### **COLLEGE OF PHARMACY**

Waghoda Raod, P.B.No. 4, NANDURBAR-425412 (M.S.)

Jijamata Education Society's TE Code - 5407 MSBTE Code - 0200

Email-jescp.ndb@gmail.com / jescp\_ndb@yahoa.co.in

#### PRESIDENT Smt. Shobhatai D. More Tele Fax: Ph.02564-232685 (R)

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NAAC Accredited Grade "B"

FOUNDER PRESIDE Late. Dr. Dileep More

2.3.1 - Student centric methods, such as experiential learning, participative learning and problem solving methodologies are used for enhancing learning experiences

#### 1. Experiential learning:

#### Hands on Training and Learning:

In addition to traditional talk and chalk method college strives for innovative teaching methodologies to enrich the learning capabilities of students by adopting student centric methods like experimental learning, participative learning and problem solving methodologies. Faculty has design various experiments according to the syllabus assign by KBCNMY Jalgaon University. Practical schedule as per schedule time, through the experiments student gain practical knowledge about handling of UV-Visible spectrophotometer, Digital microscope, compound microscope, HAP Model, Laminar air flow, dissolution test apparatus, ExPharm Series software etc





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Late. Dr. Dileep More

FOUNDER PRESIDENT

PRESIDENT Smt. Shobhatai D. More Tele Fax : Ph.02564-232685 (R)

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PRINCIPAL Jijamata Eduction Society's College of Pharmacy Waghoda Road, Nandurbar

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### Jijamata Education Society's

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FOUNDER PRE

PRESIDENT Smt. Shobhatai D. More Tele Fax: Ph.02564-232685 (R)

NAAC Accredited Grade "B"

Late. Dr. Dileep More

Date: - 29/12/2023

#### Project Base Learning:

JES

Notice

All the Final Year B. Pharm Students are hereby informed that their Guide Allotment for the Project work is as follows. The students are informed that they should contact the respective Guide for the same.

Sr. No.	Student Name	Name of Guide	Sr. No.	Student Name	Name of Guide	
01	Agrawal Shivani Ravindra	Dr. R. R.	31	More Vaishnavi Rajendra	Mr. K. S.	
02	Ahire Jayesh Santosh	Patil	32	Nerkar Jayshree Ratnadeep	Rathi	
03	Ahire Mahesh Kailas		33	Nikam Saurav Sunil		
04	Ahire Rajvardhan Arvind	Dr. P. V.	34	Nikumbe Jagruti Raju	Ms. R. P.	
05	Bachhav Dipika Hiraman	Gomase	35	Paradke Devashish Jamsing	Patil	
06	Chaudhari Isha Santosh		36	Patil Akshada Pramod		
07	Chaudhari Monalika C.	Dr. J. P.	37	Patil Meghasham C.	Mr. V. V.	
08	Chaudhari Om Sharad	Gokhale	38	Patil Rakshanda Sanjay	Kalal	
09	Chaudhari Pranali Bharat		39	Pawar Jagruti Sarjerao	1	
10	Chavan Jayesh Narendra	Dr. I. T.	40	Pimpale Harshal Dhiraj	Mr. M. B.	
11	Chavan Sunayana Karansing	Ansari	41	Rajput Rajpal Devnathsing	Kokani	
12	Chitte Devidas Yuvaraj		42	Ramkor Abhay Sambhaji		
13	Desale Harshal Satish	Ms. S. R.	43	Salunke Pushpanjali Jagdish	Ms. D. R.	
14	Gaikawad Hemant Ravindra	Valvi	44	Savale Puja Sanjay	Mali	
15	Gharate Bhagyashree S.		45	Sayyed Zakwan Ali Javid Ali		
16	Javheri Sejal Manojkumar	Ms. J. J.	46	Shimpi Sani Sadashiv	Ms. S. R.	
17	Jaware Supriya Ravindra	Naik	47	Shinde Bharati Vitthal	Valvi	
18	Khade Dhananjay Ravindra	1	48	Shivde Neha Sanjay		
19	Kokani Govind Hiraman	Mr. V. A.	49	Sonavane Suraj Jaydevbhai	Ms. J. J.	
20	Magare Kirtika Lahu	Chaure	50	Sonawane Ganesh Prakash	Naik	
21	Magare Sohan Rajesh		51	Tamboli Purva Chidanand		
22	Mahajan Ajay Kantilal	Ms. M. K.	52	Thakare Chaitali Chunilal	Ms. M. K.	
23	Mahajan Krunal Manohar	Gavit	53	Thakare Pooja Manohar	Gavit	
24	Mahajan Rahul Hilal		54	Thorat Yashdeep Suklal		
25	Mahajan Tejas Sunil	Ms. M.	55	Valvi Jay Vinayak	Ms. M. M	
26	Mahajan Vaibhavi Vilas	M. Patil	56	Valvi Suraj Jitendra	Patil	
27	Maheshwari Tejas R.		57	Wadile Hemlata Ramlal		
28	Mali Nishank Manoj	Mr. R. M.			M. D.D.	
29	Marathe Manish Pandurang	Kuwar	58	Patil Nayan Ravindra	Ms. R. P.	
30	Marathe Tejas Prakash	-			Patil	

Academic In-charge

IQAC Goordinator





Jijamata Education Society's

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#### PRESIDENT

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#### NAAC Accredited Grade "B"

FOUNDER PRESIDENT

Late. Dr. Dileep More

**Project Base Learning** 

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#### Project work Academic Year 2023-2024

Sr.	Title of Project	Name of Guide	Name of Student
No.			
01	Formulation and Evaluation of Herbal Jelly for	Dr. R. R. Patil	Agrawal Shivani
	Cough and Cold		Ravindra
02	Formulation and Evaluation of Herbal Jelly for	Dr. R. R. Patil	Ahire Jayesh Santosh
	Cough and Cold		
03	Formulation and Evaluation of Herbal Jelly for	Dr. R. R. Patil	Ahire Mahesh Kailas
	Cough and Cold		
04	Preparation And Evaluation of Herbal Face	Dr. P.V. Gomase	Ahire Rajvardhan
	Scrub		Arvind
05	Preparation And Evaluation of Herbal Face	Dr. P.V. Gomase	Bachhav Dipika
	Scrub		Hiraman
06	Preparation And Evaluation of Herbal Face	Dr. P.V. Gomase	Chaudhari Isha Santosh
	Scrub		
07	Formulation And Evaluation of Herbal Hair	Dr. J. P. Gokhale	Chaudhari Monalika
	Serum		Chandrashekar
08	Formulation And Evaluation of Herbal Hair	Dr. J. P. Gokhale	Chaudhari Om Sharad
	Serum		
09	Formulation And Evaluation of Herbal Hair	Dr. J. P. Gokhale	Chaudhari Pranali
	Serum		Bharat
10	A Comprehensive Review on Covid -19	Dr. I.T. Ansari	Chavan Jayesh
	Omicron Variant		Narendra
11	A Comprehensive Review on Covid -19	Dr. I. T. Ansari	Chavan Sunayana
	Omicron Variant		Karansing
12	A Comprehensive Review on Covid -19	Dr. I. T. Ansari	Chitte Devidas Yuvraj
	Omicron Variant		
13	Formulation And Evaluation of Herbal Powder	Prof. S. R. Valvi	Desale Harshal Satish
	Shampoo		



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FOUNDER PRESIDENT Late. Dr. Dileep More

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14	Formulation And Evaluation of Herbal Powder	Prof. S. R. Valvi	Gaikwad Hemant
	Shampoo		Ravindra
15	Formulation And Evaluation of Herbal Powder	Prof. S. R. Valvi	Gharate Bhagyashree
	Shampoo		Sadashiv
16	Formulation And Evaluation of Herbal	Prof. J. J. Naik	Javheri Sejal Manoj
	Medicated Lozenges		Kumar
17	Formulation And Evaluation of Herbal	Prof. J. J. Naik	Jaware Supriya
	Medicated Lozenges		Ravindra
18	Formulation And Evaluation of Herbal	Prof. J. J. Naik	Khade Dhanjay
	Medicated Lozenges		Ravindra
19	Comprehensive Review of Spectro Photometric	Prof. V.A. Chaure	Kokani Govind
	and Chromatographic Method for The Analysis		Hiraman
	of Spironolactone		
20	Comprehensive Review of Spectro Photometric	Prof. V.A. Chaure	Magare Kirtika Lahu
	and Chromatographic Method for The Analysis		
	of Spironolactone		
21	Comprehensive Review of Spectro Photometric	Prof. V.A. Chaure	Magare Sohan Rajesh
	and Chromotographic Method for The Analysis		
	of Spironolactone		
22	Formulation And Evaluation of Herbal Tooth	Prof. M.K. Gavit	Mahajan Ajay Kantilal
	Powder		
23	Formulation And Evaluation of Herbal Tooth	Prof. M. K. Gavit	Mahajan Krunal
	Powder		Manohar
24	Formulation And Evaluation of Herbal Tooth	Prof. M. K. Gavit	Mahajan Rahul Hilal
	Powder		
25	Formulation And Evaluation of Herbal Hair Oil	Prof. M. M. Patil	Mahajan Tejas Sunil
26	Formulation And Evaluation of Herbal Hair Oil	Prof. M. M. Patil	Mahajan Vaibhavi
			Vilas
27	Formulation And Evaluation of Herbal Hair Oil	Prof. M. M. Patil	Maheshwari Tejas R.



