formulation as an immunity booster comprising of *Tinospora cordifolia*, *Trigonella foenum-graecum*, *Cuminum cyminum*, *Trachyspermum amita*, *Tenaculum vulgare*, *Piper nigrum*, *Syzygium aromaticum* and salt, wherein the *Trigonella foenum-graecum* is fenugreek, the *Cuminum cyminum* is cumin, the *Trachyspermum amita* is carom seeds, the *Tenaculum vulgare* is bitter funnel, the *Piper nigrum* is black pepper and the *Syzygium aromaticum* is clove. Protein, fat and carbohydrate evaluation was done. These ingredients have potential as an immune booster as they provide synergistic effect. The feedback analysis showed that the formulation revitalizes the old methods of healing for a variety of conditions.

No. of Pages : 15 No. of Claims : 9

Director, Principal  
 Gautam College of Pharmacy  
 Hamirpur (H.P.)-177001

(12) PATENT APPLICATION PUBLICATION  
(19) INDIA

(21) Application No. 202211049644 A

(22) Date of filing of Application : 30/08/2022

(43) Publication Date : 02/09/2022

(54) Title of the invention : METHOD FOR FORMULATION OF IMMEDIATE RELEASE TABLETS

(51) International classification: A61K003680000, G16H004067000, G16H004063000,  
F21Y0115100000, B6030005040000  
(56) International Application No : NA  
Filing Date : NA  
(57) International Publication No : NA  
(51) Patent of Addition to Application Number : NA  
Filing Date : NA  
(62) Divisional to Application Number : NA  
Filing Date : NA

(71) Name of Applicant :  
1. Ms. Neeta Verma  
Address of Applicant : Associate Professor, Department of Pharmaceutical Sciences, Amritsar Group of Colleges, Amritsar 143001 Punjab India -----  
2. Mr. Sorabh Sehajpal  
3. Mr. Sikander Arora  
4. Dr. Gurpreet Singh  
5. Mr. Arvind Kumar Gupta  
6. Mr. Akhil Moudgil  
7. Mrs. Kumari Varsha  
8. Dr. Indu Sharma  
9. Dr. Manu Vinod Sharma  
10. Dr. Shagufta Parveen M. A. Ansari  
11. Dr. Jyoti Prakash  
12. Dr. Darsh Gautam  
Name of Applicant : NA  
Address of Applicant : NA  
(72) Name of Inventor :  
1. Ms. Neeta Verma  
Address of Applicant : Associate Professor, Department of Pharmaceutical Sciences, Amritsar Group of Colleges, Amritsar 143001 Punjab India -----  
2. Mr. Sorabh Sehajpal  
Address of Applicant : Head, Department of Pharmaceutical Sciences, Amritsar Group of Colleges, Amritsar 143001 Punjab India -----  
3. Mr. Sikander Arora  
Address of Applicant : Research Scholar, School of Pharmacy, Sun Rise University, Alwar, Rajasthan 301015 -----  
4. Dr. Gurpreet Singh  
Address of Applicant : Assistant Professor, Department of Pharmaceutical Sciences, Guru Nanak Dev University, Amritsar 143001 Punjab India -----  
5. Mr. Arvind Kumar Gupta  
Address of Applicant : Associate Professor, Mahi Memorial Trust's CSM Group of Institutions, Faculty of B. Pharmacy (Indraprastha) Prayagraj, Uttar Pradesh- 212111 -----  
6. Mr. Akhil Moudgil  
Address of Applicant : Assistant Professor, Gautam College of Pharmacy, Hamirpur HP- 177001 India -----  
7. Mrs. Kumari Varsha  
Address of Applicant : Assistant Professor, Gautam College of Pharmacy, Hamirpur HP- 177001 India -----  
8. Dr. Indu Sharma  
Address of Applicant : Associate Professor, Department of Physics, Career Point University, Hamirpur HP-176041 -----  
9. Dr. Manu Vinod Sharma  
Address of Applicant : Assistant Professor, Department of Biosciences (Botany), Career Point University, Hamirpur HP-176041 India -----  
10. Dr. Shagufta Parveen M. A. Ansari  
Address of Applicant : Assistant Professor, Maharashtra College of Arts, Science & Commerce 246- Jhanganu Boman Behram Marg, Mumbai, Pin 400004, Maharashtra, India -----  
11. Dr. Jyoti Prakash  
Address of Applicant : Assistant Professor, School of Biological Science Central University, Bhubaneswar -----  
12. Dr. Darsh Gautam  
Address of Applicant : Associate Professor, Himachal Institute of Pharmaceutical Education and Research, Noida, Hamirpur HP 177033 India -----

(57) Abstract :  
A method for preparation of a formulation composition (100) of zolmitriptan immediate release tablets, wherein it is comprising the steps of, Preparing (102) primary stock solution of Zolmitriptan having concentration of 1000g/ml; Using (104) HCl buffer pH 1.2; Preparing secondary stock solution (106) and dose scanning by a UV spectrophotometer at wavelengths ranging from 400nm to 200nm; Passing powder (108) through a 40-mesh sieve; Mixing required quantity of Zolmitriptan (108) and various super disintegrants like Avicel 101, PVP K30, Primogel, AC-D-Sol, and fillers thoroughly; Adding Magnesium stearate (110) and talc as a lubricant and glidant, and determining and selecting the max 283 mu (112) for a solution.

Size of Pages : 14 No. of Claims : 6

Director  
Gautam College of Pharmacy  
Hamirpur  


(12) PATENT APPLICATION PUBLICATION  
(19) INDIA

(21) Application No.202021053077 A

(22) Date of filing of Application :05/12/2020

(43) Publication Date : 15/01/2021

(54) Title of the invention : MACHINE LEARNING BASED AUTOMATIC WASTE MANAGEMENT FOR E-ENVIRONMENT

(51) International classification	:G06T7/00	(71)Name of Applicant :	1)Dr. Vilas Warudkar,Maulana Azad National Institute of Technology Address of Applicant :Mechanical Engineering Department, Maulana Azad National Institute of Technology Bhopal, Near Mata Mandir, Link Road No. 03, Bhopal Madhya Pradesh India 462003 Madhya Pradesh India
(31) Priority Document No	:NA	2)Dr. Sapna Mathur,JSS Academy of Technical Education	
(32) Priority Date	:NA	3)Dr. Yogendra Singh,JSS Academy of Technical Education	
(33) Name of priority country	:NA	4)M.Akiful Haque,Anurag University	
(86) International Application No	:NA	5)Sanjay Kumar,Gautam college of pharmacy	
Filing Date	:NA	6)Ritesh Rana,Himachal Institute of Pharmaceutical Education and Research (HIPER)	
(87) International Publication No	:NA	7)Dr.T.Sunilkumar Reddy,Sri Venkatesa Perumal College Of Engineering and Technology (Autonomous)	
(61) Patent of Addition to Application Number	:NA	8)Aashutosh Kharb,Dr Akhilesh Das Gupta Institute of Technology and Management	
Filing Date	:NA	9)Dr. M. Gilbert Rani,Arul Anandar College (A), Institutions College of engineering	
(62) Divisional to Application Number	:NA	(72)Name of Inventor :	1)Dr. Vilas Warudkar,Maulana Azad National Institute of Technology
Filing Date	:NA	2)Dr. Sapna Mathur,JSS Academy of Technical Education	
		3)Dr. Yogendra Singh,JSS Academy of Technical Education	
		4)M.Akiful Haque,Anurag University	
		5)Sanjay Kumar,Gautam college of pharmacy	
		6)Ritesh Rana,Himachal Institute of Pharmaceutical Education and Research (HIPER)	
		7)Dr.T.Sunilkumar Reddy,Sri Venkatesa Perumal College Of Engineering and Technology (Autonomous)	
		8)Aashutosh Kharb,Dr Akhilesh Das Gupta Institute of Technology and Management	
		9)Dr. M. Gilbert Rani,Arul Anandar College (A), Institutions College of engineering	
		10)Mr. Bhushan Malhari Borhade,Samarth group of Institutions College of engineering	

(57) Abstract :

In the current era, population is continuously growing leading to large amount of waste in turn resulting in environmental hazard. Management of huge amount of trash has become a critical challenge. Involvement of technology for smart waste management is viewed as an effective solution in order to mitigate this issue as increasing rate of waste is unprecedented. This invention proposes an automatic waste management method based on machine learning where the waste is segregated into organic waste and inorganic waste once collected by the trash bin. Conventionally human are involved in segregation of waste which leads to several diseases also such method is not efficient. Incineration of improperly segregated waste generates gases such as carbon monoxide affecting the ozone layer. The proposed trash bin is equipped with sensor system which is able to segregate the waste in an intelligent way along with report generation of waste collected. Machine learning technique along with image recognition classified the trash based on the input from sensors. The prototype is found to be efficient in segregating biodegradable and non-biodegradable waste for about 2000 samples.

No. of Pages : 11 No. of Claims : 6

Director, Hamirpur  
Gautam College of Pharmacy  
Hamirpur (P.N.)-177001

3.3.2 Number of books and chapters in edited volumes/books published and papers published in national/ international conference proceeding per teacher during last five years

Year	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024
Number	1	1			1

  
Director/Principal  
Gautam College of Pharmacy  
Hamirpur (H.P.)-177001

D. Pharm 1<sup>st</sup> year ER 2020



Textbook Of

# Social Pharmacy

As per PCI Syllabus

615.2  
KUM  
04

Pritam Publications Pvt. Ltd.

Dr. Sanjay Kumar  
Dr. Arti Jamwal Sharma  
Mr. Tarun K. Sharma



## About the Authors



**Dr. Sanjay Kumar**

**Dr. Sanjay Kumar**, Director cum Principal, Gautam College of Pharmacy, Himarpur, Himachal Pradesh-177001, is a Pharmacist graduated from SVE Trust's college of Pharmacy Humnabad, Karnataka, Postgraduate in Pharmacognosy and Phytochemistry from SBS College of Pharmacy Patti, Amritsar (Pb.) and Doctorate from Shobhit University Gangoh, Saharanpur (U.P.) His Research Area includes Pharmacognostical study of natural Product, herbal drugs Standardization, Phytochemicals screening of Herbal Drugs, skilled in animal handling and also work on various activities of herbal drugs. He is an active researcher in the field of Pharmaceutical Sciences. He has having 14 years experience in teaching. He has published more than 30 research papers in different peer reviewed National and international journals He Has also Published 4 Books, 5 book chapters and 15 patents.



**Dr. Arti Jamwal Sharma**

**Dr. Arti Jamwal Sharma** presently working as Assistant Professor, Department of Bio Sciences, Career Point University, Hamirpur, Himachal Pradesh. She has expertise in the field of Stress Biology, Phytohormones, Ethnobotany and Secondary Metabolites Screening of Medicinal Plants. She has passed her post-graduation from Central University of Uttarakhand. She was awarded PhD degree from Shoolini University of Biotechnology and Management Sciences, Solan, Himachal Pradesh. She has research and teaching experience of 12 years. Dr Sharma has 3 Patents in her credit and published many Research Papers in reputed National and International Journals (SCI Indexed). She has also published 2 books and 6 book chapters.



**Mr. Tarun K. Sharma**

**Mr. Tarun K. Sharma** is currently working as Assistant Professor, Department of Pharmaceutics, Laureate Institute of Pharmacy, Kathog Jwalamukhi, Kangra HP. He has completed his graduation & Post graduation from Punjab Technical University (Sri Sai college of Pharmacy) Badhali, Pathankot (Punjab) and persuing Ph.D. from Shobhit University Gangoh UP. He has more than 30 publications in reputed journals and 04 patent in his credit. He is life member of Association of Pharmaceutical Teachers of India (APTI) and Society of Pharmaceutical Education and Research (SPER).



