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Abstract Book of

National Science Day-2025 Celebrations

Date: 28 February 2025

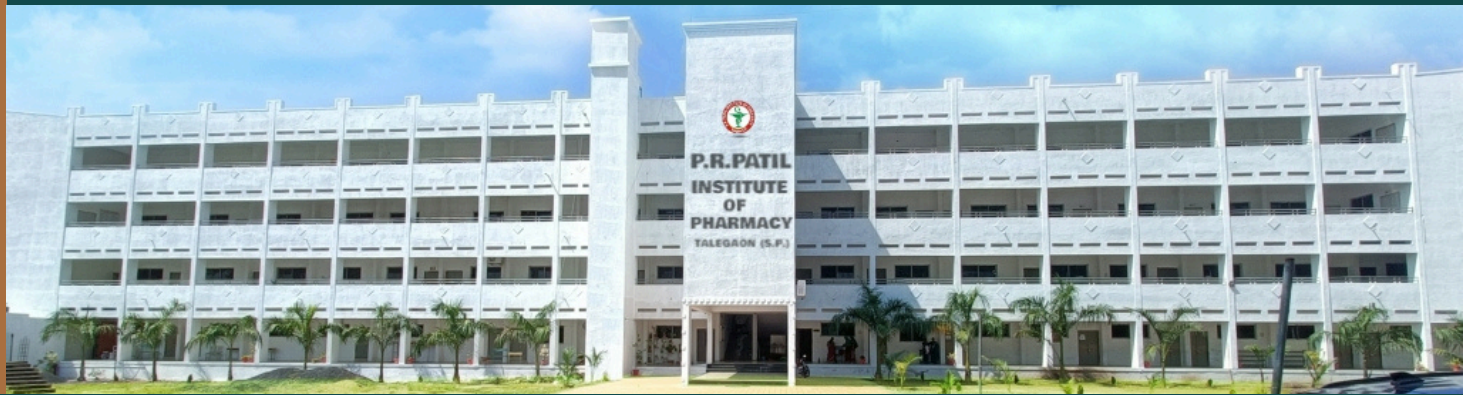
Sponsored by

The National Academy of Sciences, India (NASI)

Organized by

P.R. Patil Institute of Pharmacy

Talegaon (S.P.), Tq. Ashti, Dist- Wardha, Maharashtra- 442 202



Book Title
Abstract Book of National Science Day-2025 Celebrations

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Dr. Vikrant L. Salode

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P.R. PATIL Institute of Pharmacy, Talegaon (S.P.)

Welcomes You
to the

National Science Day-2025 Celebrations

Sponsored by

The National Academy of Sciences, India (NASI)

Date: 28 February 2025

About the Program

The celebration of National Science Day is an important aspect of informing students about the continuous advancement in the field of science, encouraging them to understand and apply it properly, and promoting newer inventions. The college has proposed a variety of scientific activities for National Science Day 2025, including guest lectures by researchers, a scientific model/project competition, and a poster competition. The proposed celebrations and involvement are not limited to the implementing college; students from all over India of various pharmacy colleges can participate, which will undoubtedly help to achieve the goals of *Viksit Bharat 2047*.

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Dr. S.S. Umare, Professor,
VNIT, Nagpur (MS)

Dr. A.S. Aswar, Professor & Head,
SGBAU, Amaravati (MS)

DISTINGUISHED SPEAKER

Dr. Prafulla Sable, Professor
(Pharm.Chemistry)
Dept. of Pharmaceutical Sciences,
RTM Nagpur University, Nagpur (MS)

CO-ORDINATOR

Dr. N.B. Banarase
Professor
P.R. Patil Institute of Pharmacy,
Talegaon (S.P.), Wardha (MS)

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Program Brochure

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Dr. K.B. Gabhane
Principal
P.R. Patil Institute of Pharmacy, Talegaon (S.P.), Wardha (MS)

Chief Guests

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Chairman
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Dr. (Mrs) Smita A. Acharya
Secretary
The National Academy of Sciences, India (NASI) Nagpur Chapter, Nagpur

Co-ordinator

Dr. N.B. Banarase
Professor
P.R. Patil Institute of Pharmacy, Talegaon (S.P.), Wardha (MS)

About the Institute

The **P.R. Patil Institute of Pharmacy (PRPIOP), Talegaon (S.P.)**, was founded in 2017 with the goal of maintaining the highest standards for pharmacy education to the rural aspirants. PRPIOP is managed by the 'Maratha Shikshan Sanstha', Talegaon (S.P.). The college has been approved and recognized by the Pharmacy Council of India (PCI), New Delhi; the Maharashtra State Board of Technical Education (MSBTE) & the Directorate of Technical Education (DTE), Mumbai (MS) and is affiliated to Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur (MS). The institute is NAAC accredited with B++ grade (CGPA-2.88).

The society has launched the Diploma in Pharmacy (D. Pharm.) in 2017, Bachelor of Pharmacy (B. Pharm.) in 2018, Master of Pharmacy in 2024 and Doctor of Philosophy (Ph.D.) following in the future.

The institute has committed faculty members and senior academicians to mentor the students in order to accomplish the goal.

Our Vision: To emerge as a center of excellence for imparting quality and affordable pharmaceutical education to rural youth.

Our Mission:

- To empower aspirants with contemporary pharmacy knowledge and skills.
- To enhance employability of students by promoting moral values, ethical and professional pharmaceutical practices.
- To nurture the innovation, research and entrepreneurial talent of present and past students for wellbeing of the society, in general and rural population in particular.

National Science Day-2025

Celebrations

Sponsored by

The National Academy of Sciences, India (NASI)

28 February 2025

Organized by

P.R. Patil Institute of Pharmacy

Talegaon (S.P.), Tq. Ashti, Dist- Wardha, Maharashtra- 442 202

Web: https://www.pdppharma.in/
Email: prppharma@gmail.com
Contact: 07219085491, 07156236409

Distinguished Speaker

Dr. Prafulla Sable, Professor (Pharm.Chemistry)
Dept. of Pharmaceutical Sciences,
RTM Nagpur University, Nagpur (MS)

Advisors NASI, Nagpur Chapter, Nagpur

Dr. S.S. Umare, Professor,
VNIT, Nagpur (MS)

Dr. A.S. Aswar, Professor & Head,
SGBAU, Amaravati (MS)

Organizing Committees

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Mr. Krunal B. Takarkhede
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Ms. Samruddhi S. Khonde
Mr. Sagar M. Gujjalwar
Mr. Ashish R. Choudhari

Transport and Accommodation Committee

Mr. Vivek R. Wankhade
Mr. Mahesh S. Gadge
Mr. Vaibhav D. Dapurkar
Ms. Gayatri K. Bahatkar
Mr. Tejas V. Dakhole

Inauguration & Valedictory Committee

Mr. Mohit A. Raut
Mr. Swapnil N. Mithe
Mrs. Vrushali A. Potdar
Ms. Smita R. Mankar

Important Contacts

Registration and Payment- Mr. K.B. Takarkhede (7798328765)
Scientific Poster/Model- Dr. V.G. Pete (9890990678) Ms. S.S. Khonde (8888004718)
Transport and Accommodation- Mr. V.R. Wankhade (9881111324)

Programs

- **Guest Lectures**
- **Scientific Poster Presentation Competition**
- **Scientific Model/Project Presentation Competition**

Students of diploma, UG and PG programs as well as faculty members of the pharmacy discipline can participate.

Scientific posters/models/projects can be prepared based on the theme of research/ review work in the field of pharmaceutical sciences of any subject.

Last Date for Online Registration
18 February 2025

Guidelines for Poster and Model/Project Presentation Competition

- For the poster and model/project competition, only students with a maximum group of 3 are allowed to participate.
- Last date for abstract (for poster) and summary (for model/project) submission–18 February 2025.
- For the poster presentation, the Abstract should be submitted only through the provided 'Registration Form' (Google Form) *via* the Registration Link/QR Code (File Format- PDF).
- Title– Times New Roman, Bold, Font Size-13.
- Abstract (Max. 200 words); Keywords (Max. 5).
- Keywords- Times New Roman, Font Size-12.
- Corresponding author's name should be marked by an asterisk (*) giving email as the address for correspondence.
- Poster Size– 1m×1m.
- For the model/project presentation, the model/project summary must also be submitted *via* the 'Google Form' (in PDF file format) during registration.
- Title– Times New Roman, Bold, Font Size-13.
- Summary (Max. 200 words); Keywords (Max. 5).