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Smt. Shobhatai D. More Tele Fax : Ph.02564-232685 (R)

28	Formulation And Evaluation of Cow Urine Soap	Prof. R.M. Kuwar	Mali Nishank Manoj
29	Formulation And Evaluation of Cow Urine Soap	Prof. R.M. Kuwar	Marathe Manish
			Pandurang
30	Formulation And Evaluation of Cow Urine Soap	Prof. R.M. Kuwar	Marathe Tejas Prakash
31	Formulation And Evaluation of Betel Leaf	Prof. K.S. Rathi	More Vaishani
	Herbal Eye Patch		Rajendra
32	Formulation And Evaluation of Betel Leaf	Prof. K.S. Rathi	Nerkar Jayashree
	Herbal Eye Patch		Ratnadeep
33	Formulation And Evaluation of Betel Leaf	Prof. K.S. Rathi	Nikam Saurav Sunil
	Herbal Eye Patch		
34	Formulation And Evaluation of Gutika for	Prof. R. P. Patil	Nikumbe Jagruti Raju
	PCOD Treatment		
35	Formulation And Evaluation of Gutika for	Prof. R. P. Patil	Patil Nayan Ravindra
	PCOD Treatment		
36	Formulation And Evaluation of Gutika for	Prof. R. P. Patil	Paradke Devashis
	PCOD Treatment		Jamsing
37	Herbal Nutraceuticals That Are Used to Treat	Pof. R. P. Patil	Patil Akshada Pramod
	Diseases		
38	Formulation & Evaluation of Pain Relief Natural	Prof. V.V. Kalal	Patil Meghashyam C.
	Balm by Using Herbal Extract		
39	Formulation & Evaluation of Pain Relief Natural	Prof. V.V. Kalal	Patil Rakshanda Sanjay
	Balm by Using Herbal Extract		
40	Formulation & Evaluation of Pain Relief Natural	Prof. V.V. Kalal	Pawar Jagruti Sarjerao
	Balm by Using Herbal Extract		
41	Clinical Trials Registered in Last Five Year for	Prof. M.B. Kokani	Rajput Rajpal
	Covid -19		Devanthsing
42	Clinical Trials Registered in Last Five Year for	Prof. M.B. Kokani	Pimpale Harshal Dhiraj
	Covid -19		
43	A Systemic Review on Post Covid-19 Symptoms	Prof. D.R. Mali	Salunke Pushpanjali





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FOUNDER PRESEDE Late. Dr. Dileep More

			Jagdish
44	A Systemic Review on Post Covid-19 Symptoms	Prof. D.R. Mali	Savle Puja Sanjay
45	A Systemic Review on Post Covid-19 Symptoms	Prof. D.R. Mali	Sayyad Zakwan Ali Javid Ali
46	Formulation And Evaluation of Poly Herbal Paper Soap	Prof. S.R. Valvi	Shimpi Sani Sadashiv
47	Formulation And Evaluation of Poly Herbal Paper Soap	Prof. S.R. Valvi	Shinde Bharati Vital
48	Formulation And Evaluation of Poly Herbal Paper Soap	Prof. S.R. Valvi	Shivade Neha Sanjay
49	Formulation And Evaluation of Gutika for Arthritis Treatment	Prof. J.J. Naik	Tamboli Purva Chidanand
50	Formulation And Evaluation of Gutika for Arthritis Treatment	Prof. J.J. Naik	Sonwane Suraj Jaydevbhai
51	Formulation And Evaluation of Gutika for Arthritis Treatment	Prof. J.J. Naik	Sonwane Ganesh Prakash
52	Formulation And Evaluation of Herbal Soap by Moringa Oleifera as Main Active Constituent	Prof. M.K. Gavit	Thakare Chaitali Chunilal
53	Formulation And Evaluation of Herbal Soap by Moringa Oleifera as Main Active Constituent	Prof. M.K. Gavit	Thakare Pooja Manohar
54	Formulation And Evaluation of Herbal Soap by Moringa Oleifera as Main Active Constituent	Prof. M.K. Gavit	Thorat Yashdeep Sukalal
55	Herbal Toothpaste	Prof. M. M. Patil	Valvi Jay Vinayak
56	Herbal Toothpaste	Prof. M. M. Patil	Valvi Suraj Jitendra
57	Herbal Toothpaste	Prof. M. M. Patil	Wadile Hemlata Ramlal

IQACCoordinator



-Principal ·PRINCIPAL

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# **COLLEGE OF PHARMACY**

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#### PRESIDENT

NAAC Accredited Grade "B"

FOUNDER PRESIDENT Late. Dr. Dileep More

Smt. Shobhatai D. More Tele Fax : Ph.02564-232685 (R)

Industrial Learning

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#### List of Industrial Training Report Academic Year 2023-2024

Sr	Name Of Student	Name Of Industry	Contact no of	Location
No.			HR	
1	Agrawal Shivani Ravindra	Gelnova Laboratories Pvt. Ltd.	9764277721	Navi Mumbai
2	Ahire Jayesh Santosh	Ashtang Ayurvedic Pharmacy	9511264356	Dhule
3	Ahire Mahesh Kailas	Koral Pharma	9850730967	Nashik
4	Ahire Rajvardhan Arvind	Aculife Healthcare Pvt. Ltd.	7926839100	Ahmedabad
5	Bachhav Dipika Hiraman	Bharat Serum And Vaccine	02245043456	Mumbai
		Limited		
6	Chaudhari Isha Santosh	Fulllife Healthcare Pvt Ltd	9420907602	Dheku Raigad
7	Chaudhari Monalika	Enaltec Chemistry Pharma Pvt.	0226750700	Ambernath
	Chandrashekar	Ltd		
8	Chaudhari om Sharad	Ashtang Ayurvedic Pharmacy	9511264356	Dhule
9	Chaudhari Pranali Bharat	Koral Pharma	9850730963	Nashik
10	Chavan Jayesh Narendra	Geluola Laboratories Pvt Ltd	9527003213	Navi Mumbai
11	Chavan Sunayana Karansing	Shakti Herbal India	9850973824	Nashik
12	Chitte Devidas Yuvaraj	Teleios Pharma Pvt Ltd	8291974383	Navi Mumbai
13	Desale Harshal Satish	Alkem Laboratories Ltd	7620262618	
14	Gaikawad Hemant Ravindra	Geluola Laboratories Pvt Ltd	9527003213	Navi Mumbai
15	Gharate Bhagyashree	Koral Pharma	2532506962	Nashik
	Sadashiv			
16	Javheri Sejal Manojkumar	Khandesh Ayurvedic Pharmacy	7249626369	Jalgaon
17	Jaware Supriya Ravindra	Khandesh Ayurvedic Pharmacy	7249626369	Jalgaon
18	Khade Dhananjay Ravindra	Farbe Firma	9834426256	Ankleshwar
19	Kokani Govind Hiraman	Farbe Firma	9834426256	Ankleshwar
20	Magare Krutika Lahu	Khandesh Ayurvedic Pharmacy	7249626369	Jalgaon
21	Magare Sohan Rajesh	Koral Pharma	9850730963	Nashik