**Pritam Publications Pvt. Ltd.**

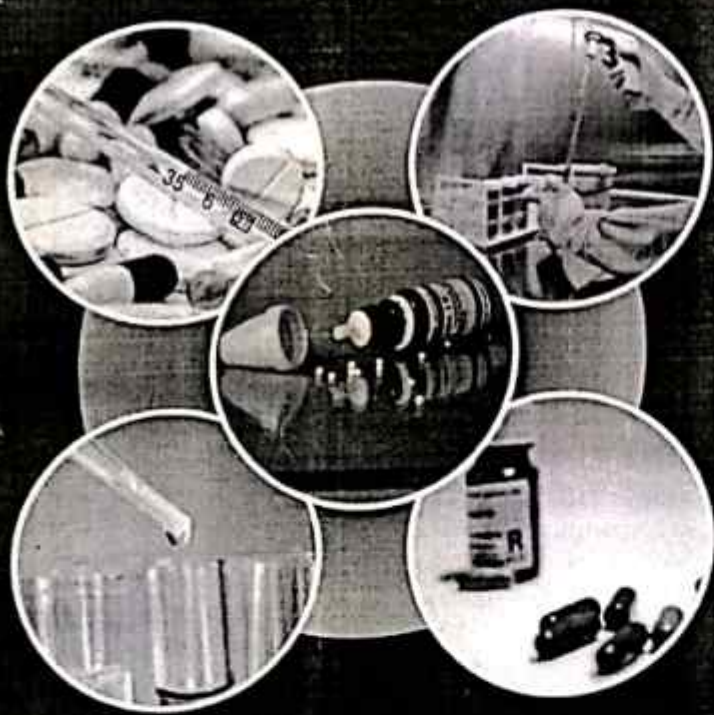
India's Largest Publishing Company of Pharmacy, Nursing and Medical Books

Mob. No. 8788842784, 8459894925, 9209876164 Ph. No. 0257-2992623

www.pritampublications.com Email: pritampublications@gmail.com



# PRACTICAL HANDBOOK PHARMACEUTICAL ANALYSIS - II



Dr. M. Akiful Haque, Sanjay Kumar, Madhu Bala  
Poonam Dogra, Priyanka Rana

AkiNik Publications  
New Delhi

Director, Principal  
Gautam College of Pharmacy  
Haridwar (H.P.)-177001

### **About The Authors**



**Dr. M. Akiful Haque** working as an Associate Professor in School of Pharmacy, Anurag University, Venkatapur, Hyderabad. His experience includes Bio-analytical, Quality Assurance, Clinical research and Regulatory affairs. For more than 10 years, he has led a team of young researchers and teachers that conceptualized and implemented innovative methods.



**Sanjay Kumar** is Associate Professor Pharmacognosy & Phytochemistry in Gautam College of Pharmacy Hamirpur (H.P). He is expertise in herbal drugs Standardization, Phytochemical screening of Herbal Drugs, skilled in animal handling and also work on various activities of herbal drugs.



**Madhu Bala** is Assistant professor of Pharmaceutical Chemistry in Gautam college of Pharmacy Hamirpur (H.P). She is skilled in handling of UV Spectroscopy. She is worked on ant- cholinesterase inhibitors of indanone moiety in Alzheimer Disease and also doing docking studies.



**Poonam Dogra** is Assistant Professor Pharmacology & Toxicology in Career Point University Hamirpur (H.P). She is skilled in animal handling and also work on anticancer activities of herbal drugs. She is an active researcher in the field of Pharmaceutical Sciences.



**Priyanka Rana** is Assistant professor of Pharmaceutical Analysis. She is skilled in handling of UV Spectroscopy. She is an active researcher in the field of Pharmaceutical Sciences, presently working as assistant professor in DDM College of Pharmacy Amb Una.

Published by  
**AkiNik Publications,**  
169, C-11, Sector - 3, Rohini,  
Delhi - 110085, India  
Toll Free (India): 18001234070  
Email: [akinikbooks@gmail.com](mailto:akinikbooks@gmail.com)



3.3.1.1 Number of research papers in the journals on UGC-CARE list year wise during last five years

List of Publication in 2020

S. No.	Title of Paper	Name of the authors	Department of teacher	Name of Journal	Year of Publication	ISSN number	Impact Factor	Link to website of journal	Link to article/paper/abstract of the article	Is it listed in UGC care list/Scopus/ Web of Science/other, mention
1	An update on Biodegradable microspheres loaded with Naltrexone	Madhu Bala, Akhil Moudgil, Sanjay Kumar	Pharmaceutics	International Journal of Pharma Research and Health Sciences	2020	2348-6465	Nil	<a href="https://portal.isn.org/resources/servlet?348-6465">https://portal.isn.org/resources/servlet?348-6465</a>	<a href="https://www.pharmabulletin.com/2020/vol2/vol2-iss2-2020-MS-15792-Review2.pdf">https://www.pharmabulletin.com/2020/vol2/vol2-iss2-2020-MS-15792-Review2.pdf</a>	Google Scholar
2	Antidiabetic activity of chemically synthetic compound on Aloxan Induced Diabetes in mice	Akhil Moudgil, Sanjay Kumar, Madhu Bala	Pharmacology	International Journal of Pharma Research and Health Sciences	2020	2348-6465	Nil	<a href="https://portal.isn.org/resources/servlet?348-6465">https://portal.isn.org/resources/servlet?348-6465</a>	<a href="https://www.pharmabulletin.com/2020/vol2/vol2-iss2-2020-MS-15792-Review2.pdf">https://www.pharmabulletin.com/2020/vol2/vol2-iss2-2020-MS-15792-Review2.pdf</a>	Google Scholar
3	Marketing Regulation of Drugs in India	Narinder Nath Sharma, Vipin Kumar Bhulal, Sanjay Kumar	Pharmaceutics	Science, Technology and Development	2020	0950-0707	6.1	UGC CARE GROUP-2 JOURNAL	<a href="https://www.pharmabulletin.com/2020/vol2/vol2-iss2-2020-MS-15792-Review2.pdf">https://www.pharmabulletin.com/2020/vol2/vol2-iss2-2020-MS-15792-Review2.pdf</a>	UGC Group-II
4	Method Development and Validation for the Simultaneous estimation of in Ambroxol and Levocetizine Bulk and Pharmaceutical Dosage form by using RP-HPLC method	Sanjay Kumar, Darsh Gautam, Poonam Talwan	Pharmaceutical Chemistry	International Journal of Research in Pharmacy and Chemistry	2020	2231-2781	6.2	IJRPC	<a href="https://www.pharmabulletin.com/2020/vol2/vol2-iss2-2020-MS-15792-Review2.pdf">93.pdf/ijrpc.com/</a>	Google Scholar
5	Method Development and Validation for the Simultaneous estimation of in Acorvastatin and Fenofibrate Bulk and Pharmaceutical Dosage form by using RP-HPLC method	Poonam Talwan, Sanjay Kumar, Darsh Gautam	Pharmaceutical Chemistry	International Journal of Research in Pharmacy and Chemistry	2020	2231-2781	6.2	IJRPC	<a href="https://www.pharmabulletin.com/2020/vol2/vol2-iss2-2020-MS-15792-Review2.pdf">https://www.pharmabulletin.com/2020/vol2/vol2-iss2-2020-MS-15792-Review2.pdf</a>	Google Scholar
6	Formulation and Evaluation of Mirtazapine Oral Thin Film	Sanjay Kumar, Darsh Gautam, Poonam Talwan	Pharmaceutics	International Journal of Research in Pharmacy and Chemistry	2020	2231-2781	6.2	IJRPC	<a href="https://www.pharmabulletin.com/2020/vol2/vol2-iss2-2020-MS-15792-Review2.pdf">93.pdf/ijrpc.com/</a>	Google Scholar

  
 Gaurav Singh  
 Director  
 Hamirpur (H.P.) 177001

7	Recent advances in particle characterization and its application in pharmaceutical industry	Poonam Dogra, Shikha attari, Sanjay Kumar	Pharmacognosy	International Journal of Pharma Research and Health Sciences	2020	2348-6465	Nil	<a href="https://portal.isn.org/resources/8507349-6465">https://portal.isn.org/resources/8507349-6465</a>	<a href="#">Link to website of journal</a>	<a href="#">article/paper/abstract of the article</a>	Is it listed in UGC care list/Scopus/ Web of Science/other, mention	Google Scholar
List of Publication in 2021												
S. No.	Title of Paper	Name of the authors	Department of teacher	Name of Journal	Year of Publication	ISSN number	Impact Factor	Link to website of journal	Link to website of journal	Link to article/paper/abstract of the article	Is it listed in UGC care list/Scopus/ Web of Science/other, mention	
1	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
List of Publication in 2022												
S. No.	Title of Paper	Name of the authors	Department of teacher	Name of Journal	Year of Publication	ISSN number	Impact Factor	Link to website of journal	Link to website of journal	Link to article/paper/abstract of the article	Is it listed in UGC care list/Scopus/ Web of Science/other, mention	
1	Review on Diabetic foot ulcers its Pathogenesis, epidemiology and emerging treatments	Sanjay Kumar, Kamaljeet, Anjana Devi, Madhu Dola, Kiran Thakur, Akhil Moudgil	Pharmacognosy	YMER	2022	0044-0477	5.7	<a href="#">ational Peer-Reviewed Journal</a>	<a href="#">R210522.pdf (amerdigital)</a>		Scopus	
List of Publication in 2023												
S. No.	Title of Paper	Name of the authors	Department of teacher	Name of Journal	Year of Publication	ISSN number	Impact Factor	Link to website of journal	Link to website of journal	Link to article/paper/abstract of the article	Is it listed in UGC care list/Scopus/ Web of Science/other, mention	
1	Ameliorative potential of methanolic twigs and leaves extract of Nycatanthes Arborescens on Diabetes induced neuropathic pain in Albino wistar rats.	Cheshta Rawat, Arti Seti, Sonia Ranawat, Shivani Bhardwaj, Kanchan Singh, Akhilesh Nautiyal, Damini Kumar, Manvi Bhatt, Priyanka Sharma, Diksha sharma.	Pharmaceutics	European Chemical Bulletin	2023	5766-5794	0.24	<a href="#">ISSN 2093-5316 (Online)</a>	<a href="#">EFFECTS OF N. ARBORESCENS TWIG AND LEAVES EXTRACT ON DIABETES INDUCED NEUROPATHIC PAIN IN ALBINO WISTAR RATS</a>		Scopus	