Prizes and Certificates

- 3 Prizes and 2 Consolation gifts in each category of competition.
- Certificate of participation and Registration kit to all the participants.

Registration Form and Fees

On or Before 18 February 2025

- Student (Individual)- Rs. 300/-
- Students (Group of 2)- Rs. 600/-
- Student (Group of 3)- Rs. 900/-
- Faculty Member (Individual) - Rs. 400/-

Spot Registration

- Student (Individual)- Rs. 350/-
- Students (Group of 2)- Rs. 650/-
- Student (Group of 3)- Rs. 950/-
- Faculty Member (Individual) - Rs. 450/-

Details for Online Payment

Scan QR Code or Use UPI ID for Online Payment

(UPI ID- institudeof@mahb)

Registration Form

Scan QR Code or Follow the Link Below

(Link : https://forms.gle/5NyWU5JHpwYZnApv5)

Program Schedule

- Registration and Tea/Breakfast
- Inauguration ceremony
- Guest lectures
- Lunch
- Poster presentation
- Model presentation
- High tea
- Prize distribution and Valedictory function

Program Schedule

Time	Event
9.00- 10.15 am	**Registration and Tea/Breakfast**
10.15-11.30 am	**Inauguration Ceremony**
11.30-1.00 pm	**Guest Lecture** **Distinguished Speaker:** Dr. Prafulla Sable Professor (Pharm. Chemistry), Dept. of Pharmaceutical Sciences, RTM Nagpur University, Nagpur (MS) **Topic:** "From Concept to Reality: The Journey of 3D Bioprinting Technology"
1.00-2.00 pm	**Lunch Break**
2.00-4.00 pm	**Poster/Model Presentation Competition**
4.00-4.15 pm	**High Tea**
4.15-5.00 pm	**Prize Distribution and Valedictory Function**

About the Institute

The P.R. Patil Institute of Pharmacy (PRPIOP), Talegaon (SP), was founded in 2017 with the goal of maintaining the highest standards for pharmacy education. PRPIOP is managed by the 'Maratha Shikshan Sanstha', Talegaon (SP). The college has been approved and recognized by the Pharmacy Council of India (PCI), New Delhi; the Maharashtra State Board of Technical Education (MSBTE) & the Directorate of Technical Education (DTE), Mumbai (MS) and is affiliated to Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur (MS).

The society launched the Diploma in Pharmacy (D. Pharm.) in 2017 and the Bachelor of Pharmacy (B. Pharm.) in 2018, with the Master of Pharmacy (M. Pharm.) and Doctor of Philosophy (Ph.D.) following in the future.

Modern research laboratories at the institute are furnished with ultra-high tech instruments such as High Precision Laboratory Balances, UV Spectrophotometer, HPLC, Brookfield Viscometers, and Programmable Six-Station Dissolution Test Apparatuses. The institute is well-known throughout the country for producing excellent GPAT results.

The institute has committed faculty members and senior academicians to mentor the students in order to accomplish the goal. Our institutional alumni are employed in a broad range of health services including academia, regulatory affairs, clinical research organizations, pharmaceutical industries and Food and Drug Administrations.

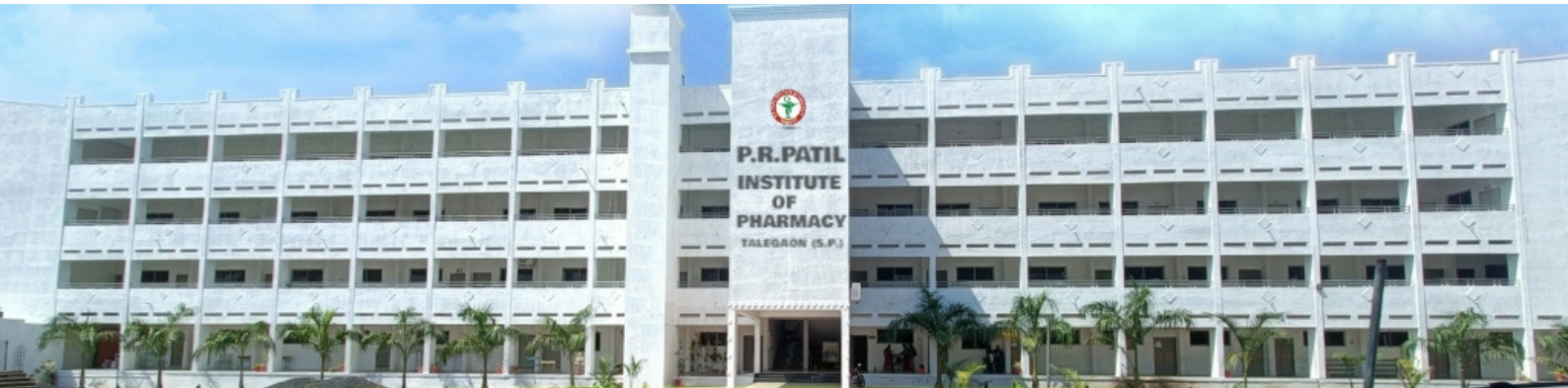
Our Vision: To emerge as a center of excellence for imparting quality and affordable pharmaceutical education to rural youth.

Our Mission:

- To empower aspirants with contemporary pharmacy knowledge and skills.
- To enhance employability of students by promoting moral values, ethical and professional pharmaceutical practices.
- To nurture the innovation, research and entrepreneurial talent of present and past students for wellbeing of the society, in general and rural population in particular.

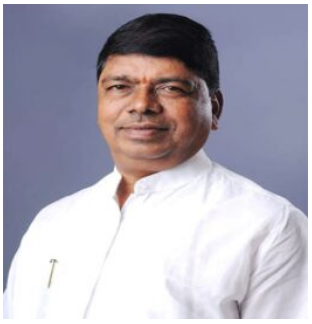
Courses Offered

- D. Pharmacy (60 Seats)
- B. Pharmacy (60 Seats)
- M. Pharmacy- Pharmaceutics (03 Seats)
- M. Pharmacy- Pharmaceutical Quality Assurance (03 Seats)



PRESIDENT

Message



Shri Dilipbhau Nibhorkar
President
Maratha Shikshan Sanstha

It gives me immense pleasure to extend my heartfelt congratulations to P.R. Patil Institute of Pharmacy, Talegaon (S.P.) of the P.D.N Patil Educational Campus, the Organizing Committee of the National Science Day event, and the Editorial Board of the abstract book for their dedicated efforts in publishing this ISBN-registered Abstract Book.

Our institute has always been pioneering the empowerment of rural pharmacy aspirants by providing them with quality education, practical exposure, and research opportunities.

I would also like to express my sincere gratitude to the National Academy of Sciences, India (NASI) for their valuable guidance and unwavering support in making this event a grand success. Their encouragement and collaboration have been instrumental in enriching the scientific discourse and inspiring young minds.

Wishing all the participants and contributors continued success in their academic and research endeavors.

Shri Dilipbhau Nimbhorkar

DIRECTOR

Message

Dr. V.L. Salode
Director
P.D.N. Patil Educational Campus
Talegaon (S.P.)

It is a moment of immense pride to witness P.R. Patil Institute of Pharmacy, Talegaon (S.P.) successfully organizing the National Science Day event and publishing this ISBN-registered Abstract Book. This compilation of abstracts and scientific session summaries showcases the institute's unwavering dedication to fostering research, innovation, and scientific curiosity among students and scholars.

The institute, accredited by NAAC with a B++ grade, has consistently strived for academic excellence and holistic development. It remains deeply committed to the empowerment of rural pharmacy aspirants.

I extend my sincere appreciation to the Organizing Committee and the Editorial Board for their tireless efforts in making this event and publication a success. A special note of gratitude to the National Academy of Sciences, India (NASI) for their invaluable support and guidance, which has significantly enriched this initiative.

I extend my best wishes for a grand success of this event.