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22	Mahajan Ajay Kantilal	Khandesh Ayurvedic Pharmacy	7249626369	Jalgaon
23	Mahajan Krunal Manohar	Khandesh Ayurvedic Pharmacy	7249626369	Jalgaon
24	Mahajan Rahul Hilal	Khandesh Ayurvedic Pharmacy	7249626369	Jalgaon
25	Mahajan Tejas Sunil	Koral Pharma	9850730963	Nashik
26	Mahajan Vaibhavi Vilas	Aculife Healthcare Pvt Ltd	7926839100	Ahemedabad
27	Maheshwari Tejas Rameshwar	Ashtang Ayurvedic Pharmacy	9511264356	Dhule
28	Mali Nishank Manoj	Koral Pharma	2532506962	Nashik
29	Marathe Manish Pandurang	Ashtang Ayurvedic Pharmacy	9511264356	Dhule
30	Marathe Tejas Prakash	Ashtang Ayurvedic Pharamcy	9511264356	Dhule
31	More Vaishnavi Rajendra	Blue Cross Laboratories	66638000	Nashik
32	Nerkar Jayshree Ratnadeep	Synzeal Reasearch Pvt Ltd	7575002050	Ahemedabad
33	Nikam Saurav Sunil	Aculife Healthcare	7926839100	Ahemedabad
34	Nikumbhe Jagruti Raju	Maxheal Laboratories Pvt Ltd	2267347718	Nashik
35	Paradke Devashish Jamsing	Aculife Healthcare	7926839100	Ahemedabad
36	Patil Akshada Pramod	Shakti Herbal India	9850973824	Nashik
37	Patil Meghasham Chandrakant	Koral Pharma	9850730963	Nashik
38	Patil Rakshanda Sanjay	Vadnere Laboratories	9765106135	Jalgaon
39	Pawar Jagruti Sarjerao	Aculife Healthcare	7926839100	Ahemedabad
40	Pimpale Harshal Dhiraj	Farbe Firma	9834426256	Ankleshwar
41	Rajput Rajpal Devnathsing	Farbe Firma	9834426256	Ankleshwar
42	Salunke Pushpanjali Jagdish	Aculife Healthcare	7926839100	Ahemedabad
43	Savale Puja Sanjay	Shakti Herbal India	9850973824	Nashik
44	Sayyed Zakwan Ali Javid Ali	Farbe Firma	9834426256	Ankleshwar
45	Shimpi Sani Sadashiv	Ashtang Ayurvedic Pharmacy	9511264356	Dhule
46	Shinde Bharati Vitthal	Ashtang Ayurvedic Pharmacy	9511264356	Dhule
47	Shivde Neha Sajay	Koral Pharma	2532506962	Nashik



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PRESIDENT Smt Shabhatai D More

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#### NAAC Accredited Grade "B"

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Tele Fo	ax : Ph.02564-232685 (R)			
48	Sonavane Suraj Jaydevbhai	Gelnova Labs	9764277728	Navi Mumbai
49	Sonawane Ganesh Prakash	Teleios Pharma Pvt Ltd	8308282765	Navi Mumbai
50	Tamboli Purva Chidanand	Maxheal Laboratories Pvt Ltd	2267347718	Nashik
51	Thakare Chaitali Chunilal	Medioint Lifescience Pvt Ltd	9673445000	
52	Thakare Pooja Manohar	Ashtang Ayurvedic Pharmacy	9975845460	Dhule
53	Thorat Yashdeep Suklal	Koral Pharma Pvt Ltd	9850730963	Nashik
54	Valvi Jay Vinayak	Forbe Firma	9834426256	Ankleshwar
55	Valvi Suraj Jitendra	Forbe Firma	9834426256	Ankleshwar
56	Wadile Hemlata Ramlal	Koral Pharma	2532506962	Nashik
57	Patil Nayan Ravindra	Koral Pharma	9850730963	Nashik

IQAC Coordinator

**Training & Placement In-charge** 

Principal PRINCIPAL



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4. Participative Learning

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#### Avishkar Participation 2023-2024

Participation in Avishkar District/ University Level Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon

#### District Level Avishkar Registration - 2023 PHASE-I

Sr. No.	Name of Students	<b>Title of Presentation</b>
		n UG Category
01	Sonar Hiral Ambadas	Development of In-vitro model for
02	Patil Vipul Nimba,	screening of vascular Angiogenesis using Chicken Eggs NUGP5- 182
03	Kalyani Pramod Badgujar	Preclinical Evaluation of the effect of
04	Neha Manoj Chaudhari	Adult dental pulp stem cells in diabetic wound healing in wistar rats NUGP5-193
05	Mansi Vinod Chaudhari	Composite of Zingiber officinale (AEZO)
06	Pratiksha Jagadish Marathe	and hydroalcohoic extract of <i>Brassica</i> oleracea (HAEBO) papain induced osteoarthritis in wistar rats <b>NUGP5-194</b>
07	Om Vasant Kodag	Snake venoms use AS LIFE SAVING DRUG(Anti-venoms) NUGP5- 199
08	Mansi Chavan	Evaluation of Herbal blend of bio-actives
09	Rutuja Marathe	for the management of Rheumatoid arthritis in wistar rats <b>NUGP5-202</b>
	T. Y. B. Pharm	UG Category
10	Prachi Nandakishor Pote	ANTHELMINTIC ACTIVITY OF
11	Aakanksha Chandrakant Bhoi	NYCTANTHES ARBORTRIS LEAVES ON INDIAN EARTH WORMS NUGP5- 161
12	Mansi Arun Mahajan	Formulation & Evaluation of Herbal
13	Srushti Bharat Mali	Capsule Containing Withania coagulants & Syzygium cumini for the treatment of Diabetes & wound healing <b>NUGP5-169</b>
14	Ritik Gulab Ahire	<i>In-silico</i> Molecular docking studies of Phytoconstituents found in <i>Nigella sativa L</i> against 1V4S as an Antidiabetic agent <b>NUGP5 170</b>
15	Mayur Rajmal Chavan	Preparation of herbal hair oil NUGP5- 171
16	Paresh Sopan Patil	
17	Nikita Ravindra Sonawane	n-silico Molecular Docking and ADMET study of selected Phytoconstituents of on OTR Receptor (6TPK) as Anti-urolithiotic Agent NUGP5-172

**IQAC** Coordinator

EGE ANDURBAL

Principal

### **COLLEGE OF PHARMACY**

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18	Gauri Prakash Marathe	Synthesis and Evaluation of Natural Herbal
19	Arshiya Javid Mirza	Hair dye using cocos nucifera (Coconut Husk) NUGP5- 173
20	Malviya Divya Manoj	OATS MOISTURIZING SHINE Gel
21	Patil Bhumika Dilip	NUGP5- 174
22	Karan Vijay Marathe	Formulation and Evaluation of herbal hand
23	Hitanshu Narottam Marathe	wash by using natural ingredients NUGP5- 175
24	Harshada Bharat Vasaikar	A systematic correlation between wound
25	Trupti Subhash Tayade	healing and diabetes NUGP5- 176
26	Jignesh Mahesh Sonawane	3D PRINTIND IN MEDICINE: A
27	Ketan Gopal Shintre	REVOLUTION IN HEALTHCARE NUGP5- 177
28	Supriya Magan Thakrae	Determination of Soil PH and Conductivity
29	Pratiksha Santosh Thakare	NUGP5- 178
30	Khushbu Juber Tamboli	Identification of Structural Scaffold from interbioscreen (IBS) database to inhibi
31	Khushi Jay Shinde	3CLpro, of SARS-CoV-2 using molecula docking and dynamic simulation studies NUGP5-180
32	Wani Aayush Vijay	FREEZE DRYING OF PARENTRAL
33	Sonar Nilesh Chudaman	PRODUCTS NUGP5- 181
34	Patil Sagar Vinayak	Formulation and Evaluation of Face Serun
	Pardeshi Virendra	Containing Curcumin Extract and Alover
35	Rajemdrasing	Gel NUGP5- 183
36	Diksha Sunil Bramhane	FORMULATION AND EVALUATION
37	Chetana Anandrao Karankal	OF HERBAL HAND SANITIZER GE FROM ORGANO OIL NUGP5- 184
38	Vaibhav Kalyan Patil	Formulation, Development and Evaluation
39	Nilesh Prabhakar Patil	of Antifungal Betel Leaf Polyherbal Soa NUGP5 185
40	Ajay Pravin Gurav	DEVELOPMENT AND EVALUATION
41	Dhruv Vilas Somvanshi	OF HERBAL HAIR OIL NUGP5- 186
42	Saloni Prabhakar Ishi	Formulation and Evaluation of Herbal Ha
43	Bhagyashri Sanjay Pawar	Colorant Oil NUGP5- 187
44	Neha Jagdish Pursnani	Formulation and Evaluation of Floatin
45	Gayatri Shubhash Pardeshi	Herbal Tablet in Treatment of Peptic Ulce NUGP5- 188
46	Kanishka Jayendra Ahire	PHARMACEUTICAL EXCIPIENT
47	Pooja Digamber Chavan	FROM AGRICULTURAL WAST PRODUCT NUGP5- 189
48	Ms. Gitanjali N. Patil	Formulation and Evaluation of
49	Ms. Priyanka R. Marathe	Mucoadhesive Buccal Patch of Gingero NUGP5-156

IQAC Coordinator



Principal PRINCIPAL

## **COLLEGE OF PHARMACY**

Waghoda Raod, P.B.No. 4, NANDURBAR-425412 (M.S.)