Director, P.G. College of Pharmacy  
Gaulam  
Hamirpur (H.P.)-177001

2	Phytochemical and therapeutic potential of herbal cognitive enhancer	Abhishek Bharti, Kalpana Kashyap, Rutika, Akhil Moudgil, Kundan Singh Bora, Dintesh Kumar	Pharmacology	Journal of Natural Remedies	2023	0972-5547	0.35	0.35	atural Remedies (informatics) Cognitive Enhancer, L. J. Singh (A+1), AIP Conference, P. J. An inclusive review on	Scopus	
3	Nanosuspension as a promising Drug Delivery approach for the antidiabetic drug: An inclusive review on technology and future aspects.	Pooja Sharma, Sujit bosse, Akhil Moudgil, Divya Arora, Sushila, Manish Vyas, Shivalika, Mamta Devi, Bhupendra Tomar	Pharmacology	AIP Conference Proceedings	2023		0.16	0.16	ing (A+1), AIP Conference, P. J. An inclusive review on	Scopus	
4	Critical review of current animal models of nephrotoxicity	Kunal Manshara, Akhil Moudgil, Aman Thakur	Pharmacology	International Journal of Pharmacy and Life Sciences	2023	0976-7126	1.4	1.4	nternational.com-issues (ipjlsjournal) 2020 PDF 20 files/Archiv	SCOPUS, UGC APPROVED	
<b>List of Publication in 2024</b>											
S. No.	Title of Paper	Name of the authors	Department of teacher	Name of Journal	Year of Publication	ISSN number	Impact Factor		Link to website of journal	Link to article/paper/abstract of the article	Is it listed in UGC care list/Scopus/ Web of Science/other, mention
1	A review on chemistry, synthesis, nanoformulations, hot compressed water extraction of curcumin and effect of quality of water on extraction process	Vishal Kumar, Vishal Singh, Anjana Devi, Jitender Singh, Sanjay Kumar	Pharmacognosy	International Journal of research and analytical reviews	2024	2349-5138	7.17		https://ijrar.org	IJRAR, 24B4620.pdf	UGC Care List
1	A review on microspheres: types, methods and evaluation	Darsh Gautam, Pawan Talwan	Pharmaceutics	Indian drugs	2024	0019-462X	0.19		drugonline, Pharmaceutical, Disha Datta (info@drugon		SCOPUS
2	Experimental study of Castor oil from Plant <i>Sesuvium Portulacastrum</i> (Communis): Extraction and Chemical Modification	Pawan Talwan, Darsh Gautam, Rishi Kumar, Sanjay Kumar, Akhil Moudgil, Kumari Varsha	Pharmacognosy	Journal of Chemical Health Risks	2024	2251-6727	0.328		Journal of Chemical Health Risks (JCHR) (ISSN: 2251-6727)		Scopus

Director Pharmacy  
 Gautam College of Pharmacy  
 Hamirpur (H.P.)-177001

3	Lantana camara L.: Exploring its ethanobotanical, Phytochemical, pharmacological, and Toxicological Profiles	Rakesh Kumar, AmarDeepak, Arvind Sharma, Ravinder Khatri, Kamaljeet	Pharmacology	YMER	2024	0044-0477	5.7	International Peer-Reviewed Journal	R.2304A2.pdf (amerdigital)	SCOPUS
4	Role of Cinnamomum Verum Leaves in the management of vascular dementia: A comprehensive overview	Shivam Thakur, Abhay Sharma, Karan Thakur, Ayush balihar, Mohit Sharma, Sunil Kumar, Aman Thakur	Pharmacology	International Journal of Science and Research Archive	2024	2582-8185	8.2	https://ijstra.net/	management of Vascular.deti	Google Scholar
5	A review: The Pharmacological activity for chemical constituents of Nigella Sativa	Kritika Sharma, Amanjeet Thakur, Nanrata, Naveen Sharma, Priyanka Sharma,	Pharmaceutics	Journal of emerging Technologies and innovative research	2024	2349-5162	7.95	https://jetir.org/index.html	w.jetir.com/files/15-02-2	UGC Care List
6	A review: The Pharmacological activity of Murraya Koeningii spreng.	Tanvi Kapil, Priyanka Sharma	Pharmaceutics	Journal of emerging Technologies and innovative research	2024	2349-5162	0.1	https://jetir.org/index.html	JETIR2404R09.pdf	UGC Care List
7	Potential Use of Trigonilla Foenum greacum L., Cannabis Sativa L. and Allium Cepa oil in Alopecia	Shivam, Shivam Thakur, Vikas, Aftaab Poswal, Kumari Varsha, Sunil Kumar	Pharmaceutics	International Journal of Creative Research Thoughts	2024	2320-2882	7.97	https://ijcrt.org/	181a-745d156f6f00&psg=	Google Scholar
8	Formulation and evaluation of antibacterial and antioxidant and herbal extracts of eury leaves and turmeric extract.	Priya Thakur, Sahil Thakur, Kajal, Shivam Thakur, Mohit Sharma, Kumari Varsha, Sunaina Dhimar, Sunil Kumar	Pharmaceutics	World journal of advanced research and research and technology	2024	2581-9615	7.8	Journal of Advanced Research	058/ee86e124411654b6	Google Scholar

Director, Priya Digital  
Gautam Varsha, Pharmaceutics  
Hamirpur (R)-17001



**INTERNATIONAL JOURNAL OF RESEARCH AND  
ANALYTICAL REVIEWS (IJRAR) | IJRAR.ORG**  
An International Open Access, Peer-reviewed, Refereed Journal

# A REVIEW ON CHEMISTRY, SYNTHESIS, NANO-FORMULATION, HOT COMPRESSED WATER EXTRACTION OF CURCUMIN AND EFFECT OF QUALITY OF WATER ON EXTRACTION PROCESS

Vishal Kumar<sup>\*1</sup>, Vishal Singh<sup>2</sup>, Anjana Devi<sup>3</sup>, Jitender Singh<sup>4</sup>, Sanjay Kumar<sup>5</sup>

<sup>1</sup>Research Scholar, M. Pharmacy (Pharmaceutics) Career Point University, Hamirpur, H.P

<sup>2</sup>Research Scholar, M. Pharmacy (Pharmaceutics) Career Point University, Hamirpur, H.P

<sup>3</sup>Associate Professor, Department of Pharmacy, Career Point University, Hamirpur, H.P

<sup>4</sup>Professor, School of Pharmaceutical Sciences, Rayat-Bahara University, Chandigarh

<sup>5</sup>Principal, Gautam College of Pharmacy, Hamirpur, Himachal Pradesh

## ABSTRACT

During ancient times, *Curcuma longa*, a perennial herb belonging to the turmeric family, was utilized in the culinary industry as a natural pigment. Decades of research have been devoted to determining the medicinal properties and function of curcumin in the prevention and treatment of cancer. This has led to the development of novel techniques for the extraction, purification, synthesis, and optimization of curcumin production and applications. The remarkable studies that investigated the extraction and purification of curcumin are available, but most of the techniques are still at the lab level. In this review, comprehensively, we have discussed the currently developed curcumin extraction, synthesis, nano-formulations, therapeutic uses and Hot Compressed Water Extraction technique.

**KEYWORDS:** Curcumin, synthesis, extraction, therapeutic use, Hot Compressed Water Extraction

Director, Principal  
Gautam College of Pharmacy  
Hamirpur, H.P-177001



## REVIEW ARTICLE

# A REVIEW ON MICROSPHERES: TYPES, METHODS AND EVALUATION

Darsh Gautam<sup>\*,†</sup> and Poonam Talwan<sup>‡</sup>

(Received 27 June 2023) (Accepted 20 April 2024)

### ABSTRACT

Controlled drug delivery system (CDDS) allows active pharmaceutical agent (API) to be released over extended periods of time, ranging from days to months, by using drug-encapsulating devices. Such systems have a number of merits over conventional drug delivery techniques, including the ability to customize drug release rates, safeguard delicate medications, and improve patient comfort and compliance. Microspheres are suitable carriers for numerous controlled delivery applications owing to CDDS's high bioavailability, prolonged drug release features, biocompatibility and ability to encapsulate a wide range of medicines. This review paper discusses fabrication techniques for microparticles, preparation and characterization processes used to prepare these microspheres, various types of microspheres such as on the basis of drug release pattern (matrix, coated, reservoir) and on the basis of drug delivery system (mucoadhesive, floating, bio-adhesive, radioactive, polymeric, and magnetic, etc.), and the key variables affecting drug release rates from encapsulated particles.

**Keywords:** Controlled drug delivery system, microspheres, mucoadhesive, floating, radioactive, magnetic

### INTRODUCTION

One type of controlled drug delivery system (CDDS) is the microsphere. CDDS means that the drug is to be released for a prolonged time interval but frequent use of drug is required when the drug has a short half life. CDDS basically enhances the efficacy of drug, as it overcomes the process of basic conventional dosage forms<sup>1</sup>. They are free flowing powders mainly having protein structure and also contain various polymers<sup>2</sup>. Microspheres are eco-friendly as they are biodegradable. Microspheres can also be called as micro particles. They have a particle size not more than 200  $\mu\text{m}$ . The main purpose is not to cause any inconvenience to the patient<sup>3</sup>. The medicaments are encapsulated, homogeneously dissolved or suspended into the polymer, and put into capsules. Microspheres have gained much attention because they release the medicament slowly to enhance the optimum activity for a definite period of time. It causes minimum toxicity as

it is having minimum side effects. Microspheres have also been used in the research field and also used in pharmaceutical sciences. Microspheres have a specific drug delivery target system. Microsphere can also be used in the CDDS of vaccines, antibiotics, etc. The sustained version of the drug is released using the microspheres used for oral administration<sup>4</sup>.

### Need for CDDS

In the detailed study of dosage forms (conventional and controlled), the drug release mechanism for both the delivery systems is plotted in the form of graph drawn between drug concentration and time of administration of drug. The release profiles are shown in Fig. 1 and Fig. 2.

### History of microspheres

As compared to the past decades, we have gained more knowledge about microspheres as compared to all other dosage forms. A lot of research has been performed on this. The first research was carried out by

\* Department of Pharmaceutics, Gautam College of Pharmacy, Hamirpur - 177 001, Himachal Pradesh, India

† Department of Pharmaceutical Chemistry, Gautam College of Pharmacy, Hamirpur - 177 001, Himachal Pradesh, India

‡ Department of Pharmaceutical Sciences, Himachal Pradesh Technical University, Daruhil, Hamirpur - 177 001, Himachal Pradesh, India

\*For Correspondence: E-mail: drsgautam86@gmail.com

<https://doi.org/10.53879/ind.61.06.14156>



## Experimental Study of Castor Oil from Plant Seed *Ricinus Communis*: Extraction and Chemical Modification

Poonam Talwan<sup>1\*</sup>, Darsh Gautam<sup>2\*</sup>, Rishi Kumar<sup>3</sup>, Sanjay Kumar<sup>4</sup>, Akhil Moudgil<sup>5</sup>, Kumari Varsha<sup>6\*</sup>

<sup>1</sup>Assistant Professor, Department of Pharmaceutical Chemistry, Himachal Institute of Pharmaceutical Education & Research, Nadaun, Himachal Pradesh 177033, India

<sup>2</sup>Associate Professor, Department of Pharmaceutics, Himachal Institute of Pharmaceutical Education & Research, Nadaun, Himachal Pradesh 177033, India

<sup>3</sup>Undergraduate student, Himachal Institute of Pharmaceutical Education & Research, Nadaun, Himachal Pradesh 177033, India

<sup>4</sup>Associate Professor, Department of Pharmaceutics, Laureate Institute of Pharmacy, Kathog, Himachal Pradesh 176031, India

<sup>5</sup>Assistant Professor, Gautam college of Pharmacy, Hamirpur, Himachal Pradesh 177001, India<sup>6</sup>

(Received: 27 October 2023)

Revised: 22 November

Accepted: 26 December)

### KEYWORDS

Castor beans,  
Specific gravity,  
pH, Acid value,  
Viscosity,  
Saponification  
Value

### ABSTRACT:

**Background:** In this research we have prepared sulphated castor oil or Turkey red oil, by the continuous addition of concentrated sulphuric acid to castor oil with continuous stirring for 3 h at a temperature of 25-30 °C. Since this continuous reaction is stoichiometry, there is no formation of waste product, thus eliminating any consequences related pollution.

**Objectives:** This research paper is carried out by experimental study of castor oil, through extraction of oil from castor beans, characterization and chemical modification of extracted castor oil.

**Methods:** The n-hexane or petroleum ether was used as a solvent for the extraction process. After extraction the castor oil was purified through degumming, neutralization and bleaching process using adsorbent activated clay. The extracted oil was chemically modified to produce Turkey red oil with the help of sulphonation reaction.