Dr. V.L. Salode

PRINCIPAL

Message

Dr. K.B. Gabhane
Principal
P. R. Patil Institute of Pharmacy,
Talegaon (S.P.), Ashti, Wardha (M.S.) India- 442 202

I am delighted to celebrate the outstanding accomplishments of P.R. Patil Institute of Pharmacy, Talegaon (S.P.) this year. It has been a defining period in our journey towards excellence, highlighted by a dynamic academic environment, the introduction of new courses (M.Pharm), prestigious NAAC accreditation with a B++ grade, and now, the successful hosting of a sponsored National Science Day event in collaboration with the National Academy of Sciences, India (NASI). Through initiatives like this, the institute continues to bridge the gap between academic learning and professional competencies, enabling students to explore new frontiers in pharmaceutical sciences and contribute meaningfully to society.

I sincerely express my heartfelt gratitude to Dr. N.S. Gajbhiye, Chairman, NASI, Nagpur Chapter, and Dr. Smita Acharya, Secretary, NASI, Nagpur Chapter, for their invaluable guidance, insightful contributions, and generous financial support, which played a crucial role in the success of this event. A special thanks to Sable Sir for his valuable contribution as a resource person, enriching the event with his expertise. I am also grateful to the jury members of the poster and model competitions for dedicating their time and expertise to evaluating and encouraging the participants.

I extend my heartfelt appreciation to Dr. Nilesh Banarase, the Event Coordinator, for his outstanding leadership, meticulous planning, and seamless execution, which were instrumental in the success of this event. My sincere gratitude also goes to the Editorial Team for their unwavering dedication in compiling and publishing this ISBN-registered Abstract Book, which will serve as a valuable academic reference for future research and learning.

As we continue our journey, I am confident that our institute will reach even greater heights. Best wishes for the successful publication of this abstract book, and may it inspire and benefit scholars for years to come.

Dr. K.B. Gabhane

CO-ORDINATOR

Message

Dr. Nilesh B. Banarase, Ph.D. (Pharmacognosy)
Professor & Co-ordinator, National Science Day-2025
P. R. Patil Institute of Pharmacy,
Talegaon (S.P.), Ashti, Wardha (M.S.) India- 442 202

On behalf of the entire organizing committee, I welcome all the delegates, invited speakers, students and researchers from the various institutes to the National Science Day-2025 Celebrations program on 28 February 2025.

This day holds great significance as we commemorate the remarkable discovery of the Raman Effect by Sir C.V. Raman, a milestone that placed India at the forefront of scientific innovation. Science is not just about discoveries; it is a continuous pursuit of knowledge that drives societal progress. The event brings together students, researchers, academicians, and industry experts to engage in discussions, share insights, and inspire future generations.

The abstract book you hold is a testament to the relentless efforts of young minds and seasoned researchers who are shaping the future with their ground breaking ideas in the pharmaceutical sciences. Their work embodies the spirit of curiosity, exploration, and innovation, which are the hallmarks of scientific inquiry.

Organization of this event would not have been possible without the untiring efforts of my colleagues and the students. I express my heartfelt gratitude to them all.

I am also thankful to the National Academy of Sciences, India (NASI) for their generous support.

Lastly, I wish all the participants a very pleasant and fruitful learning experience in this event.

Dr. Nilesh B. Banarase

CHIEF GUEST

Message

Professor N. S. GAJBHIYE, Ph.D. F.N.A.Sc
Indian Institute of Technology, KANPUR (Retd.)
Former Vice Chancellor, D.D.Upadhayay, Gorakhpur University
and
Dr Hari Singh Gaur Central University, Sagar, MP
Chairman, National Academy of Sciences,
Nagpur Chapter

It gives me immense pleasure to extend my heartfelt greetings and best wishes to all the organisers, dignitaries, research scholars, PG students and participants, on the occasion of "National Science Day 2025", on 28th February 2025. "RAMAN EFFECT" was discovered by Sir Dr C. V. Raman on 28th February, 1928 and celebrated as the National Science Day. The event is jointly organized by P. R. Patil Institute of Pharmacy, Talegaon (S.P.), Tal. Ashti, Dist. Wardha and National Academy of Sciences, India (NASI), Nagpur Chapter. The Raman Effect may nurture the innovation, in pharmaceutical research, and entrepreneurial talent of students for the well being of the society in general and rural population in particular. The College dedication in promoting knowledge and innovation is truly commendable.

Once again, I congratulate the organizers and extend my best wishes for the success of this seminar.

With Best wishes

Professor N. S. Gajbhiye

CHIEF GUEST

Message

Dr. (Mrs) Smita A. Acharya
C.V.Raman Fellow (USA), FMRS
Professor, Advanced Material Research laboratory
Department of Physics & Director IQAC and NAAC Coordinator
RTM Nagpur University Campus, Nagpur-440033, India and
Secretary, National Academy of Sciences,
Nagpur Chapter

On the occasion of National Science Day 2025, I extend my heartfelt congratulations to all students, faculty members, and researchers who continue to embody the resilience, innovation, and scientific spirit of our nation.

India celebrates National Science Day on February 28 each year to commemorate the revolutionary discovery of the Raman Effect by Indian physicist Sir C. V. Raman on February 28, 1928. This remarkable scientific breakthrough earned him the Nobel Prize in Physics in 1930, bringing global recognition to Indian scientific excellence.

The theme for National Science Day 2025 is: "Empowering Indian Youth for Global Leadership in Science and Innovation for Viksit Bharat."

This theme highlights the crucial role of young minds in driving India's transformation into a global leader in science and technology. It emphasizes the need to nurture talent, foster innovation, and encourage research-driven advancements to position India as a powerhouse of scientific excellence and technological self-reliance. The celebration of National Science Day serves as a powerful reminder of the importance of scientific research in addressing the global challenges of today and tomorrow—from disease prevention and climate change to space exploration and sustainable development. This platform enables students and researchers to explore new ideas, ask critical questions, and contribute their innovations to the world.

I take this opportunity to commend the entire team of P.R. Patil Institute of Pharmacy, Talegaon (S.P.) for their dedication and enthusiasm in organizing this significant event. Their efforts in promoting scientific awareness and exploration among young minds are truly commendable.

I sincerely hope this event inspires curiosity, encourages scientific inquiry, and fosters a passion for learning and innovation. Let us empower the youth, embrace science, and lead the way towards a self-reliant and scientifically advanced India.

Best wishes to all for an inspiring and successful event!

Dr. (Mrs) Smita A. Acharya

ABSTRACTS

SCIENTIFIC POSTERS

DETAILS OF SCIENTIFIC POSTERS

CODE	TITLE	NAME OF RESEARCHERS	INSTITUTE
PO-01	FORMULATION AND EVALUATION OF HERBAL HAIR GUMMIES	AREFA SHEIKH*, AMAN SHEIKH, KUNAL MESHRAM	NEW MONTFORT INSTITUTE OF PHARMACY, ASHTI, DIST-WARDHA
PO-02	EXPLORING NON-IMMUNE HYDROPS FETALIS: A SYSTEMATIC REVIEW OF PATHOGENESIS, DIAGNOSTIC METHODS, AND THERAPEUTIC STRATEGIES	PAWAN DEVIDAS LANJEWAR*, SEJAL SIDHARTH BAMBOLE, MONIKA MUKUNDA KAMBLE	SHRI SADGURU DATTA INSTITUTE OF PHARMACY, KUHI, TA. KUHI, DIST. NAGPUR
PO-03	NEEDLE FREE INJECTION DEVICE: ADVANCEMENT IN PAINLESS DRUG DELIVERY	VAIBHAVI N. SABALE*, SAMIKSHA R. AMBULKAR	P.R. PATIL INSTITUTE OF PHARMACY, TALEGAON (S.P.), DIST- WARDHA, MAHARASHTRA- 442 202
PO-04	CRESOMYCIN: A BREAKTHROUGH ANTIBIOTIC AGAINST MULTI DRUG RESISTANT PATHOGENS	SHRAVANI M. INKANE*, LISHIKA D. INGOLE	P.R. PATIL INSTITUTE OF PHARMACY, TALEGAON (S.P.), DIST- WARDHA, MAHARASHTRA- 442 202
PO-05	IMPURITY PROFILING OF PHARMACEUTICALS: ENSURING SAFETY AND EFFICACY	POOJA D. IKHAR*, AKANSHA S. NANDAGAWALI	P.R. PATIL INSTITUTE OF PHARMACY, TALEGAON (S.P.), DIST- WARDHA, MAHARASHTRA- 442 202
PO-06	METHOD DEVELOPMENT AND VALIDATION FOR ACCURATE ESTIMATION OF CAPECITABINE IN ANTICANCER DRUG PRODUCTS USING BOX-BEHNKEN DESIGN: QBD APPROACH	ROSHNI KUNTE*, PRAFULLA SABALE, KOMAL SOMKUWAR, VIBHAV SAVALE	DEPARTMENT OF PHARMACEUTICAL SCIENCES, RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY, NAGPUR, MAHARASHTRA, INDIA-440033
PO-07	PHYTOSOMES: AN EMERGING DRUG DELIVERY SYSTEM	PRATIK D BHONDE*, SALONI BHUNTE, ROHINI BHOJANE	P.R. PATIL INSTITUTE OF PHARMACY, TALEGAON (S.P.), DIST- WARDHA, MAHARASHTRA- 442 202
PO-08	FORMULATION AND EVALUATION OF LIVER PROTECTIVE HERBAL CAPSULE	ABHISHEK G. ZADE*, MOHIT D. TEMBHEKAR, MADHAVI V. LICHADE	NEW MONTFORT INSTITUTE OF PHARMACY, ASHTI, DIST-WARDHA
PO-09	FORMULATION AND EVALUATION OF POLYHERBAL COOKIES FOR DIABETIC PATIENT	PUJA G. KHANTE*, SEJAL A. POKALE, AYUSHI S. SABANE	P.R. PATIL INSTITUTE OF PHARMACY, TALEGAON (S.P.), DIST- WARDHA, MAHARASHTRA- 442 202
PO-10	THREE PARENT GENE REPLACEMENT THERAPY:	SACHIN SHESHRAO PADOLE*, KAIF GULAM	SHRI SADGURU DATTA INSTITUTE OF PHARMACY, KUHI, TA. KUHI, DIST. NAGPUR