Jijamata Education Society's

DTE Code - 5407 MSBTE Code - 0200

Email- jescp.ndb@gmail.com / jescp\_ndb@yahoo.co.in

PRESIDENT Smt. Shobhatai D. More Tele Fax : Ph.02564-232685 (R)

JES

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FOUNDER PRESIDE Late. Dr. Dileep More

Final Year l	B. Pharm UG Category	
50	Sejal Manojkumar Javheri	Swiss albino mice treated with a combination of bioactive extracts showed
51	Chaitali Chunilal Thakare	antidepressant action NUGP5- 190
52	Shivani Ravindra Agrawal	Preparation and Evaluation of hair spray for
53	Hemangi Sanjay Shinde	treatment of Sanjay Shinde scalp psoriasis NUGP5- 192
54	Jayshree R Nerkar	Evaluation of herbal composite (HC) for its
55	Vaishnavi R More	(Cyclophosphamide) induced hepatotoxicity in wistar Rats NUGP5- 217
56	Shimpi Sani Sadashiv	FORMULATION AND EVALUATION
57	Marathe Manish pandurang	OF METRONIDAZOLE OPTHALMIC IN- SITU GEL IONIC GELATION TECHNIQUE <b>NUGP5-179</b>
58	Tejas Prakash Marathe	Formulation and Evaluation of Herba
59	Jayesh Santosh Ahire	Shampoo NUGP5- 205

Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon

### District Level Avishkar Registration – 2023 PHASE-I

Sr. No. Name of Participants Title of Presentation		Title of Presentation
	TH	Category
01	Ms. Manisha Manilal Patil	Development and Validation of A HPLC Analytical Assay Method for Sunitinib Capsule NPPGP5- 235
02	Ms. Rina P. Patil	Hepatoselective GK Activator to treat Type-2 Diabetes Mellitus without causing Hypoglycemia NPPGP5- 236

IQAC coordinator



Principal



Jijamata Education Society's

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FOUNDER PRESIDE Late. Dr. Dileep More



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FOUNDER PRESICK Late. Dr. Dileep More



#### Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon

### <u>University Level Avishkar Registration – 2023 PHASE-II</u> <u>KBCNMU,JALGAON</u>

Sr. No.	<b>Shortlisted Participants</b>	<b>Title of Presentation</b>		
	Third & Final	Year B. Pharm UG		
01	Prachi Nandakishor Pote	ANTHELMINTIC ACTIVITY OF		
02	Aakanksha Chandrakant Bhoi	-NYCTANTHES ARBORTRIS LEAVES ( INDIAN EARTH WORMS NUGP5- 161		
03	Gitanjali Nana Patil	Formulation and Evaluation of Mucoadhesive		
04	Priyanka Rakesh Marathe	Buccal Patch of Gingerol NUGP5- 156		
05	Gauri Prakash Marathe	Synthesis and Evaluation of Natural He Hair dye using cocos nucifera (Coconut He NUGP5-173		
06	Arshiya Javid Mirza			
07	Karan Vijay Marathe	Formulation and Evaluation of herbal hand		
08	Hitanshu Narottam Marathe	wash by using natural ingredients NUGP5- 175		
09	Patil Sagar Vinayak	Face Containing Curcumin Extract and Alovera		
10	Pardeshi Virendra Rajemdrasing	•		
11	Shivani Ravindra Agrawal	Preparation and Evaluation of hair spray for		
12	Hemangi Sanjay Shinde	treatment of scalp psoriasis NUGP5- 192		
	Ms. Rina P. Patil	Team Leader Phase – II		

Mr. M. B. Kokani

l IQAC Coordinator



Team Leader Phase II Principal PRINCIPAL Jijamata Eduction Society's College of Pharmacy

Waghoda Road, Nandurbar

20

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FOUNDER PRESIDEN

Late. Dr. Dileep More

PRESIDENT

Smt. Shobhatai D. More Tele Fax : Ph.02564-232685 (R)

Activity Report-2023-24

Title of Activity/Event: Guest Lecture On Life Style Management And Cardiac Disease

Date(s):05/10/2023

Time: 10:00 am to 11:00 am

Venue: Jijamata Education Society's College of Pharmacy, Nandurbar

In Charge of Activity: Dr. J. P. Gokhale

Objective of Activity: Awareness about the life style management and cardiac diseases

No. Of Students Participated: 54

**Description of Events:** On 05/10/2023 we have conducted the guest lecture on life style management and cardiac disease. We invited Cardiologist Dr. Prasad Andhare as resource person. They guide about life style management and cardiac diseases and give information about cardiovascular diseases, its preventive measures to maintain a good and healthy lifestyle. The main aim of this day was to shatter barriers and empower individuals to control of their well being.

**Outcome of Events:** Students know about signs and symptoms of cardiac diseases to avoid further complication to make healthy life style to completely enjoy the highest standard of physical health.

**Photo:** 





## **COLLEGE OF PHARMA**

Waghoda Raod, P.B.No. 4, NANDURBAR-425412 (M.S.)

DTE Code - 5407 MSBTE Code - 0200

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FOUNDER PRESIDEN Late. Dr. Dileep More

Smt. Shobhatai D. More Tele Fax : Ph.02564-232685 (R)

#### News:

JES

#### लालमत

### जिजामाता बी.फार्मसीमध्ये आरोग्याबाबत मार्गदर्शन

लोकमत न्यूज नेटवर्क नंदुरबार : शहरातील जिजामाता शिक्षण संस्थेच्या औषधनिर्माणशास्त्र महाविद्यालयात झालेल्या कार्यक्रमात विद्यार्थ्यांना मार्गदर्शन करण्यात आले.

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यावेळी डॉ. प्रसाद अंधारे यांनी मार्गदर्शन केले. ते म्हणाले की, बदलत्या जीवनशैलीमुळे आपल्या आयुष्यात अनेक समस्या निर्माण झाल्या आहेत. रक्तदाब, मधुमेह, हृदयविकार, सांधेदुखी, मानसिक ताणतणाव अशा प्रकारचे आजार वादू लागले आहेत. या आजारांशी कसा मुकाबला करावा, याबाबत त्यांनी विद्यार्थ्यांना मार्गदर्शन केले. रोजच्या जीवनचक्रात किमान अर्धा तास व्यायाम करा. जंक फूह, चायनीज गांगुई, प्रा. भाग्यश्री मोरे, प्रा. विनौता पदार्थ आहारातून दूर करा. शक्यतो मराठे यांच्यासह कर्मचारी व विद्यार्थी हिरख्या पालेभाज्या खा. धूम्रपान उपस्थित होते.