**Results:** The physico-chemical analysis revealed that all the physico-chemical properties of the extracted oil such as pH, acid value, iodine value, saponification value and specific gravity, viscosity, have almost similar values. In case of sulphated castor oil the parameters like specific gravity, pH, iodine value, and acid value shows slight increase with respect to the standard values as per Indian Pharmacopoeia (IP), whereas viscosity value has slight decrease. Remaining all parameters like reaction time, color of product and solubility were similar.

**Conclusions:** The synthesized sulphated castor oil (Turkey red oil) could be valuable as additive in food industry (as excipient or additives), cosmetics (as a pigment remover), and in pharmaceutical industries as coating agent, polymer, antifungal agent, laxative, immunity booster, etc.

### 1. Introduction

Vegetable oils [1] play an important role in the production of the national economy because seed oils bring great benefits to human existence and reduce the burden on people's lives today. Castor seed oil belongs to the vegetable oil family [2]. Generally, vegetable oils or fats are common plant-derived lipid substances that are physically found to be in a liquid state at room

temperature, whereas fats are in a solid state at room temperature [3]. Vegetable oils are composed of triglycerides that do not contain glycerin in their structure [4]. Many commodities from plant sources such as soybeans [5], rapeseed [6], palms [7], corn [8], jatropha [9], and castor seeds [2] have been considered petroleum candidates. Among these sources, castor oil is a potentially promising raw material as it is known

Golden Cross Pharmacy  
Hamirpur (HP) 177001

# Lantana camara L.: Exploring Its Ethnobotanical, Phytochemical, Pharmacological, and Toxicological Profiles

Rakesh Kumar <sup>1</sup>, Amar Deepak <sup>1</sup>, Arvind Sharma <sup>1</sup>  
Ravinder Khatri <sup>2</sup>, Kamal Jeet <sup>1\*</sup>,

<sup>1</sup> School of Pharmaceutical and Health Sciences, Career Point University, 176041

<sup>2</sup> Gautam College of Pharmacy, Hamirpur, 177001

Assistant Professor, Department of Pharmacy, Career Point University

Corresponding Author: [kamaljeetisf@gmail.com](mailto:kamaljeetisf@gmail.com)

[rk3238382@gmail.com](mailto:rk3238382@gmail.com)

[amardeepak28@gmail.com](mailto:amardeepak28@gmail.com)

[arvind.pharmacy@gmail.com](mailto:arvind.pharmacy@gmail.com)

[khatri.avinder07@gmail.com](mailto:khatri.avinder07@gmail.com)

## Abstract

In the present era, researchers are focusing on medicinal plant research throughout the world as medicinal plants are an important and cheap source of drugs and have a long history. Most of the remedies in the traditional system were taken from plants due to lack of technology, and using plants as medicines were proven to be useful. *Lantana camara* L. (Verbenaceae) is an aromatic plant as well as a rich source of medicinal compounds. From decades the plant is used to treat many diseases i.e., malaria, fever, cold and cough etc. Several essential phytochemicals have been isolated from *L. camara* L., including triterpenoids, flavonoids, alkaloids, saponins, steroids, and tannins. Moreover, it is also known as an essential oil-producing plant, and the essential oil is available in the market known as *Lantana* oils. Thus due to the above mentioned economic as well as medicinal properties of *L. camara* L.; there is a need of a comprehensive report on the ethnobotanical, phytochemical, pharmacological and toxicological aspects of *L. camara* L. This review will be useful for researchers working in the field of genomics, metabolomics and molecular studies of medicinal plants.

Keywords: Medicinal plant, pharmacological activity, Phytochemical, *Lantana camara*

## 1. Introduction

Linnaeus recognized the genus *Lantana camara* L., which belongs to the family of plants known as Verbenaceae, in the year 1753 as a plant that had medicinal, ornamental, and essential oil-producing properties. Six of its seven species have been discovered in the Americas, while the seventh has been discovered in Ethiopia [1]. Its origins can be traced back to South America, but it is now present in nearly fifty countries throughout the globe, with some of those countries even permitting its production [2]. The plant is commonly used as a decorative element in gardens and is also known as sagebrush and red sage [3]. At elevations of up to two thousand metres, *L. camara* can be found growing in regions that are classified as either tropical, subtropical, or temperate [4].

Director, Principal  
Gautam College of Pharmacy  
Hamirpur (H.P.) 177001

Page No:575



(REVIEW ARTICLE)

Check for updates

## Role of *Cinnamomum verum* leaves in the management of Vascular dementia: A comprehensive overview

Shivam Thakur\*, Abhay Sharma, Karan Thakur, Ayush Ballhar, Mohit Sharma, Sunil Kumar and Aman Thakur

Gautam College of Pharmacy, Hamirpur, Himachal Pradesh, India.

International Journal of Science and Research Archive, 2024, 11(02), 678-699

Publication history: Received on 12 February 2024; revised on 19 March 2024; accepted on 22 March 2024

Article DOI: <https://doi.org/10.30574/ijara.2024.11.2.0490>

### Abstract

Spices are utilized for both culinary and medicinal purposes and have been for a very long time originating from Sri Lanka and southern India. *Cinnamomum verum* may also be found in other Asian, Caribbean, Australian, and African countries. The principal compounds contained are Cinnamaldehyde and Eugenol, both of which have unique medicinal qualities in the leaves of *Cinnamomum verum*. Cinnamaldehyde (CA), a bioactive phytochemical offer therapeutic advantages against the beginning of cardiovascular illnesses. Eugenol is an organic compound found in the leaves of *Cinnamomum verum*. Eugenol has antihypercholesterolemic and antiatherogenic effects. Eugenol's smooth muscle relaxant effect is due to its inhibition of receptor-operated and voltage-sensitive channels. Endothelial cells create nitric oxide (NO), which relaxes blood vessels. Eugenol has substantial anti-inflammatory properties. The antipyretic activity of eugenol is well recognized, since it reduces fever by reducing prostaglandin and sodium arachidonate synthesis. Eugenol's hydrophobic nature allows it to pass the blood-brain barrier and enter the brain. Eugenol protects neuronal cells against the oxidative and excitotoxic effects of N-methyl-D-aspartate (NMDA). Eugenol has neuroprotective properties in hippocampal tissues due to its capacity to reduce brain-derived neurotrophic factor (BDNF) and postpone amyloid  $\beta$ -peptide ( $A\beta$ ) induced cell death via abnormal  $Ca^{2+}$  blocking. Anti-hypertensive property of Eugenol is known as it has the ability to activate TRPV channels and to relax endothelium-depleted arteries. Eugenol, which is found in *Cinnamomum verum* leaves, has been shown to be beneficial in the control of hypertension and so may be beneficial in the management of vascular dementia.

**Keywords:** *Cinnamomum verum*; Cinnamon; Eugenol; Anti-hypertensive; Neuroprotective; Vascular dementia

### 1 Introduction

Spices are vital food components that play an important function in meal preparation. Around the world, over a hundred plant species are utilized as spices and condiments. They are fragrant, dried plant pieces derived from seeds, fruits, leaves, roots, and bark, among other things. Since ancient times, they have been used to add flavor to dishes and improve food quality [1]. A variety of spices also serve as great preservatives, extending the shelf life of food by delaying the rotting process [2]. Furthermore, spices, as a rich reservoir of physiologically active chemicals, have antioxidant, antibacterial, anti-inflammatory, anti-diabetic, and anticancer effects, among others [3].

Cinnamon is a spice derived from the inner bark of many plants of the genus *cinnamomum*. Cinnamon is known in German as ceylonzeimt/kaneel, in hindi as dal-chini, and in Italian as cannella [4]. *Cinnamomum* is one of the earliest spices known to have been used in cooking. Though several species in this genus are sold as cinnamon, the inner dried bark of *Cinnamomum verum* J. Presl (family lauraceae) has traditionally been regarded as the authentic cinnamon. Its medicinal and culinary benefits have been widely documented in ancient literature extending back 4000 years [1].

\* Corresponding author: Shivam Thakur

Copyright © 2024 Author(s) retain the copyright of this article. This article is published under the terms of the Creative Commons Attribution License 4.0.

Director, Principal  
Gautam College of Pharmacy  
Hamirpur (H.P.) - 191001



## A review : The Pharmacological activity for chemical constituents of “*NIGELLA SATIVA*”

Kritikasharma<sup>1</sup>, student in Gautam College Of Pharmacy , Hamirpur Pin Code 177001.

Amanjeet Thakur<sup>2</sup>, Student in Gautam college of pharmacy, Hamirpur. Pin code 177001

Namarta<sup>3</sup>, Student in Gautam college of pharmacy, Hamirpur. Pin code 177001.

Naveen Sharma<sup>4</sup>, Student in Gautam college of pharmacy, Hamirpur. Pin code 177001.

Priyanka Sharma<sup>5</sup> Assistant Professor in Gautam college of pharmacy ,Hamirpur. Pin .code 177001.

### Abstract:

*Nigella sativa*, also known as Black Seed, is a plant with seeds that have been used as a spice for a long time. People also call it by various names like Kalonji, Black caraway, and Black cumin. Recently, there's been a growing interest in natural remedies, like *Nigella sativa*, because they have fewer side effects compared to pharmaceutical drugs. These seeds are packed with nutrients. The oil in the seeds is full of healthy fats, and the essential oil has antioxidants like thymoquinone and carvacrol. While it expands globally, its main growth regions are Eastern Europe, the Middle East, and Western Asia. It is grown commercially in several Indian states, including West Bengal, Punjab, Jharkhand, Himachal Pradesh, Bihar, and Assam. Also involved in small-scale farming are the states of Tamil Nadu, Rajasthan, Madhya Pradesh, and Uttar Pradesh. They also contain proteins, alkaloids, and saponins, which are good for health. People use *Nigella sativa* and its components to improve health and treat various conditions like jaundice, fever, digestion problems, paralysis, piles, and skin diseases. This review focuses on how the chemicals in *Nigella sativa* work in the body to provide these health benefits.

**Key words:** Black cumin, Thymoquinone, Bioactive, Paralysis, Nutraceutical.

### Introduction:

Black Seed (scientific name *Nigella sativa*) is derived from the Latin word “Niger” (black) (1). A popular spice is *Nigella Sativa*, according to its botanical name. It's also known by the names Black cumin, Black caraway, Black seed, Roman coriander, Kalonji, nutmeg bloom, and fennel flower (2). While it expands globally, its main growth regions are Eastern Europe, the Middle East, and Western Asia (3, 4). It is grown commercially in several Indian states, including West Bengal, Punjab, Jharkhand, Himachal Pradesh, Bihar, and Assam. Also involved in small-scale farming are the states of Tamil Nadu, Rajasthan, Madhya Pradesh, and Uttar Pradesh (3). Its seeds contain more than a hundred essential components, including fatty acids, volatile oils, proteins, carbohydrates, saponins, alkaloids, tannins, flavonoids, sterols, and trace minerals (5,6). There have been described activity related to hepatoprotection, renal protection, gastroprotection, analgesic, antibacterial, anti-inflammatory, spasmolytic, bronchodilator, antioxidant, antidiabetic, anticancer, and immunomodulator (7). The seeds of this plant are

JETIR2404A48 | Journal of Emerging Technologies and Innovative Research (JETIR) www.jetir.org | K375

commonly called “Black cumin” in English, “habbat us sauda” in the Middle East, and “Kalonji” in southern Asia (8). In traditional medicine, the seed of this plant was used to cure a wide range of conditions, including back pain, asthma, fever, bronchitis, cough, chest congestion, dizziness, paralysis, chronic headache, inflammation, infertility, and various gastrointestinal disorders like dyspepsia, flatulence, diarrhea, and dysentery (9).