CODE	TITLE	NAME OF RESEARCHERS	INSTITUTE
	PRIVENTING INHERITED MITOCONDRIAL DISEASES	KHAN, GAURAVI RAVINDRA RAIPURE	
PO-11	ENDOCRINE DISRUPTORS IN COSMETICS & THEIR TOXICOLOGICAL IMPACT	SAKSHI M. CHARPE*, VAISHNAVI D. KADU, SHUBHANGI G. DOYE	P.R. PATIL INSTITUTE OF PHARMACY, TALEGAON (S.P.), DIST- WARDHA, MAHARASHTRA- 442 202
PO-12	USE OF NANOSTRUCTURED LIPID CARRIERS [NLCS] IN COSMACEUTICALS	KRUTIKA PATRE*, MANSI THAKRE, MANISHA GHATARE	P.R. PATIL INSTITUTE OF PHARMACY, TALEGAON (S.P.), DIST- WARDHA, MAHARASHTRA- 442 202
PO-13	ENDOSOMAL ESCAPE: A BOTTLENECK IN INTRACELLULAR DELIVERY	PRATIK S TUMSAR	P.R. PATIL INSTITUTE OF PHARMACY, TALEGAON (S.P.), DIST- WARDHA, MAHARASHTRA- 442 202
PO-14	HERBAL PEEL OFF MASK –AN APPROACH TO ANTI-AGING AND SKINCARE	NANDINI BAND	P.R. PATIL INSTITUTE OF PHARMACY, TALEGAON (S.P.), DIST- WARDHA, MAHARASHTRA- 442 202
PO-15	NOVEL POLYMER-BASED NANOCARRIERS FOR MESSENGER RNA (MRNA)-BASED THERAPIES	AYUSH MHAISGAWLI	P.R. PATIL INSTITUTE OF PHARMACY, TALEGAON (S.P.), DIST- WARDHA, MAHARASHTRA- 442 202
PO-16	AJITA AGAD - A POWERFUL AYURVEDIC HERB FOR TREATMENT OF POISONING	GAYATRI DUKRE*, KRUTIKA BURANGE, PRAGATI INGALE	P.R. PATIL INSTITUTE OF PHARMACY, TALEGAON (S.P.), DIST- WARDHA, MAHARASHTRA- 442 202
PO-17	METFORMIN IN THE MANAGEMENT OF PCOS: BENEFITS & EFFECTS	NISHANT GOLHAR*, RASHIKA SHINDE, SACHIN PADOLE	SHRI SADGURU DATTA INSTITUTE OF PHARMACY, KUHI, TA. KUHI, DIST. NAGPUR
PO-18	NANOPARTICLES BASED DRUG DELIVERY SYSTEMS. AN INSPIRING THERAPEUTIC STRATEGIES FOR NEURO DEGENERATIVE DISEASES	SAKSHI P. PATIL*, KAJAL R. BASHTIGHAT, PIYUSH D. MUNDHADA	P.R. PATIL INSTITUTE OF PHARMACY, TALEGAON (S.P.), DIST- WARDHA, MAHARASHTRA- 442 202
PO-19	ARTIFICIAL INTELLIGENCE IN DRUG DISCOVERY: REVOLUTIONIZING PHARMACEUTICAL RESEARCH	NIHAL UPRIKAR*, SHUBHAM YADAV, OMKAR PAWAR	P.R. PATIL INSTITUTE OF PHARMACY, TALEGAON (S.P.), DIST- WARDHA, MAHARASHTRA- 442 202
PO-20	STEM CELL INNOVATIONS: A NEW ERA IN REGENERATIVE MEDICINE	MAYUR PRADIP BANGADE	DEPARTMENT OF PHARMACEUTICAL SCIENCES, RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY, NAGPUR, MAHARASHTRA, INDIA-440033
PO-21	THE DMD STORIES: FROM GENE TO THERAPIES!!	SHIVANI WAGH*, DARSHANA SONTAKKE, GAYATRI BAIS	P.R. PATIL INSTITUTE OF PHARMACY, TALEGAON (S.P.), DIST- WARDHA, MAHARASHTRA- 442 202

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PO-22	INCREASING PROPORTION OF BIOPHARMACEUTICALS	SAMRUDDHI KHAIRKAR*, VIKKI FARKUNDE, MANAS RAUT, YASH RAUT	P.R. PATIL INSTITUTE OF PHARMACY, TALEGAON (S.P.), DIST- WARDHA, MAHARASHTRA- 442 202
PO-23	NATURAL HEALING: CISSUS QUADRANGULARIS'S EFFECTIVENESS AS A NATURAL BONE SETTER	PAPIYA P. BISWAS*, CHETAN J. GUGUSKAR, ADITYA D. THAVKAR	SHRI SADGURU DATTA INSTITUTE OF PHARMACY, KUHI, TA. KUHI, DIST. NAGPUR
PO-24	EXPLORING THE BENEFITS OF HIBISCUS ROSELLE FLOWER	SAKSHI V. SURASKAR*, HIMANSHI C. KHANDALE	SHRI SADGURU DATTA INSTITUTE OF PHARMACY, KUHI, TA. KUHI, DIST. NAGPUR
PO-25	RECENT TRENDS IN DRUG DISCOVERY AND RESEARCH	MAHIMA R. NIKAM*, KHUSHI MAHAJAN, ALSHIFA PATHAN	P.R. PATIL INSTITUTE OF PHARMACY, TALEGAON (S.P.), DIST- WARDHA, MAHARASHTRA- 442 202
PO-26	SALIVA AS A TOOL FOR ORAL CANCER DIAGNOSIS AND PROGNOSIS	ADITI J. SABLE*, YASHASVI J. LAYBARE, MANSI S. RAUT	P.R. PATIL INSTITUTE OF PHARMACY, TALEGAON (S.P.), DIST- WARDHA, MAHARASHTRA- 442 202
PO-27	BLOSSOMING HEALTH: A HERBAL APPROACH TO MENSTRUAL CARE	DNYANESHWARI R. SAKHARE*, MAHESHWARI P. DAKHOLE, JANHAVI R. WAYKUL	DR. RAJENDRA GODE COLLEGE OF PHARMACY, AMRAVATI
PO-28	UNLOCKING THE HEALING SECRETS OF PRICKLY POPPY	DARSHANA S. BAKHAL*, KSHITIJ R. GOSWAMI, V. PETE, M GADGE	P.R. PATIL INSTITUTE OF PHARMACY, TALEGAON (S.P.), DIST- WARDHA, MAHARASHTRA- 442 202
PO-29	DECODING CANCER DNA: INSIGHTS AND IMPLICATIONS	VAIBHAVI M. MENDRE*, JAYASHRI S. DESHMUKH	P.R. PATIL INSTITUTE OF PHARMACY, TALEGAON (S.P.), DIST- WARDHA, MAHARASHTRA- 442 202
PO-30	LATEST INNOVATIONS IN PHARMACEUTICAL INDUSTRY	SANIKA SAWANT*, ARPAN GADHIKAR, KHUSHI SURYAVANSHI	P.R. PATIL INSTITUTE OF PHARMACY, TALEGAON (S.P.), DIST- WARDHA, MAHARASHTRA- 442 202
PO-31	FORMULATION AND EVALUATION OF POLYHERBAL COOKIES FOR DIABETIC PATIENT	PUJA G. KHANTE*, SEJAL A. POKALE, AYUSHI S. SABANE	P.R. PATIL INSTITUTE OF PHARMACY, TALEGAON (S.P.), DIST- WARDHA, MAHARASHTRA- 442 202
PO-32	REVOLUTIONIZING DRUG DISCOVERY WITH AI	ANUSHREE MANOJ KENE, MRUNALI DIPAK NIWAL, RASHMI RAMESH LOKHANDE	P.R. PATIL INSTITUTE OF PHARMACY, TALEGAON (S.P.), DIST- WARDHA, MAHARASHTRA- 442 202
PO-33	ESSENTIAL OILS IN DERMOCOSMETICS: MECHANISMS, ADVANCES, AND FUTURE PERSPECTIVES	ANISHA BURE*, PAYAL THAKRE, PALLAVI GAWANDE	P.R. PATIL INSTITUTE OF PHARMACY, TALEGAON (S.P.), DIST- WARDHA, MAHARASHTRA- 442 202