टाळावे, पाश्चात्य देशात जंक फूड खाण्यामुळे जो आघात होत आहे. तो भविष्यात आपल्या भारतात येऊ नये, यासाठी सर्वांनी काळजी घेणे आवश्यक असल्याचे त्यांनी सांगितले कार्यक्रमास महाविद्यालयाचे

प्राचार्य डॉ. आर. आर. पाटील, डॉ. पी. व्ही. गोमासे, डॉ. सौ. जयंती गोखले, प्रा. ललित शहा, प्रा. व्ही. एम. बोरसे, डॉ. आय. टी. अन्सारी, प्रा. सरोज चाळवी, प्रा. जयश्री नाईक, प्रा. मनीषा गावित, प्रा. विनोद चौरे, प्रा. मनीषा पाटील, प्रा. किशोर राठी, प्रा. राजेश कुवर, प्रा. रीना पार्टील, प्रा. विशाल कलाल, प्रा. मनेश कोकणी, प्रा. दीपाली माळी, प्रा. राहुल



#### धुळे सिटी 09-10-2023

### बदलत्या जीवनशैलीमुळे शहरी जीवनात आल्या अनेक समस्या

औषध निर्माण शास्त्रा महाविद्यालयात डॉ. प्रसाद अंधारेंचे प्रतिपादन

प्रतिनिधी | नंदुरबार जीवनशैलीमुळे आपल्या महरी आयुष्पात अनेक समस्या निर्माण झाल्या आनुत्यात अनक समस्य तिमान आत्य आहेत, ज्यामुळे असंस्य असे रक्तदाप मधुमेत हदयविकार सतुल्ल्य सांघेदुखी मानसिक ताणत्रणाय व अशा प्रकारचे आजार बाह्

डॉ. आर. आर. पाटील हे होते. ते पुढे मरणाले मोरे, प्रा. विनिता मराठे उपस्थित होते.

रोजच्या जीवन चकात रोज किमान अर्था तास व्यायाम जेक फूड चायनीज पदार्थ आहारातृत दुर करा. शक्ततो हिरव्या पालेभाज्या खा. युव्वपान टाळावा. पारस्थात्य देशात जेक फूड र्खाण्यामुळे जो आधात होत आहे तो भविष्यात आपल्या भारतात येऊ नवे त्यासाठी काळजी देणे आवायक आहे. डॉ. पी. की. गोमासे, डॉ. रूपाल आह, अशा आजार्थगों करता मुकावला जाते हो. पी. लो. गोमासे, डॉ. करावा, यावाबत डॉ. प्रसाद अध्येरे योरसे, डॉ. आय.टी. अन्यारी, प्रा. स्वी. कॉर्डेओलीस्टर योगे जिजामाता शिक्षण वाळवं, प्रा. उत्वश्री गोकर, प्रा. न्यतेया गोंकर, संस्थेच्या औषध निर्माण शास्त्र प्रा. विनोद चौर, प्रा. मनीषा पाटील, प्रा. किशोर महाविद्यालयात आयोजित एका कार्यक्रमात विद्यार्थाना मार्गहर्मन करते. या येव्यो मंचायर माराजिमाळ्ल्ले त्रा. (वनाद चार, आ. मनाना पाटाल, आ. कन्या राठी, प्रा. राजेश कुखर, प्रा. रीना पाटील, प्रा. विशाल कलाल, प्रा. मनेश कोकणी, प्रा. दियाली माळी, प्रा.सहूल गांगुई, प्रा. भाग्यकी

NANDURBAR \*

PRINCIPAL

## **COLLEGE OF PHARMACY**

Waghoda Raod, P.B.No. 4, NANDURBAR-425412 (M.S.)

DTE Code - 5407 MSBTE Code - 0200

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#### PRESIDENT

JES

Smt. Shobhatai D. More Tele Fax : Ph.02564-232685 (R)

#### FOUNDER PRESIDENT Late. Dr. Dileep More



Jijamata Education Society's

Jijamata Education Society's College of Pharmacy, Nandurbar. At Post: Waghoda Shivar, Tal. & Dist: Nandurbar. MS 425412



Date:- 04/10/2023

#### Notice

All the students of are hereby, informed that, our college is arranging guest lecture on life style management and cardiac disease for Awareness about signs and symptoms of cardiac diseases to avoid further complication to make healthy life style to completely enjoy the highest standard of physical health on 05/10/202 at J.E.S's College of Pharmacy, Nandurbar.

All should note the same & present for the Guest Lecture.

Principal

Dr. R. R. Patil PRINCIPAL Jijamata Eduction Society's College of Pharmacy Waghoda Road, Nandurbar



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#### Jijamata Education Society's College of Pharmacy, Nandurbar <u>Attendance</u> Name of Activity:- Guest Leefure on Life style monagement and caediae disease Date:- studiae

Date: - 5/10/2023 Venue: JEs's college of phaemaey Nundurbae Venu: 2023-24

Sr. No.	Name of Students	Signature
1)	Dhiray Anil Chaudhari	(DA)
2)	Rigush and Saugney	tinh
3)	Chetco Bhagavet Saver	(Rones
4)	Baywan Rehay Shaikh Shakir	fer.
51	Bagale Shybham Dilip	- Stores
6)	Agdawal Sujal Manish	here
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JES

Smt. Shobhatai D. More Tele Fax: Ph.02564-232685 (R) FOUNDER PRESIDEN Late. Dr. Dileep More

1.7	<u>Attendance</u>		1			
Name of Activity: - Guest Leetver on Life style management						
	, and calded a seri					
Date :-	JESS college of phase	mary Nardurbat				
	2023-24	1				
	2023-29					
Sr. No.	Name of Students	Signature				
28)	Nixanjan Galynorayan Bhamore.	. DtBhameric				
29)	DiPras Anand furpager.	Aleffer,				
.30)	Ahare Payvardhay Arvind	Rajordy				
31)	Salunte Pushpanjali Jagdish	Ralucke				
32)	Mak pravali Shahaji	Imahi				
337	Patel Ashwini Krishana	Aspatel.				
34)	Mali Ruchita Bhagwan	Brualt				
357	disho rogerh Mistri	Dumista				
36)	Daturan sayyed	Daland .				
37)	Ade Tejswini kiran	Teach				
38)	Nikita Ashok Ahize	guice .				
397	Having" Idetankumar oshire	Athike a.				
40)	Dipali Jotirom Bhil	Ruit				
41)	Sayali Aatmorram Bhoi	Sayali				
42)	Japuti Hemant lad	- Flud				
437	Kalyani Jibhau Deshmukh	Kinth				
441	Archana Tuashidas Grougt	- Annul -				
45)	Vinod Krishnarao Patij	party	No. and			
46)	Vandana Bhikari Padui	Jadies				
47)	Hemanshu vened kusar	alo feel				
48)	Duya Rajesh Born	augoni ->	No. of Lot			
49)	Konchance peophenceth people	Chater	(internet			
50)	Dinja Dryaneshwar Borane	Decane	and a			
51)	Patil Pyrash Pravis	effects				
52)	Ajay Marin Gurav	Acus	and how			
531	Dheou Vilas Somavanshi	Diminiasti"	Hill al			
542	Robit Bhagvan Badgatar	Bedg392	-			

Jijamata Education Society's College of Pharmacy, Nandurbar





### Jijamata Education Society's College of Pharmacy, Nandurbar. At Post: Waghoda Shivar, Tal. & Dist: Nandurbar. MS 425412



Date:- 04/10/2023

#### Notice

All the students of are hereby, informed that, our college is arranging guest lecture on life style management and cardiac disease for Awareness about signs and symptoms of cardiac diseases to avoid further complication to make healthy life style to completely enjoy the highest standard of physical health on 05/10/202 at J.E.S's College of Pharmacy, Nandurbar .

All should note the same & present for the Guest Lecture.



Principal

Dr. R. R. Patil PRINCIPAL Jijamata Eduction Society's College of Pharmacy Waghoda Road, Nandurbar



### Jijamata Education Society's

### **COLLEGE OF PHARMACY**

Waghoda Road, P.B.No.4, NANDURBAR - 425 412 (M.S)

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Smt. Shobhatai D. More Tele Fax : Ph. 02564 - 232685 (R)

Ref. No. -Jes/Cop/

FOUNDER PRESIDENT Late. Dr. Dileep More

Date :-

To, **Dr. Prasad Andhare** MD, Cardiologist, Andhare Clinic Nandurbar.

Sub :- Acknowledging your Guest Lecturer on life style management and cardiac disease....

Respected Sir,

I take previlege to thank you for your valuable time in giving the lecture on life style management and cardiac disease on date 05/10/2023,Student found the lecture very benificial with respective health awareness, I am Sure of further co-operation for such lecture in future and our association.

Thanking You ....