**Common names:** Kalonji seeds are commonly known as black seed, black cumin, or nigella seeds, Fennel flower, Black caraway, Roman coriander (2,10)

### Botanical Description (11-15)

**Black cumin:** The hardy annual plants known as black cumin grow to a height of 20 to 60 cm (8 to 24 inches). Leaves and roots fine, finely divided leaves adorn the branched stems, and the plant boasts a well-developed taproot. **Flowers:** The flowers are pale blue or white, with five petals, many stamens, and five or six long fused carpels. **Seeds:** The dark, triangular or pyramid shaped seeds are carried in a capsule consisting of five or six segments, each

Director, Principal  
Gautam College of Pharmacy  
Hamirpur, (H.P.) 177001



# A review: The pharmacological activities of Murraya koenigii Spreng.

Tanvi Kapil<sup>1</sup> Student in Gautam college of Pharmacy, Hamirpur. Pin code 177001.

Priyanka Sharma<sup>2</sup> Assistant Professor in Gautam college of pharmacy, Hamirpur. Pin .code 177001.

**Abstract:** Murraya koenigii in English as Karipatta or kadipatta in Nepali as well as Hindi. The biological source of Murraya koenigii is Murraya koenigii spreng and it belonging family Rutaceae. It was found in Himalayas, Maharashtra, Tamilnadu, Andhra Pradesh, Assam, Andaman and Nicobar island. It is one of the main component of formulation in the traditional ayurvedic system of Medicine many centuries. It is used in the treatment of many disease including kidney stone, dysenter, disorder, renal pain, stomach upset and morning sickness, blood purifier, The leaves, roots and bark of this plant are rich in source of curbazole alkaloid. Different part of the plant are used in Leaves, Stem, roots, fruit and seeds that is used to provide the strengthening of immune system. There are various Pharmacological activities are Anticancer, anti diabetic, antibacterial, antitumor, antihelmintic, antioxidant and hepatoprotective properties. The curry tree is having many disease protective in production which can be used as natural source to make newer, alternative and innovative medicines. The leaves are used traditionally as a spice in curry and other eatables. Plant have been used in traditional medicine for several thousand years. Curry leaves used traditionally as blood purifier, febrifuge. World about 80% population relies upon herbal product because they have been consider as safe effective and economical. Medicinal plant are used in herbalism and thought to have some medicinal properties. They are easily available source for health care purpose in rural and tribal area. Ethnobotany is a distinct branch of natural science dealing with various aspect such as anthropology, archeology, botany, economics and medicine, religious, cultural and several other discipline.

## Keywords.

Murraya koenigii, Anticancer, Antioxident, Antihelmintic, Hepatoprotective.

## Introduction:

Murraya koenigii spreng belonging to family Rutaceae and it is usually known as M. koenigii is referred to as karipatta or kadipatta in Hindi and Nepali. Different part of the plant are used like leaves, stem, root, fruit, and seeds that is used to provide strengthening immune system it was found in Himalayas, Maharashtra, Tamilnadu, Andhra Pradesh, Chittagong, Karnataka, Assam, Andaman and Nicobar island. Different biological properties of M. koenigii possess Anti-inflammatory, Antibacterial, Antidiabetic, Antioxident and anti-proliferative properties [Gupta P, malode et al. 2021]. Curry leaves contain many important ingredient like carbohydrates, protein, fat, calcium, phosphorus, iron, magnesium, copper, mineral and vitamin like nicotinic acid, nutrients B, C, A, and E, Flavonoids, glycosides, plant sterols, and antioxidants. Murraya koenigii boiled with coconut oil to condensed to residue that are used as dominant hair tonic for retaining and maintaining of natural hair, tonic, hair stimulant and prevention of premature growing hair [DR Priyanka Gupta. 2020]. The oil is applied externally for blisters, eruptions, and in the fragrance and soap industries Murraya koenigii is a semi evergreen aromatic tree used for febrifuge, analgesic, and skin eruption purposes. It is a staple in Indian diet and is well known for its subtle flavor and used confidently in daily cooking. The British were India they called it curry leaf naming after the seasoned sauce it was added to. Murraya koenigii possesses a lot of bioactive principles, which have made it a valuable medicinal plant, but scientists haven't given it much thought [Rajendran MP 2014]. Murraya koenigii is proven a natural medicinal plant. The leaves of the plant have been used in Indian Cuisine and also used for centuries in the Ayurvedic system of medicine. The bark is helpful in treating snakebites [Kang w 2018]. The tropical subtropical region in the world have large distribution of M. koenigii [Hirish KH 2012]. Murraya koenigii Leaves are slightly bitter in taste, pungent in smell, and weakly acidic. Various part of M. koenigii are used to treat diabetes, chronic, dysentery, fever and diarrhea [Anot Choudhary 2020]. The leaves of M. koenigii are used traditionally to treat toothache and teething issues in babies, skin irritation caused by scabies and remedy for stomach pain and headache [Gnan Sri & Indu Rex. 1962; 6:125-127]. Leaves and roots of C. Indica treat various health issue, such as flu, cold, joint dislocation, bone fracture, headache, cold, and rheumatism. C. Indica fruit are widely used in Vietnam and south Indian cooking mainly due to their aroma [Himachi Shekar Datta 2023].

Director, Principal  
Gautam College of Pharmacy  
Hamirpur, 177001



# INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

## POTENTIAL USE OF TRIGONELLA FOENUMGREAEUM L., CANNABIS SATIVA L. AND ALLIUM CEPA OIL IN ALOPECIA.

<sup>1</sup>Shivam\*, <sup>2</sup>Shivam Thakur, <sup>3</sup>Vikas, <sup>4</sup>Aftab Poswal, <sup>5</sup>Kumari Varsha, <sup>6</sup>Sunil Kumar

<sup>1</sup> Student <sup>2</sup> Student <sup>3</sup> Student <sup>4</sup> Student, <sup>5</sup> Assistant Professor, <sup>6</sup> Assistant Professor

Gautam College of Pharmacy, Hamirpur, Himachal Pradesh, 177001

### Abstract

Hair is a crucial aspect of identity, contributing to self-worth and confidence. It is a modified epithelial structure formed through keratinization of germinative cells, growing as outgrowths of skin follicles. Factors like infections, autoimmune disorders, chemicals, medications, diabetes, trauma, poor circulation, diet, and malnutrition can lead to hair loss. Symptoms include breakage, gradual loss, especially at the crown. Fenugreek, rich in vitamins and nutrients, nourishes hair follicles and boosts blood flow to the scalp, aiding hair growth and reducing hormonal imbalance-induced hair loss. Hemp, with cannabinoids like CBD, stimulates hair follicle cells and enhances effects of treatments like finasteride. Onion oil, high in sulphur, strengthens hair and prevents loss by promoting collagen production. These herbs have beneficial chemical qualities for hair growth and scalp health maintenance when combined into an oil.

**Keywords:** Hair, Hair re-growth, Scalp, Hair fall, Oil, Fenugreek, Cannabis, Onion.

### Introduction

Hair is the essential part of the human personality and a leading essential for self confidence and self-esteem. To guard against its loss has ever been an important aspect. Alopecia is common problem in youngsters specially these days [1]. Hair loss is a common and distressing disorder that involves genetic, dietary, medical, and environmental variables. Androgenic alopecia, or male-pattern baldness, is the most prevalent cause of hair loss in males, whereas medical diseases including hypothyroidism, oral contraceptives, and nutritional deficiencies cause hair loss in women [2, 3]. Humans are born with roughly 100,000 terminal hair follicles on the scalp, which are predisposed to generate long and thick hair [4]. Hair grows in a precise cycle with three unique and concurrent phases: anagen (3 to 5 years), catagen (2 to 3 weeks), and telogen (3 to 4 months), followed by shedding. During the telogen or resting phase, hair is liberated and lost, and the following cycle begins at any moment [4-7]. Ninety percent of the hair on a healthy scalp is growing, with less than 1% experiencing involution and the remainder resting (5% to 10%) [8]. It is considered typical to shed 100 hairs from the head per day. However, a greater rate of physiological loss is a serious worry across the world because, if it continues to be excessive, it may develop in male or female pattern alopecia, which causes



(RESEARCH ARTICLE)

Check for updates

## Formulation and evaluation of antibacterial and antioxidant herbal cream of curry leaves and turmeric extract

Priya Thakur\*, Sahil Thakur, Kajal, Shivam Thakur, Mohit Sharma, Kumari Varsha, Sunaina Dhiman and Sunil Kumar

Gautam College of Pharmacy, Hamirpur, Himachal Pradesh, India.

World Journal of Advanced Research and Reviews, 2024, 22(01), 170-184

Publication history: Received on 22 February 2024; revised on 28 March 2024; accepted on 31 March 2024

Article DOI: <https://doi.org/10.30574/wjarr.2024.22.1.1011>

### Abstract

Humanity relies on plants to meet its basic needs, such as food, clothing, and shelter. Both rural and urban civilizations benefit from wild plants for medicinal, craft, and beauty purposes. *Murraya koenigii* Linn (Rutaceae), also known as Meethi Neem or Curry Patta, is a fragrant, usually deciduous shrub or small tree that can grow to be 6 meters tall. It may be found all throughout India and reaches heights of up to 1500 meters. It is cultivated for its fragrant leaves. In traditional medicine, it is used as an antiemetic, antidiarrheal, dysentery, febrifuge, blood purifier, tonic, stomachic, and flavoring agent in curries and chutneys. The essential oil derived from the leaves contains alkaloids such as mahanine, koenidine, koenigine, koenine, girinimbine, girinimbiol, murrayamine, and several more.

Another plant Turmeric (*Curcuma longa* L.) belongs in the ginger family, which is native to Southwest India. Turmeric is a medicinal and fragrant plant that is recognized as one of nature's most valuable resources, with enormous export potential in medicine, personal care, culinary spices, and natural colours. An ethanolic extract of turmeric including curcumin, dimethoxy-curcumin, and bisdemethoxycurcumin has been shown to reduce blood glucose levels in mice and prevent blood glucose from rising. Reduces proteinuria and haematuria when taken orally in people with refractory lupus nephritis. Curcuminoid is the most abundant component in turmeric, along with many other phenolic compounds and mono-, sesqui-terpenes.

Soxhlet extraction combines both percolation and maceration techniques. The extraction is carried out using a particular device known as the Soxhlet apparatus, which was created by Franz von Soxhlet in 1879. It was one of the most popular extraction methods, and it is still commonly used today. The apparatus comprises of an extraction chamber linked to a vapor duct and a siphon tube that continues down to the joint, where a circular bottom shell may be attached. A thimble of filter paper or a cotton plug is put in the extraction chamber to prevent the siphon tube from being blocked when powdered medication material is introduced. In this extraction we will use the Soxhlet extraction method to extract the phytoconstituents of the respective plants.

**Keywords:** *Murraya Koenigii*; *Curcuma longa* L.; Anti-bacterial; Anti-oxidant; Herbal cream.

### 1. Introduction

#### 1.1. Curry Leaves (*Murraya Koenigii*)

Humanity uses plants in a variety of ways to satisfy its fundamental requirements, including food, clothing, and shelter. Wild plants provide medicines, crafts, and cosmetics to both rural and urban cultures. Wild plants provide revenue and job opportunities in rural regions [1]. Herbal items include spices, herbal teas, functional food components, medical raw

\* Corresponding author: Shivam Thakur

Copyright © 2024 Author(s) retain the copyright of this article. This article is published under the terms of the Creative Commons Attribution License 4.0.