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PO-34	COMPUTATIONAL STUDIES ON S. CUMINI PHYTOCHEMICALS AS INSULIN RECEPTOR MODULATOR IN THE MANAGEMENT OF POLYCYSTIC OVARY SYNDROME	ASHWINI ARMARKAR*, PRAFULLA SABALE, DIVYA DHULE	DEPARTMENT OF PHARMACEUTICAL SCIENCES, RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY NAGPUR, (MH), INDIA-440033
PO-35	ADVANCEMENT OF NANOTECHNOLOGY AND NANOPARTICLES IN DIAGNOSIS AND DRUG DELIVERY SYSTEM FOR CANCER TREATMENT	MOHIT RITHE*, LAVANNYA FATING, PRITI BARANGE	P.R. PATIL INSTITUTE OF PHARMACY, TALEGAON (S.P.), DIST- WARDHA, MAHARASHTRA- 442 202
PO-36	EXOSOME AND ANTI-AGING TRANSFORMING SKINCARE WITH NEXT GENERATION FACE SERUM	KALYANI RANOTKAR*, TANAYA THOMBARE	P.R. PATIL INSTITUTE OF PHARMACY, TALEGAON (S.P.), DIST- WARDHA, MAHARASHTRA- 442 202
PO-37	HERBAL INSTANT DISSOLVING STRIPS FOR THROAT INFECTION: A NOVEL APPROACH USING HERBAL EXTRACT	SURAJ GUNVANTRAO KOKARE*, VEDANTI PRASHANT SONTAKKE, JAY SURENDRA THAKARE	DR. RAJENDRA GODE COLLEGE OF PHARMACY, AMRAVATI
PO-38	A STEP TOWARD SUSTAINABILITY: A REVIEW OF BIODEGRADABLE PACKAGING IN THE PHARMACEUTICAL INDUSTRY	AYUSH AJAY SAWARKAR*, PRAKASH KALU MAVASKAR	P.R. POTE PATIL COLLEGE OF PHARMACY, AMRAVATI (MS)
PO-39	BOUGAINVILLEA-DERIVED BETALAIN PIGMENTS AS NATURAL PH INDICATORS: A SUSTAINABLE APPROACH FOR ANALYTICAL CHEMISTRY	SAMRUDDHI S. KHONDE	P.R. PATIL INSTITUTE OF PHARMACY, TALEGAON (S.P.), DIST- WARDHA, MAHARASHTRA- 442 202
PO-40	VITAMIN C: SUPPORTING VASCULAR HEALTH BY DISSOLVING PLAQUE IN BLOOD VESSELS	PRATHAMESH PRABHAKAR JAWALEKAR	GOVERNMENT COLLEGE OF PHARMACY, AMRAVATI (MS)
PO-41	CISSUS QUADRANGULARIS: AN AYURVEDIC REMEDY FOR BONE HEALING AND RECOVERY	UTKARSH ARUNRAO GHOTKAR*, ARPIT VILAS DHAWADE	P.R. POTE PATIL COLLEGE OF PHARMACY, AMRAVATI (MS)
PO-42	EVALUATION OF ANTILITHIATIC ACTIVITY OF GALIUM VERUM IN EXPERIMENTAL ANIMALS	TRUSHA R. GURNULE*, VAIBHAV D. DAPURKAR	P.R. PATIL INSTITUTE OF PHARMACY, TALEGAON (S.P.), DIST- WARDHA, MAHARASHTRA- 442 202
PO-43	EFFICACY AND SAFETY OF RIFAXIMIN IN SMALL INTESTINAL BACTERIAL	SWAPNIL N. MITHE, TEJAS DAKHOLE	P.R. PATIL INSTITUTE OF PHARMACY, TALEGAON (S.P.), DIST- WARDHA, MAHARASHTRA- 442 202

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	OVERGROWTH: A SYSTEMATIC REVIEW AND META-ANALYSIS		
PO-44	FORMULATION AND EVALUATION OF CONVOLVULUS PLURICAULIS CHOISY LOZENGES	GAURI S. THAKARE*, SHUBHANGI B. BHOKRE, SHARVARI S. BADUKALE	DR. RAJENDRA GODE COLLEGE OF PHARMACY, AMRAVATI, MAHARASHTRA, INDIA – 444602
PO-45	ONLINE PHARMACY – HOPE HYPE AND REALITY	SAYALI RAUT*, TANUJA AGOLE, HUMAIRA FIRDOAS ABDUL SALEEM	P.R. PATIL INSTITUTE OF PHARMACY, TALEGAON (S.P.), DIST- WARDHA, MAHARASHTRA- 442 202
PO-46	STRUCTURE-ACTIVITY RELATIONSHIP (SAR) OF VINCA ALKALOIDS AND EXPERIMENTAL CASE STUDIES	ISHA BHOPALE*, BHAGWAT BAROTE, H.A SAWARKAR	ANURADHA COLLEGE OF PHARMACY, CHIKHLI, BULDHANA (MS)
PO-47	PHARMACY STRENGTHENING HEALTH SYSTEM	PRACHI D. JEPULKAR*, MANJIRI P. DEWASE	P.R. PATIL INSTITUTE OF PHARMACY, TALEGAON (S.P.), DIST- WARDHA, MAHARASHTRA- 442 202
PO-48	TO DESIGN AND EVALUATE POMEGRANATE TURFFLES FACE MASK FOR SKIN REJUVENATION AND PROTECTION	GAYATRI SHANKARRAO BHANGE	DR. RAJENDRA GODE COLLEGE OF PHARMACY, AMRAVATI (MS)
PO-49	TO DESIGN AND EVALUATE MOISTURIZING SOCKS WITH AN INTEGRATED ANTIOXIDANT RICH CREAM, FOR EFFECTIVE MANAGEMENT OF CRACKED HEELS	VAISHNAVI PRAMOD SATRANKAR*, POOJA SUBHASH PATIL	DR. RAJENDRA GODE COLLEGE OF PHARMACY, AMRAVATI (MS)
PO-50	DEVELOPMENT AND CHARACTERISATION OF NANOSPONGE BASED TOPICAL DRUG DELIVERY SYSTEM FOR THE TREATMENT OF DERMATOPHYTOSIS	PURVAJA PATANGRAY*, PRASHANT PURANIK	DEPARTMENT OF PHARMACEUTICAL SCIENCES, RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY, NAGPUR, MAHARASHTRA, INDIA-440033
PO-51	DEVELOPMENT AND VALIDATION OF BIOANALYTICAL METHOD FOR BILASTINE BY RP-HPLC ON RAT PLASMA	ASHISH CHAUDHARI*, MOHIT RAUT, KRUNAL TAKARKHEDE	P.R. PATIL INSTITUTE OF PHARMACY, TALEGAON (S.P.), DIST- WARDHA, MAHARASHTRA- 442 202
PO-52	NEW HYPOGLYCAEMIC DRUGS: COMBINATION DRUGS AND TARGETS DISCOVERY	FARAH KHAN*, MAHESH S. GADGE, VIVEK R. WANKHEDE	P.R. PATIL INSTITUTE OF PHARMACY, TALEGAON (S.P.), DIST- WARDHA, MAHARASHTRA- 442 202
PO-53	WATERMELON RIND: A NATURAL SOLUTION FOR SYNTHETIC DYE POLLUTION	PRANALI BELSARE*	DR. RAJENDRA GODE COLLEGE OF PHARMACY, AMRAVATI (MS)