Yours Sincearly Dr. R. R. Patil



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FOUNDER PRESIDENT

Late. Dr. Dileep More

Waghoda Road, Nandurbar

PRESIDENT

Smt. Shobhatai D. More Tele Fax : Ph.02564-232685 (R)

Activity Report- 2023-2024

Title of activity/ event: Hands on training on UV-VIS spectrophotometer

Date: 05-12-2023

Time: 03.00 pm - 5.00 pm

Venue: JES's college of Pharmacy, Nandurbar

In-charge of activity: Dr. J. P. Gokhale

Resource person: Mr. Rinkesh Modi, Technician, Systronics (India) LTD., Ahmedabad, Gujarat.

**Objective of activity**: Demonstration of software and hands on training on UV-VIS spectrophotometer to the faculty members

#### No. of faculty members participated: 15

**Description of event:** The College has organized hands on training programme for the faculty members in the college. The aim behind the programme was to give demonstration of software and hands on training to the faculty members. The resource person was Mr. Rinkesh Modi, Technician, Systronics (India) Ltd., Ahmedabad. In this programme, information about instrumentation and working of UV-VIS spectrophotometer was given. The demonstration of software and hands on training was also given. All the teaching and non-teaching staff have collectively put their efforts under the leadership of co-coordinator Dr. J. P. Gokhale and made the programme successful.

**Outcome of the activity:** The faculty members were made aware about software and instrument handling.

#### **Photo:**



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#### PRESIDENT

Jijamata Education Society's

JES

Smt. Shobhatai D. More Tele Fax : Ph.02564-232685 (R) FOUNDER PRESIDENT

Late. Dr. Dileep More

### Jijamata Education Society's College of Pharmacy, Nandurbar

Attendance

Name of Activity: Hands on training on UN VIS SPECKE-

Date: 05-12-2023 Venue: JES'S callege of Pharmocy, Nondurbar Year: 2023-24

C. No	Name of Students Staff	Signature
Sr. No.	Mr. V.A. Chaure	Alue
1.	MS. M. K. Gavit	Lil.
2.	Dr. J. P. Gokhale	Corhall
3.	Dr. J. P. Gottand	Matil
4.	Ms. M. M. Palif Ms. Rina Patil	DUL
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## **COLLEGE OF PHARMA**

Waghoda Raod, P.B.No. 4, NANDURBAR-425412 (M.S.)

DTE Code - 5407 MSBTE Code - 0200

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Jijamata Education Society's

JES

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Smt. Shobhatai D. More Tele Fax : Ph.02564-232685 (R)

#### FOUNDER PRESIDEN

Late. Dr. Dileep More

**COLLEGE OF PHARM** Waghoda Road, P.B.No.4, NANDURBAR - 425 412 (M.S) Jijamata Education Society's DTE Code - 5407 MSRTF C

Late. Dr. Dileep More

Smt. Shobhatai D. More Tele Fax : Ph. 02564 - 232685 (R Ref. No. -Jes/Cop/ 6125A/2023-24

Date :- 05/12/2023

To, Mr. Rinkesh Modi Technician, Systronics (India) Ltd. Gujarat, M.S.

Subject: Acknowledgment for conducting hands on training on UV-VIS spectrophotometer

Respected sir,

I take privilege to thank you for sharing your valuable time in conducting the one day workshop/hands on training on UV-VIS spectrophotometer on date 05-12-2023, for the faculty members of our institute.

The faculty members found the training very beneficial and important for their studies and development. I am sure of further cooperation for such workshop in future and our association.

Principal,

a Eduction Society's



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### Jijamata Education Society's

**COLLEGE OF PHARMACY** 

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PRESIDENT Smt. Shobhatai D. More Tele Fax : Ph. 02564 - 232685 (R) FOUNDER PRESIDENT Late. Dr. Dileep More

Ref. No. - Jes/Cop/ 6125A 2023-29

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Principal Jijamata Eduction Society's College of Pharmacy Waghoda Road, Nandurbar

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JES

NAAC Accredited Grade "B"

FOUNDER PRESIDEN Late. Dr. Dileep More

#### Activity Report: 2023-24

Title of Activity/Event: Field Visit at Rakaswada PHC Hospital

- Date(s): 31/01/2024
- Time: 10:00 am to 12:00 pm

Jijamata Education Society's

Venue: PHC Hospital, Rakaswada.

In Charge of Activity: Mr. Vinod A. Chaure

**Objective of Activity:** To promote awareness among the students about functionaries involved in Health and Hospital Management.

No. of Students Participated: 24

**Description of Events:** Jijamata Education Society's College of Pharmacy, Nandurbar organized one day Hospital visit for students. 24 students visited to Rakaswada PHC Hospital under the guidance of Mr. Vinod A. Chaure. During this visit training, students received information related to different functionaries and also discussed their working Principle in health and Hospital management. Also disused primary treatments and their medication.

Outcome of Events: Students understood working Principle and functionaries involved in Hospital management.

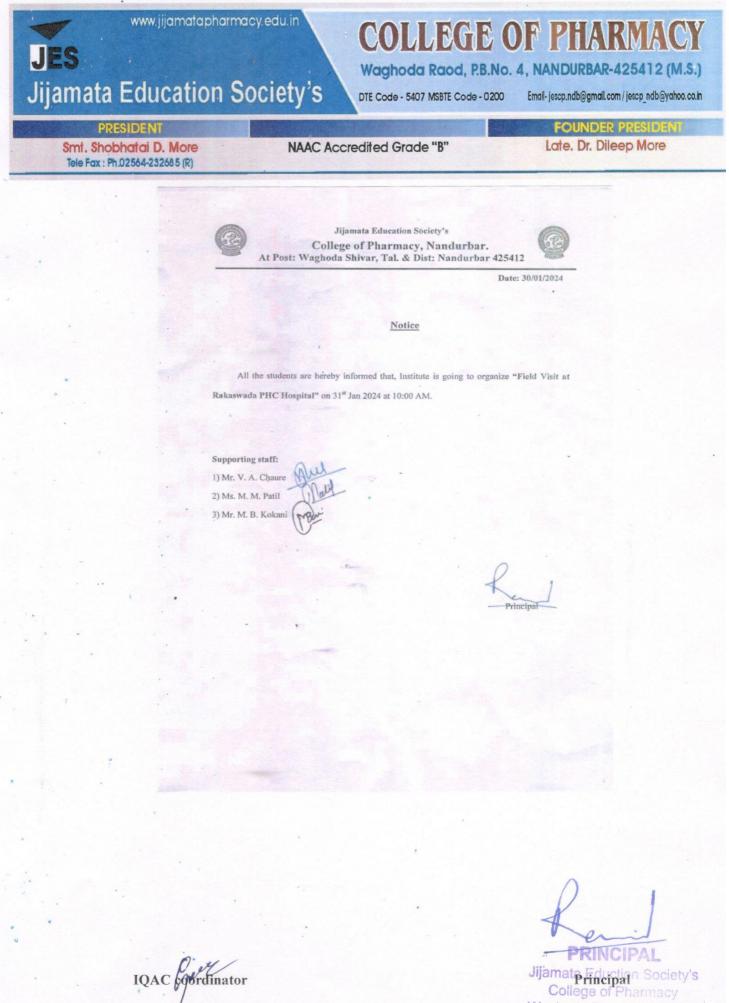
**Photo:** 





Jijamat Principal

IQAC confidentor



Waghoda Road, Nandurbar

IQAC coordinator

### www.jijamatapharmacy.edu.in **COLLEGE OF PHARMA** JES Waghoda Raod, P.B.No. 4, NANDURBAR-425412 (M.S.) Jijamata Education Society's Email-jescp.ndb@gmail.com/jescp\_ndb@yahoo.co.in DTE Code - 5407 MSBTE Code - 0200 FOUNDER PRESIDENT PRESIDENT Late. Dr. Dileep More Smt. Shobhatai D. More NAAC Accredited Grade "B" Tele Fax : Ph.02564-232685 (R) Letter COLLEGE OF PHARMACY JES Waghoda Rood, P.B.No. 4, NANDURBAR-425412 (MAL) DTE Code - 5407 MSBTE Code - 0200 Email-jetap.ndb@gmail.com/jetcp\_ndb@yahoo.co.in FOUNDER PRESI Late. Dr. Dileep More Smt. Shobhatai D. More NAAC Accredited "B" Grade Dt.10/01/2024 Ref No. Jes / cop / /2023-2024 प्रति, मा.वैद्यकीय अधिकारी, प्राथमिक आरोग्य केंद्र, राकसवाडा, ता.जि. नंदुरबार विषय - रुग्ण सम्पदेशनासाठी परवानगी मिळणेबाबत... महोदय. आमच्या जिजामाता शिक्षण संस्थेचे ओषधनिर्माणशास्त्र महाविद्यालयातील विद्यार्थ्यांना रुग्ण समपदेशन या विषयावर प्रकल्प तयार करावयाचा आहे. तरी कृपया आम्हांस त्यासाठी परवानगी व तुमच्या सोयीनुसार दिनांक व वेळ द्यावा, ही विनंती. कळावे... जिला विश्वास्, प्राचार्य जिजामाता शिक्षण संस्थेचे औषधनिर्माणशास्त्र महाविद्यालय, नंदुरबार,ता.जि. नंदुरबार NO FILL 20/1124 PRINCIT