AMELIORATIVE POTENTIAL OF METHANOLIC TWIGS AND LEAVES EXTRACT OF NYCTANTHES ARBOR-TRISTIS ON DIABETES INDUCED NEUROPATHIC PAIN IN ALBINO WISTAR RATS

Cheshta Rawat<sup>\*1</sup>, Aarti Sati<sup>2</sup>, Sonia Ranawat<sup>3</sup>, Shivani Bhardwaj<sup>4</sup>, Kanchan Singh<sup>1</sup>, Akhilesh Nautiyal<sup>1</sup>, Damit Kumar<sup>5</sup>, Manvi Bhatt<sup>1</sup>, Priyanka Sharma<sup>6</sup>, Diksha Sharma<sup>7</sup>

<sup>1</sup>Assistant Professor, School of Pharmacy and Research, DBUU, Dehradun, Uttarakhand

<sup>2</sup>Associate Professor, School of Pharmaceutical Sciences, SGRRU, Dehradun, Uttarakhand

<sup>3</sup>Assistant Professor, Maya College of Pharmacy, Dehradun, Uttarakhand

<sup>4</sup>Assistant Professor, Himalayan Institute of Pharmacy & Research, Dehradun, Uttarakhand

<sup>5</sup>Associate Professor, School of Pharmaceutical Sciences, RIMT University, Mandi Govindgarh, Punjab

<sup>6</sup>Assistant Professor, Gautam College of Pharmacy, Hamirpur, Himachal Pradesh

<sup>7</sup>Associate Professor, School of Pharmaceutical Sciences, RIMT University, Mandi Govindgarh, Punjab

\*Corresponding Author: Cheshta Rawat

chestarawat26@gmail.com,

ABSTRACT

**Background:** *Nyctanthes arbor-tristis* is a small ornamental tree renowned for its anti-diabetic activity. Being a rich source of all useful phytoconstituents, traditionally, it's also used in treating many other diseases. However, its role in curing diabetic neuropathy is still not clear. The main objective of this study is to investigate the potential effect of *Nyctanthes arbor-tristis* against streptozotocin (STZ)-induced diabetic neuropathy in rat.

**Method:** The study was planned with 36 animals and 6 animals in each group. Group 1 (Control group), Group 2 (Diabetic Control), Group 3 (Active Control), Group 4 (Test Group-1), Group 5 (Test Group-2) & Group-6 (Test Group-3). STZ (50mg/kg) was given intraperitoneally to induce diabetes in Albino wistar rats. After 21 days animals' were assessed for diabetic neuropathy. Rats with diabetic neuropathy were treated for 3 weeks with methanolic extract of *Nyctanthes arbor-tristis* leaves & twigs (100,200,400mg/kg p.o.). Glibenclamide (10mg/kg p.o.) and amitriptyline (10mg/kg i.p.) were used as standard drug. Treatment outcomes were based on metabolic, physiological & biochemical changes.

**Result:** Treatment with methanolic extract of *Nyctanthes arbor-tristis* significantly decreases blood sugar levels and neuropathic pain as compared to the disease control

*Eur. Chem. Bull.* 2023,12[ issue 8], 5766-7094

Director  
Gautam College of Pharmacy  
Hamirpur (P.N.)-177001 5766



# Phytochemical and Therapeutic Potential of Herbal Cognitive Enhancer

Abhishek Bharti<sup>1\*</sup>, Kalpna Kashyap<sup>2</sup>, Rutika<sup>3</sup>, Akhil Moudgil<sup>4</sup>,  
Kundan Singh Bora<sup>1</sup> and Dinesh Kumar<sup>1</sup>

<sup>1</sup>University Institute of Pharmaceutical Sciences, Chandigarh University,  
Mohali - 140413, Punjab, India; dinesh.pharma@cpu.edu.in

<sup>2</sup>Government Pharmacy College, Kangra - 176047, Himachal Pradesh, India

<sup>3</sup>School of Pharmacy, Career Point University, Hamirpur - 176041, Himachal Pradesh, India

<sup>4</sup>Gautam College of Pharmacy, Hamirpur - 177001, Himachal Pradesh, India

## Abstract

Memory is the most significant factor in distinguishing one person from another, as it is necessary to recognise one's own self. The brain can encode, store, and retrieve information using three different types of memory. Individuals who lack these basic forms of memory are unable to create personal relationships, acquire new knowledge, and perform basic everyday duties. Memory refers to a person's ability to encode, store, retain, and recall knowledge and past events in his or her brain. Memory gives a person the ability to learn from and adapt to previous experiences, as well as the ability to recall previously taught facts, skills, and habits. Today, poor memory, weak recall, and low retention are all typical issues. Memory deteriorates primarily because of stress and exhaustion. Memory loss, often known as age-related memory impairment, is frequent in those over the age of 40. This could be linked to the loss of hormones and proteins (growth factors) that repair brain cells as people get older. Herbs were employed to improve memory power in India throughout ancient times. Indian and Chinese cultures developed many traditional medicines from herbs to treat diminishing cognition, reverse memory loss, and improve learning power. Nootropic herbs are known for their brain-acting herbs and smart medications, which are derived from their isolated ingredients and aid to improve blood circulation in the brain. The focus of this review is on natural agents and herbs that work as memory enhancers. By using one of the herbs at a time, one can improve his or her memory.

**Keywords:** Acetylcholine, Alzheimer's Disease, Herbs, Memory, Nootropics

## 1. Introduction

Memory is a typical learning ability that indicates long-term changes in the nervous system caused by short encounters. Short-term memory and long-term memory are the two types of memory. There are a variety of drugs available in the market for maintaining memory or enhancing memory but some of them have huge side effects also especially in the case of synthetic drugs<sup>1</sup>. *Bacopa monniera*, also called *Ulopa monnieri*, *Herpestis monniera*, and *Brahmi*, has been used in Ayurvedic medicine for millennia<sup>2</sup> in the case of study about memory the brain is the most important, the forebrain, midbrain,

and hindbrain are the three fundamental sections of the human brain. It includes the hypothalamus, thalamus, cerebellum, cerebral cortex, hippocampus, midbrain, and several other glands, with the Hippocampus being important for memory. Memory is a very significant aspect for recalling situations, information, and experiences, but because of certain conditions like stress, negative emotions cause various illnesses such as amnesia, memory loss, high blood pressure, anxiety, and several serious life treatments in that individuals can record events, information, and stimuli over a time. Thus, over recent decades, herbs and natural cures are very useful in the promotion of intelligence such as *Medhya* herbs related

\*Author for correspondence

Article Received on: xx.xx.xxxx

Revised on: xx.xx.xxxx

Accepted on: xxx.xxxx

# Nanosuspension as a Promising Drug Delivery Approach for the Antidiabetic Drug: An Inclusive Review on Technology and Future Aspects

Pooja Sharma<sup>1,a)</sup>, Sujit Bose<sup>2,b)</sup>, Akhil Moudgil<sup>3,c)</sup>, Divya Arora<sup>4,d)</sup>, Sushila<sup>1,e)</sup>,  
Manish Vyas<sup>2,f)</sup>, Shivalika<sup>1,g)</sup>, Mamta Devi<sup>1,h)</sup>, Bhupendra Tomar<sup>1,i)</sup>

<sup>1</sup>Abhilashi College of Pharmacy, Ner Chowk, Mandi, H.P., India

<sup>2</sup>School of Pharmaceutical Sciences, Lovely Professional University Phagwara, India

<sup>3</sup>Gautam College of Pharmacy, Hamirpur, H.P., India

<sup>4</sup>School of Pharmacy, Abhilashi University Mandi, H.P., India

<sup>a)</sup>poojasharma195106@gmail.com

<sup>b)</sup>sujit.19571@lpu.co.in

<sup>c)</sup>moudgil.akhilpharma@gmail.com

<sup>d)</sup>dvarora50@gmail.com

<sup>e)</sup>susheelasharma1989@gmail.com

<sup>f)</sup>vymanish@gmail.com

<sup>g)</sup>shivalikathakur999@gmail.com

<sup>h)</sup>mamtathakur0238@gmail.com

<sup>i)</sup>Corresponding author: bhupendratomar81@gmail.com

**Abstract.** Nanosuspension is a part of nanotechnology which is a submicron colloidal dispersion of pharmaceutically active ingredients in a liquid phase having a size range below 1  $\mu\text{m}$ , and which is stabilized by surfactants and polymers. Most of the newly developed drugs are water-insoluble, show poor bioavailability. Glimepiride is an anti-diabetic drug that belongs to the sulfonylurea class, which is used to treat type II diabetes mellitus. Glimepiride increases insulin secretion by acting on the  $\beta$ -cells of the pancreas. Glimepiride binds to sulphonylurea receptors which are present on  $\beta$ -cell on the plasma membrane, which close the ATP-sensitive potassium channel leading to depolarization of the cell membrane. So there is the opening of voltage-gated calcium channel due to which there is an influx of calcium ions causes the secretion of the preformed insulin molecule. It is categorized under biopharmaceutical classification system class II drug, having poor solubility and high permeability. In this review, different methods were studied to formulate the nanosuspension of glimepiride to increase the solubility of glimepiride.

**Keywords**—Glimepiride, Nanosuspension, Anti-Diabetic, Solubility, Polymers, Drug Deliver

## INTRODUCTION

Diabetes mellitus (DM) is a chronic, life-long endocrine, and metabolic disorder that occurs due to a defect in insulin secretion and insulin action. Insulin is the hormone that is produced by a specialized cell called  $\beta$ -cells present on the organ pancreas. Normally our body breakdown the carbohydrates and sugars which convert into glucose molecule and act as fuel for our body, but for utilization of glucose, hormones insulin is required. The deficiency of insulin leads to an increase in the blood glucose level in a body along with disturbances in the metabolism of carbohydrates, fats, and proteins. If diabetes is uncontrolled then it leads to severe diabetic complications like retinopathy, neuropathy, and various cardiovascular complications.

Proceedings of the International Conference on Materials for Emerging Technologies  
AIP Conf. Proc. 2000, 020177-1-4/20177-14; <https://doi.org/10.1063/5.0163115>  
Published by AIP Publishing, 978-0-7354-4631-1/530.00

020177-1

Director, Principal  
Gautam College of Pharmacy  
Hamirpur (H.P.)-177001



Critical review of current animal models of nephrotoxicity

Kunal Manshare<sup>1\*</sup>, Akhil Moudgil<sup>2</sup> and Aman Thakur<sup>2</sup>

1. Vidhya Sagar College of Pharmacy, Indore, (M.P.) - India

2. Gautam College of Pharmacy, Hamirpur, (H.P.) - India

Article info

Received: 06/05/2023

Revised: 11/06/2023

Accepted: 18/06/2023

© IJPLS

[www.ijplsjournal.com](http://www.ijplsjournal.com)

Abstract

Nephrotoxicity occurs when the renal blood is exposed to a nephrotoxic drug or toxin that causes damage to the kidneys. This may lead to acute kidney failure. In this condition the kidney function deteriorates and may lead to chronic kidney failure. If unchecked, the kidney failure may lead to the death. When kidney damage occurs, the kidney fails to remove excess urine and waste leading to retention of nitrogenous waste products of metabolism in the blood. The biochemical parameters commonly used to evaluate kidney function are serum urea, creatinine, uric acid, potassium, sodium and chloride. The animal models play a very important role for understanding the mechanism of nephrotoxicity and development of effective therapy for its optimal management. Since there are many pathways for induction of renal failure, therefore, a large number of animal models have been developed to produce the clinical conditions of renal failure. The present review will help to find an appropriate model to evaluate the new drug or molecule that can protect from nephrotoxicity.