(PO-01)/FORMULATION AND EVALUATION OF HERBAL HAIR GUMMIES

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Abstract:

Herbal hair gummies are an innovative nutraceutical formulation designed to promote hair health through a convenient and palatable dosage form. This study focuses on the formulation and evaluation of herbal gummies containing ingredients such as biotin, amla extract, hibiscus extract, and fenugreek seed extract, known for their hair-strengthening and growth-promoting properties. The formulation was prepared using pectin as a gelling agent, citric acid as a stabilizer, and natural sweeteners. Pre-formulation studies, including solubility and pH determination, were conducted to optimize the ingredients. The formulated gummies underwent evaluation for organoleptic properties, pH, weight variation, texture analysis, and dissolution time. Microbial stability and shelf-life studies were also performed. The results indicated that the formulated gummies exhibited good mechanical strength, uniformity, and an acceptable dissolution profile. Additionally, the herbal extracts contributed to improved antioxidant activity, which supports scalp health. The study concluded that herbal hair gummies are a suitable alternative to conventional hair supplements, providing a natural, effective, and patient-friendly approach to hair care.

Keywords: Herbal gummies, hair health, pectin, amla extract, biotin

(PO-02)/EXPLORING NON-IMMUNE *HYDROPS FETALIS*: A SYSTEMATIC REVIEW OF PATHOGENESIS, DIAGNOSTIC METHODS, AND THERAPEUTIC STRATEGIES

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Abstract:

Hydrops fetalis is a life-threatening condition characterized by abnormal fluid accumulation in fetal compartments. It's a rare disorder with a wide range of causes, including uncommon illnesses. It is classified as Immune and Nonimmune fetal hydrops. Non-immune fetal hydrops (NIFH) is a type of hydrops fetalis that occurs when red cell hemolysis is absent. Dr. Potter originally described NIFH in 1943. This comprehensive review aims to provide an update on the etiology, diagnosis, and management of Nonimmune hydrops fetalis. , and highlight the importance of accurate diagnosis and differentiation. The role of advanced imaging techniques, such as ultrasound and MRI, in diagnosing and monitoring

Nonimmune hydrops fetalis is emphasized. We also review the current management strategies, including fetal interventions, maternal treatment, and postnatal care. highlighting the need for a multidisciplinary approach to improve fetal and neonatal outcomes. This review provides a concise and up-to-date overview of Nonimmune hydrops fetalis, serving as a valuable resource for healthcare professionals involved in prenatal and neonatal care.

Keywords: Fetal hydrops, Non-immune Fetal Hydrops (NIFH), fetal fluid accumulation , fetal therapy , diagnosis

(PO-03)/NEEDLE FREE INJECTION DEVICE: ADVANCEMENT IN PAINLESS DRUG DELIVERY

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Abstract:

A needle-free injection (NFI) device is an advanced drug delivery system that administers medication without the use of a traditional needle. It works by using high-pressure liquid jets to penetrate the skin and deliver drugs into the underlying tissues. This system is beneficial for pain-free administration, reduced risk of needle-stick injuries, and improved patient compliance. The mechanism of needle-free injectors involves a pressure-generating system-such as compressed gas, a spring mechanism, or an electromagnetic force—that forces the liquid medication through a microscopic nozzle. The high-velocity jet of liquid creates a small hole in the skin and deposits the drug into the subcutaneous, intramuscular, or intradermal layers, depending on the required delivery method. Needle-free injection technology is widely used for vaccinations, insulin delivery for diabetic patients, and biologics. It reduces contamination risks, eliminates needle phobia, and enhances drug absorption. However, challenges include high initial costs, potential discomfort due to pressure, and the need for precise calibration. Recent advancements in biopharmaceuticals and nanotechnology are improving the efficiency and accuracy of needle-free injectors, making them a promising alternative to conventional syringes in modern healthcare.

Keywords: Nozzle, needle-stick, intradermal layer, vaccination, insulin delivery, nanotechnology

(PO-04)/CRESOMYCIN: A BREAKTHROUGH ANTIBIOTIC AGAINST MULTIDRUG-RESISTANT PATHOGENS

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Abstract:

Antimicrobial resistance (AMR) is a growing global crisis, leading to treatment failures and increased mortality due to multidrug-resistant (MDR) bacterial infections. A major resistance mechanism involves ribosomal methylation by cfr and erm genes, which modify the ribosomal RNA (rRNA), preventing antibiotic binding and rendering many existing drugs ineffective. To address this challenge, Cresomycin (CRM), a novel ribosome-targeting antibiotic, has been developed with a preorganized structure that allows it to bypass ribosomal modifications and maintain its antimicrobial activity. In vitro studies demonstrated that Cresomycin exhibits potent antibacterial activity against MDR pathogens, including Staphylococcus aureus (MRSA), carbapenem-resistant Escherichia coli, and Pseudomonas aeruginosa, with significantly lower minimum inhibitory concentrations (MICs) compared to conventional antibiotics. Cytotoxicity assays confirmed that Cresomycin has low toxicity in mammalian cells, ensuring a high therapeutic index. In vivo murine infection models showed a significant reduction in bacterial load and improved survival rates, establishing its efficacy in systemic and localized infections. Additionally, hepatic microsomal stability testing revealed that Cresomycin has a long half-life, indicating favorable pharmacokinetics and metabolic stability. These findings suggest that Cresomycin is a promising next-generation antibiotic with the potential to overcome current resistance mechanisms and provide an effective solution for MDR bacterial infections.

Keywords: Cresomycin, multidrug-resistant, minimal toxicity, high metabolic stability, ribosome-targeting antibiotic

(PO-05)/IMPURITY PROFILING OF PHARMACEUTICALS: ENSURING SAFETY AND EFFICACY

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Abstract:

Impurities are not acceptable in drug formulation. It is considered as unwanted chemicals or organic materials which remains with active pharmaceutical ingredients (API). The impurities are produced either during formulation or ageing of both API and finished dosage form. Impurities in the drug are the components which are responsible for the change in quality of drug with respect to the safety and efficacy. Regulatory authority such as the International Conference on Harmonization (ICH), the United States Food and Drug Administration (FDA), and the European Directorate for the quality of Medicines (EDQM) emphasis on the requirements of the pure drugs and identification of their impurities. There are various sources of impurity in pharmaceutical products such as starting material, reagents, catalyst,

intermediate, solvent and degradation product form during storage of drug. Impurities are classified into various categories depending upon their origin, composition type, and biological safety. There are different isolations technique of impurities from the drug. The various analytical methods are used to qualify and characterize the impurities. This reveals that there is always need and the scope for the impurity profiling of drugs in drug development.