IQACcoordinator

PRESIDENT mt. Shobhatai D. M		NAAC Accredited Grade "B"	FOUNDER PRESI Late. Dr. Dileep Mo
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### JES Jijamata Education Society's

**COLLEGE OF PHARMACY** 

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PRESIDENT Smt. Shobhatai D. More Tele Fax: Ph.02564-232685 (R)

### NAAC Accredited Grade "B"

FOUNDER PRESIDENT Late. Dr. Dileep More

#### Activity Report: 2023-24

Title of Activity/Event: Field Visit at Civil Hospital 2024

Date(s): 28/02/2024

Time: 10:00 am to 12:00 pm

Venue: Civil Hospital, Nandurbar

In Charge of Activity: Mr. Vinod A. Chaure

**Objective of Activity:** To promote awareness among the students about functionaries involved in Health and Hospital Management.

No. of Students Participated: 34

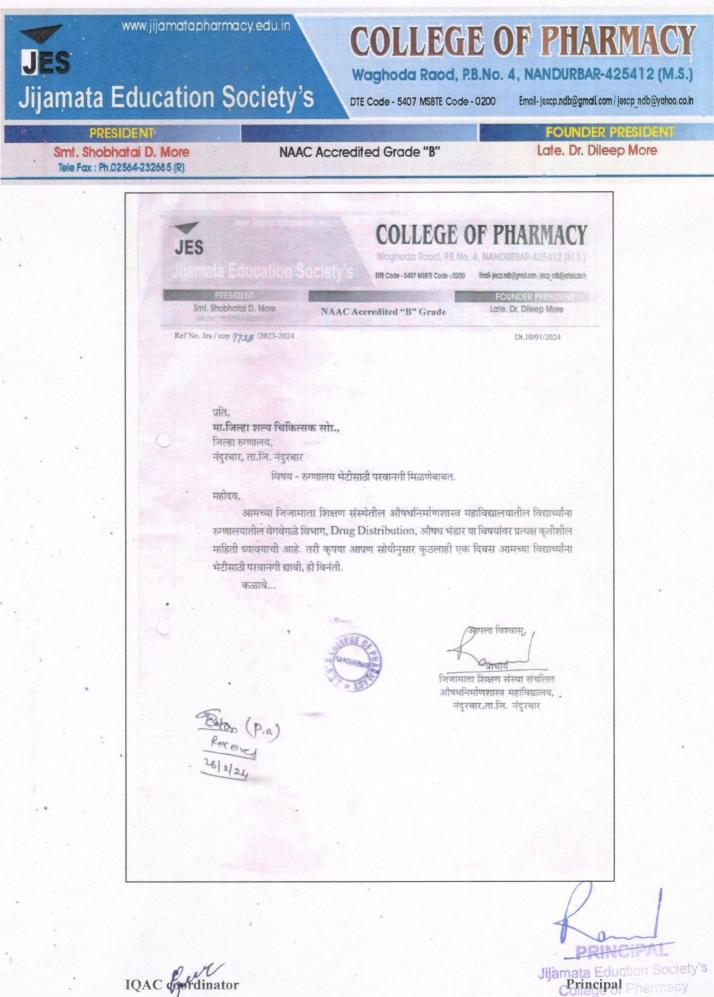
**Description of Events:** Jijamata Education Society's College of Pharmacy, Nandurbar organized one day Hospital visit for students. 34 students visited to Civil Hospital under the guidance of Mr. Vinod A. Chaure. During this visit training, students received information related to different functionaries and also discussed their working Principle in health and Hospital management.

Outcome of Events: Students understood working Principle and functionaries involved in Hospital management.

**Photo:** 

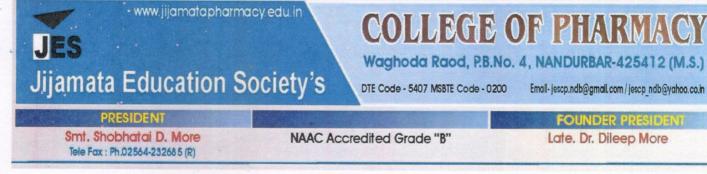


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Waghoda Road, Nandurbar





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### PRESIDENT

Smt. Shobhatai D. More Tele Fax : Ph.02564-232685 (R) NAAC Accredited Grade "B"

FOUNDER PRESIDENT Late. Dr. Dileep More

#### 5. Problem Solving Methodology:

Tutorial

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### **JES** Jijamata Education Society's

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FOUNDER PRESIDENT Late. Dr. Dileep More

#### **Publication:**

#### Name of Supervisor: Dr. Pravin Vasantrao Gomase

Name of Students: Harshada Vasant Birhade, Girish Chhagan Bhadane, Archana Shalik Bramahane

**Class: Final Year B. Pharm** 

### Title: FORMULATION AND EVALUATION OF MUCOADHESIVE BUCCAL PATCH OF GINGEROL

#### ABSTRACT

Oral mucosal drug delivery system is widely applicable as novel site for administration of drug for immediate and controlled release action by preventing first pass metabolism. Ginger is a complex substance consisting of more than 60 compounds. Ginger is a popular herb for its culinary and medicinal value. Ginger is antiemetic by multiple mechanisms, ginger ethanolic extraction acted by inhibiting central and peripheral muscarinic and histamine-1 receptors, 5-HT3 receptor antagonist. Buccal patches were prepared with Gingerole with polymers such as Hydroxy Propyl Methyl Cellulose in a respective solvent such as Ethanol with Propylene glycol as the plasticizer and Sorbitol Liquid as sweetening agent. Buccal patches were successfully formulated by solvent casting technique with several concentrations of polymers and those prepared patches were characterized in terms of film thickness, film weight, color, surface texture, folding endurance, surface pH, swelling behavior and percentage of moisture loss.

Keyword: Ginger, Antiemetic, Gingerol, Mucoadhesive Buccal Patch

#### **INTRODUCTION**

Traditional Indian medicine is one of the oldest medical sciences in the world. Ayurveda, the most widely used system in traditional Indian medicine, emphasizes holistic medicine, which takes the body, mind, and spirit as a whole. It is based on the principle that human beings achieve physical, mental, and emotional health through harmonious coexistence with nature.<sup>1</sup> Oral mucosal drug delivery system is widely applicable as novel site for administration of drug for immediate and controlled release action by preventing first pass metabolism and enzymatic

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degradation due to GI microbial flora. Oral mucosal drug delivery system provides local and systemic action. The buccal mucosa lines the inner cheek, and buccal formulations are placed in the mouth between the upper gingivae (gums) and cheek to treat local and systemic conditions.<sup>2</sup> In comparison to the skin, the buccal mucosa offers higher permeability and faster onset of drug delivery; whereas the key features which help it score over the other mucosal route, the nasal delivery system, include robustness, ease of use, and avoidance of drug metabolism and degradation.<sup>2</sup>

In comparison to TDDS, mucosal surfaces do not have a stratum corneum. Thus, the major barrier layer to transdermal drug delivery is not a factor in oral mucosal routes of administration. Hence oral mucosal systems exhibit a faster initiation and decline of delivery than transdermal patches.<sup>2</sup>

Ginger (*Zingiber officinale Roscoe*) belongs to the family *Zingiberaceae* and genus *Zingiber*. Other names of ginger are African ginger, Black ginger, Cochin ginger, GanJiang, Gegibre, Ingwer, Jamaican Ginger, and Race ginger.<sup>3</sup>