Keywords: Animal, Model, Nephrotoxicity

Introduction

Nephrotoxicity can be defined as a renal disease or dysfunction produced by medication of drugs and other environmental factors and it is directly related to the (ARF) Acute renal failure (Lakshmi and Kiran, 2012) and (AKI) Acute renal injury is a reversible loss of function of renal cells in kidney that result in rapid fall in glomerular filtration rate (GFR) as well as retention of minerals and water (C. Late, 1996).

It has been found that drugs are responsible for 20% of all cases for (ARF) acute renal failure. Drug like antibiotics, anticancer, anti-inflammatory, NSAIDS, aminoglycoside exhibit and adverse effect on renal function and cause loss of immune system responses in the body. So

in recent time, interest in drug-induced nephrotoxicity has been increased with increasing number of drugs to affect the renal cells (Ganguli and Prakash, 2003; Ogunrova, 2015).

Most of the drugs are found to be harmful nephrons produce one or more pathogenic mechanism in the kidney. Pathological conditions include: hemodynamic, changes tubular cells toxicity, nephritis syndrome, urinary tract infection, chronic intestinal nephritis, and (Singh *et al.*, 2014).

The present comprehensively required the methodology information regarding various animal models of nephrotoxicity.

\*Corresponding Author

Email: [kunalmanshare61@gmail.com](mailto:kunalmanshare61@gmail.com)

# REVIEW ON DIABETIC FOOT ULCERS ITS PATHOGENESIS, EPIDEMIOLOGY AND EMERGING TREATMENTS

<sup>1\*</sup> Dr. Sanjay Kumar, <sup>2</sup>Dr. Kamal Jeet, <sup>3</sup>Ms. Anjana Devi,  
<sup>4</sup>Ms. Madhu Bala, <sup>5</sup>Ms. Kiran Thakur, <sup>6</sup>Mr. Akhil Moudgil,

<sup>1</sup>Associate Dean cum Principal, School of Pharmacy, Career Point University Hamirpur HP-176041 India

<sup>2</sup>Assistant Professor, School of Pharmacy, Career Point University Hamirpur HP-176041 India

<sup>3</sup>Assistant Professor, School of Pharmacy, Career Point University Hamirpur HP-176041 India

<sup>4</sup>Research Scholar, Laurate Institute of Pharmacy Kathog, Kangra HP-177101 India.

<sup>5</sup>Assistant Professor, School of Pharmacy, Career Point University Hamirpur HP-176041 India

<sup>6</sup>Assistant Professor, Gautam College of Pharmacy Hamirpur HP-177001 India

\*Corresponding Author

Dr. Sanjay Kumar Associate Dean cum Principal, School of Pharmacy, Career Point University Hamirpur HP-174061 India

Email: [diwansanjay1981@gmail.com](mailto:diwansanjay1981@gmail.com)

## Abstract

Diabetic foot complications aren't exactly a hot topic. Diabetic nephropathy, heart attack and stroke aren't as common as diabetic foot complications although they are still the most common complications of diabetes. As a result of diabetic foot infections and lesions, the majority of diabetics are hospitalised and require long-term hospitalizations. In the case of diabetic foot ulcers (DFUs), which can lead to amputations of the limb, as well as significant social, psychological, and economic effects. A DFU can develop in up to 25% of diabetic people throughout the course of their lives, and more than half of those patients become infected. As a result, in order to avoid undesirable results, infection and ulcer recovery must be carefully managed. Doctors and patients alike should be aware of the latest developments in DFU treatment. An overview of the current assessment and treatment options for DFUs is provided here in order to assist clinicians in making educated decisions, including molecular and regenerative medicine; energy-based antimicrobial therapies; plant extracts; antimicrobial peptides; growth factors; devices; and nanomedicine.

**Keywords:** Diabetic foot ulcers, Antimicrobial activity, Neuropathy, Therapeutic treatment

Director, Pharmacy  
Gautam College of Pharmacy  
Hamirpur (P.O.) 177001

PHS Scientific House  
PUBLISHED BY

International Journal of Pharma Research and Health Sciences

Available online at [www.pharmahealthsciences.net](http://www.pharmahealthsciences.net)



Review Article

## An Update on Biodegradable Microspheres Loaded with Naltrexone

Madhu Bala \*, Akhil Moudgil, Sanjay Kumar

Gautam College of Pharmacy Hamirpur, Himachal Pradesh-177001, India.

ARTICLE INFO

ABSTRACT

Received: 04 Mar 2020  
Accepted: 18 Apr 2020

The use of biodegradable polymers for microencapsulation of naltrexone using techniques like solvent evaporation is the need of the hour. The naltrexone microspheres for the preparation of matrix devices will help to understand the microencapsulation. Nowadays, the emphasis is being laid on the development of controlled release dosage forms. Interest in this technology has been increasing steadily over the past few years. Although the oral administration of drugs is a widely accepted route of drug delivery, the bioavailability of drugs often varies as a result of gastrointestinal absorption, biodegradation by the first-pass effect. There are many ways of achieving long-term drug delivery of parental origin; biodegradable microspheres are one of the better means of controlling the release of the drug over a long time. Likewise, emulsions, stability on a long-term basis, and in suspensions, rheological changes during filling, injecting, and storage possess a limiting factor. The extent of release rate in these systems cannot be tailor-made to the needs of the patient. Injectable formulations based on biodegradable microspheres can overcome these problems and can control the release of the drug over a predetermined period. In the order of days to weeks and even to the months. The effect of different process parameters, such as drug/polymer ratio and stirring rate during the preparation of microspheres, on the morphology, size distribution, and in vitro drug release of microspheres. The review mainly covers various molecules encapsulated in biodegradable microspheres for parenteral delivery.

**Keywords:** Biodegradable Microspheres, Naltrexone, polymers.

Corresponding author \*  
Madhu Bala  
Gautam College of Pharmacy Hamirpur, Himachal Pradesh-  
177001, India  
E-mail: [dawnsanjay1981@gmail.com](mailto:dawnsanjay1981@gmail.com)

### 1. INTRODUCTION

Microspheres are characteristically free-flowing powders consisting of proteins or synthetic polymers, which are biodegradable and ideally having a particle size less than 200  $\mu\text{m}$  [1] and which can be injected by 18 or 20 number needle [2]. The drug absorption and side effects due to irritating drugs against the gastrointestinal mucosa are improved because the biodegradable microsphere is made up

Director, Principal  
Gautam College of Pharmacy  
Hamirpur (H.P.)-177001 3136

PHS Scientific House

International Journal of Pharma Research and Health Sciences

Available online at [www.pharmahealthsciences.net](http://www.pharmahealthsciences.net)



Review Article

## Antidiabetic Activity of Chemically Synthetic Compound on Alloxan Induced Diabetes in Mice

Akhil Moudgil\*, Sanjay Kumar, Madhu Bala

Gautam College of Pharmacy Hamirpur, Himachal Pradesh-177001, India.

ARTICLE INFO

ABSTRACT

Received: 04 Mar 2020  
Accepted: 20 Apr 2020

Alloxan a nitrosourea derivative is one of the most universally accepted diabetogenic agents. The selective  $\beta$ -cell toxicity of alloxan depends on the degree of DNA alkylation and subsequent activation of poly ADP ribose synthetase in the base excision repair pathway, this stimulated activation of poly ADP ribose synthetase triggers exhaustion of  $NAD^+$  in the pancreatic islets that will lead to  $\beta$ -cell death through necrosis. In the present study, the objective was to study the evaluation of the antidiabetic activity of the chemically synthetic compound on alloxan-induced diabetes in mice. Chemically synthetic compounds were given to the mice after the administration of alloxan and glucose levels were estimated using a semi-auto analyser at a range of 505/670nm. The hyperglycaemic levels due to alloxan administration lead to the development of diabetes. Treatment with chemically synthetic compounds significantly lowers the elevated glucose levels in alloxan-induced diabetic mice. Hence compound number 1321,05152,0717 has potential antidiabetic activity. To explore further exhaustive study is required for the mechanism behind the anti-diabetic activity of their chemical compounds.

**Keywords:** Alloxan, diabetogenic agent, antidiabetic activity, hyperglycaemic levels.

Corresponding author \*  
Akhil Moudgil  
Gautam College of Pharmacy Hamirpur, Himachal Pradesh-  
177001, India  
E-mail: diwananjanjay1981@gmail.com

### 1. INTRODUCTION

Diabetes mellitus (DM), commonly referred to as diabetes, is a group of metabolic diseases in which there are high blood sugar levels over a prolonged period. Symptoms of high blood sugar include frequent urination, increased thirst, and increased hunger. If left untreated, diabetes can cause many complications. Acute complications include diabetic ketoacidosis and nonketotic hyperosmolar coma. Serious long-term complications include cardiovascular disease,

## MARKETING REGULATION OF DRUGS IN INDIA-REVIEW

**Dr. Narinder Nath Sharma**

Former Dean Academic HPTU Hamirpur (H.P), Principal Government Degree College Jawali (H.P)

**Dr. Vipin Kumar Bhulal**

Assistant Professor, Himachal Pradesh Technical University, Hamirpur (H.P)

**Mr. Sanjay Kumar**

Assistant Professor, Gautam College Hamirpur (H.P)

### ABSTRACT

*The pharmaceutical industry is one of the most regulated industries; no drug would be marketed without the teams of medical researchers and other specialists who worked to make sure it receives regulatory authority's approval. A regulatory authority is an agency of the government that is responsible for protecting public health in safety aspects. A Approval of the drug product for import, manufacturing and marketing in India, its demonstration for safety and efficacy in humans is essential. The Rules 122A, 122B and 122D, 122 DA, 122DAA, 122E and Appendix I, IA and VI of Schedule Y of the Drugs & Cosmetics Act, 1945, describes the information/data required for approval of clinical trial and/or to import, manufacture, or market any new drug in the country. Marketing of drug products is major concern issue now days. So every country has its own guidelines and own regulatory bodies for any drug approval and for marketing of the drug products. India is emerging as an important player in pharmaceutical field, but to maintain this growth and to emerge as a key player on the global market, a strong and supportive regulatory framework is essential or the advantage gained so far would be lost*

### INTRODUCTION

The current global economic climate is placing tremendous pressure on pharmaceutical companies to maximize the value of their assets. Sponsors with novel therapies seek to speed up time-to-market and introduce their products in multiple countries as quickly as possible. Companies with established products want to increase sales by expanding into additional markets to offset impending patent expirations. Confronted with these marketplace challenges, no pharmaceutical company can afford first-round submission failures or other regulatory delays that prevent its products from reaching their targeted markets in a timely fashion.

A proactive, regulatory filing strategy helps any pharmaceutical company large or small gets the most from its product portfolio by accelerating global product introductions while avoiding regulatory pitfalls. By understanding the differences in regulatory processes for countries around the world, and taking advantage of the Common Technical Document defined by the International Conference on Harmonization, pharmaceutical companies can significantly improve the speed and efficiency of preparing regulatory submissions while reducing the risk of costly delays.

### Drug Regulatory Affairs:

Regulatory Affairs in a Pharmaceutical industry, is a profession which acts as the interface between the pharmaceutical industry and Drug Regulatory authorities across the world. It is mainly involved in the registration of the drug products in respective countries prior to their marketing.



## METHOD DEVELOPMENT AND VALIDATION FOR THE SIMULTANEOUS ESTIMATION OF IN AMBROXOL AND LEVOCETIRIZINE BULK AND PHARMACEUTICAL DOSAGE FORM BY USING RP-HPLC METHOD

Sanjay Kumar<sup>1\*</sup>, Darsh Gautam<sup>2</sup> and Poonam Talwan<sup>2</sup>

<sup>1</sup>Gautam College of Pharmacy Hamirpur, Himachal Pradesh, India.