Keywords: Impurities, API, safety, analytical methods

(PO-06)/METHOD DEVELOPMENT AND VALIDATION FOR ACCURATE ESTIMATION OF CAPECITABINE IN ANTICANCER DRUG PRODUCTS USING BOX-BEHNKEN DESIGN: AQBD APPROACH

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Abstract: Capecitabine is a prodrug that is converted to its only active metabolite, FU, by thymidine phosphorylase. Formulation of capecitabine such as nanocarriers and microspheres for breast, colorectal cancer, reduce dosing frequency, and improve patient compliance. The aim of this research work is to quantitatively determine capecitabine by using high performance liquid chromatography method (HPLC). The utilization of the analytical quality by design (AQbD) methodology in the optimization of the high-performance liquid chromatography (RP-HPLC) technique creates an innovative approach. Three distinct factors and three corresponding levels (mobile phase, flow rate and injection volume) of Box–Behnken statistical design (BBD) is used for method optimization and analysis of capecitabine in tablet dosage form. A quick, highly reliable, effortless and effective high-performance liquid chromatographic method is developed and validate. The analysis is conducted utilizing the Shimadzu C18 column (250 mm × 4.6mm, 5µm) through an isocratic elution methodology, with the mobile phase consisting of acetonitrile and water in a volumetric ratio. The flow rate is set to 1.5ml/min with an injection volume of 15µL and at detection wavelength of 241nm. It provides the retention time of 2.16 min with the establish linearity range of 5–30 µg/ml with a high regression value. Changes in mobile phase ratio and flow rate impact results, but injection volume has no drastic effect. The new method is substantiated in compliance with the specified ICH guideline Q2 (R1), and the optimized method is displayed a substantial level of linearity, precision, accuracy, sensitivity, and robustness. It concluded that this QbD optimized approach is suitable for quantification of the capecitabine and use for routine analysis.

Keywords: Quality by design, capecitabine, RP-HPLC, anticancer, C18 column

(PO-07)/PHYTOSOMES: AN EMERGING DRUG DELIVERY SYSTEM

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Abstract:

Phytosomes are a novel drug delivery system designed to enhance the bioavailability of plant-derived bioactive compounds. They are formed by complexing phytoconstituents, such as flavonoids and polyphenols, with phospholipids, improving their solubility, stability, and absorption. Unlike conventional herbal extracts, phytosomes exhibit better pharmacokinetic properties due to their amphiphilic nature, facilitating efficient penetration through biological membranes. This technology has been widely explored for its therapeutic potential in hepatoprotection, cardiovascular health, anti-inflammatory, and antioxidant applications. Phytosomes offer advantages such as improved drug delivery, enhanced efficacy, and reduced dosage requirements, making them highly beneficial in herbal medicine and nutraceutical formulations. Various characterization techniques, including spectroscopy and chromatography, help in optimizing their formulation. With growing interest in herbal therapeutics, phytosomes represent a significant advancement in natural drug delivery systems, bridging the gap between traditional herbal medicine and modern pharmaceutical applications. This review highlights their formulation, advantages, and therapeutic potential.

Keywords: Novel Drug Delivery System, phytosome, vesicular drug delivery system, phytoconstituent, bioavailability

(PO-08)/FORMULATION AND EVALUATION OF LIVER PROTECTIVE HERBAL CAPSULE

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Abstract:

Liver is an essential metabolic organ. It can be damaged due to prolonged use and higher doses of drugs, exposure to some chemicals, toxins, or infectious agents. One of the most important organs, the liver is in charge of detoxification and the production of crucial proteins, among other metabolic functions. However, a number of things, including oxidative stress, pollutants, and chronic illnesses, can harm it. Because of their strong hepatoprotective, anti-inflammatory, and antioxidant qualities, herbal medicines have drawn interest as a natural alternative for liver protection. This study describes the creation and

composition of herbal capsules that protect the liver by combining a variety of plant-based substances that have long been recognized for their hepatoprotective properties. The chosen herbs, which have demonstrated potential in promoting liver function and averting harm from free radicals and toxins, include Phyllanthus amarus, Andrographis paniculata (King of Bitters), Picrorhiza kurroa, and Silybum marianum (Milk Thistle). The active ingredients of the herbal composition were standardized, guaranteeing steady therapeutic results. The formulation's promise as a natural supplement for liver health maintenance was supported by preliminary research on its bioavailability, safety, and effectiveness, which showed notable liver protective effects. To confirm its long-term advantages and therapeutic use in liver-related conditions, more clinical research is necessary.

Keywords: Oxidative stress, detoxification, *Andrographis paniculata*, hepatoprotective, herbal capsules

(PO-09)/FORMULATION AND EVALUATION OF POLYHERBAL COOKIES FOR DIABETIC PATIENT

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Abstract:

These herbs include Ashwagandha, Tecoma stans, and Tulsi leaves. Most people eat cookies for breakfast, snacks, and leisure time to satisfy their hunger and gain energy. There are several types of cookies on the market, and the major ingredients are refined flour, sugar, and butter. As a result, obese and diabetic individuals often avoid them since they cause high blood sugar levels. As a result, in this latest study, we developed Polyherbal cookies utilizing oob, wheat flour, and other Ayurvedic herbs. Diverse types were developed utilizing different plants to determine the ideal cookie composition based on palatability. Following selection, cookies were made for physiochemical, sensory, and nutritional study. The sensory analysis was graded based on organoleptic characteristics: color, taste, scent, and overall acceptability.
Benefits:-The objective of the study is to design polyherbal cookies containing Tecoma stans. Tulsi leaves and ashwagandha. The essential target of the study was to formulate and evaluate antidiabetic polyherbal cookies that will have to work on antidiabetic enhancing property. Polyherbal formulation has wide therapeutic range, pure side effects, cheaper eco-friendly and rapidly available.

Keywords: Polyherbal cookies, obesity, diabetes, Ayurvedic herbs, sensory analysis, nutrition

(PO-10)/THREE PARENT GENE REPLACEMENT THERAPY: PRIVENTING INHERITED MITOCONDRIAL DISEASES

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Abstract:

We came to that mitochondrial replacement therapy (MRT), which replaces damaged mitochondria with healthy ones from a donor egg, is a promising medical advancement
that enables women with mitochondrial abnormalities to have genetically related offspring free from these diseases. MRT presents important ethical, legal, and social issues, including as the possibility of changing genetic inheritance, producing embryos with DNA from three origins, and the long-term health hazards for the kid, even while it gives hope for averting severe mitochondrial illnesses. Concerns around "designer babies" and the commercialization of human life need to be properly addressed from an ethical standpoint. MRT has early scientific promise, but more study is needed to guarantee its efficacy and safety. It is still unknown what the long-term impacts will be on people and future generations.

Keywords: Genes, mutation, mitocondrial dynamics, genetic information, energy production

(PO-11)/ENDOCRINE DISRUPTORS IN COSMETICS & THEIR TOXICOLOGICAL IMPACT

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Abstract:

Endocrine disruptors (EDs) are chemicals that interfere with the body's hormones, leading to potential health and environmental risks. Many cosmetic products contain EDs like parabens, phthalates, triclosan and UV filters. These chemicals can mimic or block natural hormones, causing adverse effects such as reproductive disorders, hormonal imbalances, neurological effects, and potential carcinogenicity. Exposure to EDs can occur through diet, air, skin, and water. The persistence of EDs in the environment raises concerns about aquatic and wildlife toxicity. Regulatory agencies like the FDA and the European Union have placed restrictions on some EDs; however, their widespread use remains a challenge. Stricter regulations, improved risk assessment strategies, and the adoption of safer alternatives through green chemistry approaches are needed. Consumer awareness plays a key role in choosing endocrine-safe cosmetic products. Future research should focus on developing non-toxic cosmetic formulations and advancing toxicity testing methods to ensure public health safety.

Keywords: Endocrine disruptors, cosmetics, toxicological impact, health risks hormonal imbalance, parabens phthalates, regulatory framework environmental contamination

(PO-12)/USE OF NANOSTRUCTURED LIPID CARRIERS [NLCs] IN COSMACEUTICALS.

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Abstract:

Nanostructured lipid carriers [NLCs] are novel drug delivery system that have gained huge significance in cosmeceuticals industry due to their qualities such as high drug loading capacity, improved stability and increased skin penetration. NLCs has been found to be comparatively more efficient and effective than first generation nanoparticles i.e. SLNs overcoming its drawbacks. These NLCs are solid lipid matrix mixed with a liquid lipid, resulting in a distinct structure allowing better drug entrapment and release characteristics. They have been employed as carriers in cosmeceuticals to improve transport and its performance on the targeted site. NLCS are advanced approach in Targeted Drug Delivery System, having characteristics like better penetration into skin, improved absorption and rapid onset of action including elimination of first pass metabolism. This review article will provide an overview of types of NLCs, its method of preparation, cosmeceuticals benefits on NLC, its current use in cosmetics, interaction with skin and factors affecting permeation of NLC through skin etc. Furthermore, its mechanism of action is also discussed.