Ginger is an integral part of ayurveda, the traditional medicine of India, and is known as sunthi in Ayurveda. It was also used as a digestive aid and antinausea remedy and to treat bleeding disorders, rheumatism, baldness, toothache, snakebite, and respiratory conditions.<sup>3</sup>

Ginger is a complex substance consisting of more than 60 compounds. The ginger rhizome contains an essential oil and resin known collectively as oleoresin. The composition of the essential oil varies according to the geographical origin, but the chief constituents are sesquiterpene hydrocarbons, which are responsible for the characteristic aroma. Gingerole is the main phenolic compound and once degraded gives shogaols, zingerone, and paradol. <sup>3</sup>

Ginger (rhizome of *Zingiber officinale*) is a popular herb for its culinary and medicinal value. The pungent principles are gingerol, shogaol, zingerone and paradol. [6]-Gingerol and [6]-Shogaol are the major active components for ginger's pharmacological effects and pungency respectively.<sup>4</sup>

Ginger has been used since antiquity both as a spice and as a herbal medicine to treat a variety of primarily gastrointestinal ailments, such as nausea, vomiting (emesis), diarrhea, and dyspepsia, and also diverse ailments, including arthritis, muscular aches, and fever., ginger capsules have been available in UK for more than 40 years as a remedy for motion sickness and as a



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carminative. The rhizome of ginger contains a wide variety of biologically active secondary metabolites. The rhizome comprises 1%–4% of volatile oils and an oleoresin. <sup>5</sup>

Herbal medicines have been shown to be effective antiemetics, and among the various plants studied, the rhizome of *Zingiber officinale*, commonly known as ginger, has been used as a broad-spectrum antiemetic in the various traditional systems of medicine for over 2000 years. Various preclinical and clinical studies have shown ginger to possess antiemetic effects against different emetogenic stimuli. <sup>6</sup>

#### MATERIAL AND METHODS

#### **Chemical and Equipments:**

Ethanolic extracts of Ginger, Hydroxy Propyl Methyl Cellulose (HPMC), Propylene glycol, Ethanol, Sorbitol liquid were used and several equipments employed in the formulation of herbal patches were, Petridish, Electronic balance, Beaker, Stirrer, Gravimetry Bottle, Funnel, Water Bath.

#### **Plant Material:**

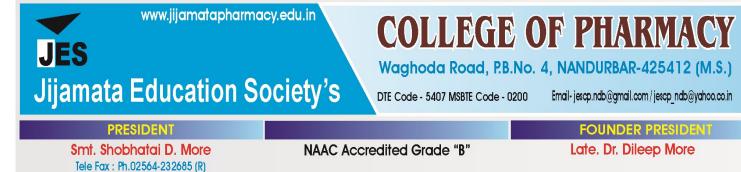
The ginger rhizome was purchased from local market of Nandurbar. The material were cleaned & dried under shade & then placed in oven at 20-40 °C. The dried rhizomes were weighed and stored in desiccators.

#### **Isolation of Gingerol from Ginger:**

Dry ginger was crushed to a coarse powder and extracted with 95% ethanol by simple maceration process. Solvent was evaporated by distillation to obtain thick pasty mass. The thick pasty mass was suspended in water. The Ginger resin precipitates in water which was removed by filtration and the residue obtained was dried under vacuum.<sup>7</sup>

#### **Preparation of Mucoadhesive Buccal Patches:**

The technique employed for preparing mucoadhesive buccal patches was solvent casting technique. They were prepared by dissolving several concentrations of HPMC polymers such as 150mg, 300mg and 500mg in 5ml of ethanol and calculated amount of the ginger extract (40mg) was dissolved in another 5ml of ethanol and this mixture was added to the polymer mixture followed by the addition of 0.5ml of sweetening agent. Then 0.5ml of the plasticizer was added



to all formulations. Then they were transferred to a petridish and allowed to dry under room temperature by placing a funnel in an inverted position over the petridish for 48 hours. After that all the patches were studied for further characterizations.<sup>7</sup> Composition of all patches is shown in Table 1.

Sr. No	Ingredients	<b>F1</b>	F2	F3
1	Ginger Extract	40mg	40mg	40mg
2	Hydroxy Propyl Methyl Cellulose	600mg	300mg	150mg
3	Ethanol	10ml	10ml	10ml
4	Propylene Glycol	0.5ml	0.5ml	0.5ml
5	Sorbitol Liquid	0.5ml	0.5ml	0.5ml

#### Table 1: Composition of Mucoadhesive Buccal Patches

#### Characterizations of formulated Mucoadhesive Buccal patches<sup>7</sup>

#### ✓ Patch weight:

All patches were weighed on a digital weighing balance and their weights were noted.

✓ Patch thickness :

Film thickness was measured using vernier callipers from all sides at different position and the average value was noted.

✓ Surface texture :

Surface texture of all the patches were noted by touching the surface of the films.

✓ Colour :

Colour of all the formulated patches was noted visually and they were reported finally.

✓ Folding endurance :

Folding endurance of buccal patches was determined by folding each patch at the same place repeatedly until it breaks. Number of times the patches can be folded until it breaks gives the value of folding endurance and the average value was noted

✓ Surface pH :



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Patches of 1 cm<sup>2</sup> each were allowed to swell in 2% agar solution in a clean, dry petridish for two hours consecutively. Surface pH of patches was determined by placing pH paper on the surface of patches

#### ✓ Swelling behavior :

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Each patches of size (1 cm x 1 cm) was cut and their initial weight was noted. Then they were allowed to swell for 5 min in 20 ml of distilled water. Patches were than taken out, dried and weighed. Percentage of swelling was noted using the following formula:

Swelling Index (SI) = Final weight - Initial weight/Initial weight x 100

#### ✓ Percentage Moisture Loss (PML) :

All patches of size 1 cm x 1 cm was initially weighed. They were placed in a dessicator containing Calcium chloride and the internal humidity was maintained. After 72 hours, all patches were collected back and reweighed. Average value was noted using the following formula:

#### Percentage Moisture Absorption (PML) = Initial weight - Final weight/Initial weight x 100

#### **RESULTS AND DISCUSSION:**

Sr.no	Formulation	Patch Weight	PatchThickness	Surface Texture	Colour
1	F1	0.04±001mg	0.10mm	Smooth	Yellow
2	F2	0.04±0.01mg	0.09mm	Smooth	Yellow
3	F3	0.02±0.01mg	0.08mm	Smooth	Yellow

#### Table 2(a): Characterizations of Mucoadhesive Buccal Patches

#### ✓ Patch weight :

Overall patches weights were found in the range of 0.02 to 0.04 mg

#### ✓ Patch thickness :

Patch thickness were found in the Range of 0.10-0.08 mm



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#### ✓ Surface texture:

Surface texture were found to be smooth for all the patches.

#### ✓ Colour:

Colour of all the patches were uniformly found to be yellow.

#### ✓ Folding endurance:

Folding endurance of all the patches were found to be flexible exceptionally F2 was less flexible

than F1 & F3

#### ✓ Surface pH :

Surface pH of all the patches were found almost neutral i.e 7-8.

#### ✓ Swelling behavior :

Overall swelling index of all the patches were found to be negligible.

#### ✓ Percentage Moisture Loss (PML) :

Percentage of moisture loss were found to be for F1 50% and F2 , F3 75%

#### Table 2(b): Characterizations of Mucoadhesive Buccal patches

Sr. No	Formulation	Folding endurance	Surface pH	Swelling behavior	Percent moisture loss
1	F1	**	7	2.5%	50%
2	F2	*	7	Negligible	75%
3	F3	**	7	Negligible	75%

\*Flexible \*\*Very flexible

#### **CONCLUSIONS:**

Ginger extract loaded mucoadhesive buccal patches were successfully formulated by several concentrations of Hydroxy Propyl Methyl Cellulose (HPMC) polymers and with propylene glycol plasticizer and with an organic solvent ethanol and were characterized. From this novel approach, it can be concluded that herbal drugs in the form of extracts can also be employed in formulating mucoadhesive patches in contrast with the usage of allopathic drugs in accordance with their appropriate concentrations and doses.

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May be concluding that F1 containing Polymer HPMC was observed in preparation of mucoadhesive buccal patch of ginger extract (Gingerol). So the F1 has good polymer concentration to carry the mucoadhesive drug delivery of herbal constituent gingerol, in which is isolated from Zingiber *officinale*.

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