<sup>2</sup>Himachal Institute of Pharmaceutical Education and Research, Hamirpur, Himachal Pradesh, India.

### ABSTRACT

A simple, accurate, economical and reproducible reverse phase high performance liquid chromatographic (RP-HPLC) method was developed and validated for the determination of Ambroxol and Levocetirizine in bulk and pharmaceutical formulations. The separation was achieved on a phenomenex C18 column (150 × 4.6 mm i.d, particle size of 5μ) using a mixture of 0.01M Potassium dihydrogen orthophosphate (pH 5.0 ± 0.05) & Acetonitrile (60:40 v/v) as mobile phase in an isocratic elution mode, at a flow rate of 1 ml/min. The detection was monitored at 230 nm. The retention time of was found to be around 3.60min (Levocetirizine) 4.68min (Ambroxol) respectively. Excellent linearity range was found between 12-120 μg/ml for Ambroxol and 1-10μg/ml for Levocetirizine, n. The method was validated with respect to linearity, robustness, precision and accuracy and was successfully applied for the simultaneous determination of Ambroxol and Levocetirizine from the combined dosage formulation.

### 1. INTRODUCTION

Amroxol (AMB) is chemically Trans-4-(2-Amino-3,5- dibromobenzylamino)- cyclohexan-1-ol AMB is Mucolytic ,respiratory agent and used in the treatment of the upper respiratory tract diseases. With its mucolytic activity, AMB facilitates the breakdown of acid mucopolysaccharide fibres in the mucous thus making it thinner and less viscous for expectoration. As well it stimulates the production of pulmonary surfactant, a substance found to play a major role in the lung defense mechanism and thereby further protect it against inflammation and infection. Levocetirizine(LCTZ) is chemically (2-(4-((R)- (4-chlorophenyl) (phenyl)methyl)- piperazin-1-yl) ethoxy)acetic acid.Levocetirizine is a third generation non-sedative antihistamine developed from the second generation

antihistamine cetirizine. It is the R-enantiomer of the cetirizine which functions to block histamine receptors. More specifically, LCTZ does not prevent the actual release of histamine from mast cells but prevents its binding to its receptors. This in turn prevents the release of other allergy chemicals and increases the blood supply to the area providing relief from the symptoms of hay fever. Literature survey revealed that AMB and LCTZ has been estimated individually or in combination using UV, HPLC and HPTLC. The present work describes the development of a simple, precise, accurate and reproducible spectrophotometric method for the simultaneous estimation of AMB and LCTZ in Pharmaceutical dosage form<sup>1-14</sup>.

Director, Poonam Talwan  
Gautam College of Pharmacy  
Hamirpur (H.P.)-177001

## METHOD DEVELOPMENT AND VALIDATION FOR THE SIMULTANEOUS ESTIMATION OF IN ATORVASTATIN AND FENOFIBRATE BULK AND PHARMACEUTICAL DOSAGE FORM BY USING RP-HPLC METHOD

Poonam Talwan<sup>1</sup>, Sanjay Kumar<sup>2\*</sup> and Darsh Gautam<sup>1</sup>

<sup>1</sup>Himachal Institute of Pharmaceutical Education and  
Research, Hamirpur, Himachal Pradesh, India.

<sup>2</sup>Gautam College of Pharmacy Hamirpur,  
Himachal Pradesh, India.

### ABSTRACT

A simple, accurate, economical and reproducible reverse phase high performance liquid chromatographic (RP-HPLC) method was developed and validated for the determination of Atorvastatin and Fenofibrate in bulk and pharmaceutical formulations. The separation was achieved on a Thermo Scientific BDS C18 column (250 × 4.6 mm i.d 5μm) using a mixture of 25mM Sodium acetate (pH adjusted to 5.0 With 1.0 M Glacial acetic acid): Acetonitrile (10:90 % v/v) as mobile phase in an isocratic elution mode, at a flow rate of 1 ml/min. The detection was monitored at 254 nm. The retention time of Atorvastatin and Fenofibrate was found to be around 2.672±0.05 min (Atorvastatin) 4.971±0.07 min (Fenofibrate) respectively. Excellent linearity range was found between 1-5 μg/ml for Atorvastatin and 1-5 μg/ml for Fenofibrate. The method was validated with respect to linearity, robustness, precision and accuracy and was successfully applied for the simultaneous determination of Atorvastatin and Fenofibrate from the combined dosage formulation.

### 1. INTRODUCTION

Atorvastatin (ATOR) is chemically 7[2-(4-fluorophenyl)-3-phenyl-4-(phenylcarbamoyl)-5-(propan-2-yl)-1H-pyrrol-1-yl]-3,5-dihydroxyheptanoate. Atorvastatin is a HMG-COA reductase inhibitor acts anti-hyperlipidemic drug clinically effective drug in the treatment of Hypercholesterolemia. It is insoluble in methanol, ethanol, and acetonitrile. Practically insoluble in water. Fenofibrate (FENO), propan-2-yl 2-[4-[(4-chlorophenyl)carbonyl]phenoxy]-2-methylpropanoate is a widely used anti-cholesteremic agent as ppar receptor inhibitor. Atorvastatin and Fenofibrate is available in combined dosage forms as film coated tablets (LIPIKIND). Each tablet contains 10mg of Atorvastatin and 160 mg of Fenofibrate. It is used for the treatment of Hypercholesterolemia.

For this combination derivative spectroscopic methods and reverse phase liquid chromatographic methods are reported. However, there is no work reported on combination of these drugs by standard addition simultaneous equation method. Hence fast, simple, and accurate and validated spectrophotometric method was developed by standard addition of both drugs by applying simultaneous equation method, the developed method was simple, accurate, precise, specific, sensitive and reproducible which can be efficiently and easily applied to pharmaceutical dosage forms.

Director  
Gautam College of Pharmacy  
Hamirpur (P)-177001

## FORMULATION AND EVALUATION OF MIRTAZAPINE ORAL THIN FILM

Sanjay Kumar<sup>1\*</sup>, Darsh Gautam<sup>2</sup> and Poonam Talwan<sup>2</sup>

<sup>1</sup>Gautam College of Pharmacy Hamirpur,  
Himachal Pradesh-177 001, India.

<sup>2</sup>Himachal Institute of Pharmaceutical Education and Research,  
Hamirpur, Himachal Pradesh, India.

### ABSTRACT

The aim of this present investigation was to develop a rapid dissolving oral polymeric film, using the solvent casting method, having good mechanical properties, instant disintegration and dissolution, an acceptable taste in the oral cavity. Mirtazapine is a tetracyclic antidepressant drug mainly in patients affected by depression. The present investigation was undertaken with the objective of formulating of the Mirtazapine rapid dissolving oral thin films allowing fast reproducible drug dissolution in oral cavity thus bypassing first pass metabolism, to enhance the convenience and compliance by the elderly and pediatric patients. Nine formulations of films with drug were prepared using both natural and synthetic polymers like HPMC E6 and Sodium Alginate. Propylene glycol was used as plasticizers. Citric acid was used as a saliva stimulating agent. Synthetic Aspartame was used as sweetening agent. The resultant films were evaluated for weight variation, assay, content uniformity, folding endurance, thickness, tensile strength, percent elongation, surface pH, *in vitro* disintegration and *in vitro* dissolution. The F4 formulation showing the best results. The disintegration time is only 3.5 second. and was releasing upto 100.8% of drug within 20 minutes.

Keywords: Mirtazapine . solvent casting method. Oral thin film and HPMC E6.

### INTRODUCTION

More recently, fast-dissolving films are gaining interest as an alternative to fast-dissolving tablets to definitely eliminate patients' fear of choking and overcome patent impediments. Fast-dissolving films are generally constituted of plasticized hydrocolloids or blends made of thereof that can be laminated by solvent casting or hot-melt extrusion.

The oral route is one of the most preferred routes of drug administration as it is more convenient, cost effective, and ease of administration lead to high level of patient compliance. The oral route is problematic because of the swallowing difficulty for pediatric and geriatric patients who have fear of choking. Patient convenience and compliance oriented research has resulted in bringing out safer and newer drug delivery systems. Recently, fast dissolving drug delivery systems have started gaining

popularity and acceptance as one such example with increased consumer choice, for the reason of rapid disintegration or dissolution, self-administration even without water or chewing.

Mirtazapine is a tetracyclic antidepressant used mainly in patients affected by depression<sup>1,2</sup>. The novel antidepressant mirtazapine has a dual mode of action. It is a noradrenergic and specific serotonergic antidepressant (NaSSA) that acts by antagonizing the adrenergic  $\alpha_2$ -autoreceptors and  $\alpha_2$ -heteroreceptors as well as by blocking 5-HT<sub>2</sub> and 5-HT<sub>3</sub> receptors<sup>3,4</sup>. It enhances, therefore, the release of nor epinephrine and 5-HT<sub>1A</sub>-mediated serotonergic transmission. Increased activation of the central 5-HT<sub>1A</sub> receptor is thought to be a major mediator of efficacy of Mirtazapine. This dual mode of action may conceivably be responsible for mirtazapine's

Gautam College of Pharmacy  
Hamirpur (I.P.)-177001

**PHS Scientific House**  
PUBLISHING & DISTRIBUTION

**International Journal of Pharma Research and Health Sciences**

Available online at [www.pharmahealthsciences.net](http://www.pharmahealthsciences.net)



Review Article

# Recent Advances in Particle Characterization and its Application in Pharmaceutical Industry

Poonam Dogra<sup>1,\*</sup>, Shikha Atteri<sup>1</sup>, Sanjay Kumar<sup>2</sup>

<sup>1</sup> Department of Pharmaceutical and Health Sciences Career Point University, Hamirpur, Himachal Pradesh, India.

<sup>2</sup> Gautam College of Pharmacy, Hamirpur, Himachal Pradesh, India.

ARTICLE INFO

ABSTRACT

Received: 02 Jun 2020  
Accepted: 28 Jun 2020

Particle size characterization is a area of analytical chemistry which is required in a great number of industries where the product's end-use is affected by particle size distribution. The Particles can be in the form of solids, liquids, or gases or an aggregation of molecules as in the case of micelles. Particularly In some instances, especially in the area of pharmaceuticals finished forms, analyses are done to ensure the absence of particulate matter in the product. Particle size characterization helps in monitoring the environment accurately for particulate matter as well as particle size distributions, concentrations for full assessment of health hazard substances. The growing interest in particle size characterization and analysis, especially among analytical chemistry researchers, the subject is mainly emphasized on the application. The number of techniques available for particle size analysis is confounding. More than 250 methods have been reported by the analytical researchers for understanding and assessing the particle size. Because of the broad scope of this area in terms of techniques and analytical approaches, products, and size ranges major technique areas have been discussed, which have received the most attention in recent years: radiation scattering and chromatographic techniques. The new and growing areas are rapidly becoming techniques of choice especially for the rapid analysis of submicrometer particles.

**Keywords:** Particle Size Characteristics, Analytical Technique, Size, Chromatographic techniques

## 1. INTRODUCTION

Particle size characterization techniques currently in use within pharmaceutical industry and academia. It assumes no prior knowledge of particle characterization theory or instrumentation and should be ideal for those new to particle

**Corresponding author \***  
Poonam Dogra,  
Department of Pharmaceutical and Health Sciences Career  
Point University Hamirpur, Himachal Pradesh, India  
E-mail: [poon04@gmail.com](mailto:poon04@gmail.com)

Director  
Gautam College of Pharmacy  
Hamirpur (N.H. 177001)

3185

© International Journal of Pharma Research and Health Sciences. All rights reserved