Keywords: Nanostructured Lipid Carriers [NLCs], Solid Lipid Nanocarriers [SLN], targeted drug delivery, skin permeation, cosmeceutical benefits

(PO-13)/ENDOSOMAL ESCAPE: A BOTTLENECK IN INTRACELLULAR DELIVERY

PRATIK S TUMSARE

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Abstract:

With advances in therapeutic science, apart from drugs, newer bioactive moieties like oligonucleotides, proteins, peptides, enzymes and antibodies are constantly being introduced for the betterment of therapeutic efficacy. These moieties have intracellular components of the cells like cytoplasm and nucleus as one of their pharmacological sites for exhibiting therapeutic activity. Despite their promising efficacy, their intracellular bioavailability has been critically hampered leading to failure in the treatment of numerous diseases and disorders. The endosomal uptake pathway is known to be a rate-limiting barrier for such systems. Bioactive molecules get trapped in the endosomal vesicles and degraded in the lysosomal compartment, necessitating the need for effective strategies that facilitate the endosomal escape and enhance the cytosolic bioavailability of bioactives. Understanding this mechanism and exploring it

further for intracellular delivery has opened new avenues to surmount the endosomal barrier. These strategies include membrane fusion, pore formation and proton sponge effects. On the other hand, progress in designing a novel smart polymeric carrier system that triggers endosomal escape by undergoing modulations in the intracellular milieu has further led to an improvement in intracellular delivery. This review recapitulates to surmount the bottleneck of endosomal escape and thereby achieve successful intracellular uptake of bioactives.

Keywords: Endosomal uptake pathway, cytosolic pathway, intracellular milieu, recapitulate, surmount.

(PO-14)/**HERBAL PEEL OFF MASK –AN APPROACH TO ANTI-AGING AND SKINCARE**

NANDINI BAND

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Abstract:

Herbal cosmetics are deeply rooted in ancient practices to enhance beauty and minimize skin problems like acne, pigmentation, dryness, wrinkles and anti-aging effects etc. These products offer a spectrum of physiological benefits, including anti-acne, brightening, anti-inflammatory, moisturizing, antioxidant and anti-aging properties, all while minimizing adverse reactions. Herbal formulations have gained widespread global appeal. Time-tested Indian herbs like Turmeric, Fenugreek, saffron; Neem, sandalwood, etc. have been integral part of skincare rituals for centuries. Fenugreek is. Known for its anti-aging properties and is used to reduce blemishes and dark circles. Neem is known for its anti-fungal characteristics and aid in the lightning of acne scars.

Saffron is used for skin brightening and skin moisturizing. Turmeric is used as an anti- inflammatory and antioxidant. In this research, multiple herbs are used for the formulation of peel-off mask. In this article we study about anti-aging property of fenugreek peel off mask.

Keywords: Multi herb peel off mask, fenugreek, saffron, anti-acne, anti-aging

(PO-15)/**NOVEL POLYMER-BASED NANOCARRIERS FOR MESSENGER RNA (mRNA)-BASED THERAPIES**

AYUSH MHAISGAWLI

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Abstract:

Messenger RNA (mRNA)-based therapies offer great promise for the treatment of avariety of diseases. The therapeutic capabilities of mRNA extend beyond vaccines against infectious diseases.
They hold potential for cancer vaccines, protein replacement therapies, gene editing therapies, and immunotherapies. For realizing such advanced therapies, it is crucial to develop effective carrier systems. Recent advances in materials science have led to the development of promising nonviral mRNA delivery systems. In comparison to other carriers like lipid nanoparticles, polymer-based delivery systems often receive less attention, despite their unique ability to carefully tune their chemical features to promote mRNA protection, their favourable pharmacokinetics, and their potential for targeting delivery.

Keywords: mRNA, novel polymer, vaccines, COVID 19

(PO-16)/AJITA AGAD - A POWERFUL AYURVEDIC HERB FOR TREATMENT OF POISONING

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Abstract:

Pisonings have been identified as critical conditions in Ayurveda since centuries. Agada tantra is the specialized clinical branch where the therapeutic roots for poison management lie. Agada are given a significance as anti-poisonous formulations in various Ayurveda treatises. Ajita agada is the main concern in this study which the references were found on Susruta Samhita Kalpasthana, Ashtanga samgraha Uttarasthana and Bhaisajjaratnavali. This herbo- mineral, anti-poisonous formulation is consisted of 17 ingredients and beehoney as its dipping material. Ajita agada is prescribed mainly for snake bites (Sarpa visha) and also for all the other kinds of animate (Jangama) and inanimate (Sthavara) poisons. Still, any organized management procedure in critical care for poisonings from Ayurveda perspective hasn't observed included in national health care system of Sri Lanka. This study is aimed at fulfilling this lacuna by means of finding a strategy for critical care of poisonings through Ajitaagada. Upon Ayurveda pharmacodynamics are concerned, it's observed that Kaṭu (76.47%), Tikta (35.29%) and Kashaya rasa (29.41%) are prominent Rasa, Laghu (94.11%), Tikshṇa (58.82%) and Ruksha guna (35.29%) are prominent Guna, Ushṇa (82.35%) and Katu (23.52%) as the prominent Virya and Vipaka. By virtue of pharmacodynamics, Ajitaagada shows a similarity with poison itself. This is very remarkable in collective understanding the therapeutic action of Ajita agada in management of poisonings. Further, chemical and clinical studies should be conducted with this regard.

Keywords: *Ajita agada*, anti-toxicity, visha, vishaupakrama

(PO-17)/METFORMIN IN THE MANAGEMENT OF PCOS: BENEFITS & EFFECTS

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Abstract:

Polycystic ovary syndrome (PCOS) is a common endocrinopathy in young women, affecting 2 to 26% of reproductive age. It is caused by insulin resistance, where normal insulin molecules and receptors produce higher levels of insulin, which directly affects the ovaries and releases factors like insulin-like growth factor 1 (IGF-1) from the liver. These hormones prevent the growth of ovarian follicles, leading to an accumulation of small follicles less than 10 mm diameter. Anovulation in women with PCOS is a common cause of infertility, and high circulating androgen levels can lead to hirsutism and acne. Other associated conditions include acanthosis nigricans, increased risk of type 2 diabetes, hypertension, and dyslipidaemia. Metformin, a widely used biguanide, has been extensively studied for its role in improving insulin sensitivity in women with polycystic ovary syndrome (PCOS). It enhances peripheral glucose uptake, reduces hepatic glucose production, lowers circulating insulin levels, and reduces ovarian androgen production. Metformin restores menstrual regularity, promotes spontaneous ovulation, and reduces androgen levels, making it a valuable option for insulin resistance patients.

Keywords: PCOS, metformin, insulin resistance, anovulation, infertility

(PO-18)/NANOPARTICLES BASED DRUG DELIVERY SYSTEMS. AN INSPIRING THERAPEUTIC STRATEGIES FOR NEURO DEGENERATIVE DISEASES

SAKSHI P. PATIL*, KAJAL R. BASHTIGHAT, PIYUSH D. MUNDHADA

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Abstract:

Nanoparticle-based drug delivery systems have emerged as a ground breaking approach in modern medicine, offering significant potential for targeted therapy and controlled drug release. This revolution in drug delivery leverages nanoparticles' unique properties, such as their small size, large surface area-to-volume ratio, and ability to be functionalized with specific ligands. Emphasis is placed on the mechanisms of nanoparticle interaction with biological systerns, methods of overcoming biological barriers, and strategies for improving biodistribution and drug release profiles. Key advancements, current challenges, and future directions in nanoparticle-based drug delivery will be highlighted, with a focus on personalized

medicine and cancer therapeutic. This microscopic revolution holds immense promise for transforming how diseases are treated, making drug delivery more precise, efficient, and safer for patients worldwide.

Keywords: Nanoparticles, liposomes, polymeric nanoparticles, bio-distribution

(PO-19)/ARTIFICIAL INTELLIGENCE IN DRUG DISCOVERY: REVOLUTIONIZING PHARMACEUTICAL RESEARCH

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Abstract:

Artificial intelligence (AI) is revolutionizing pharmaceutical research by accelerating drug discovery and development. AI algorithms analyze vast datasets of biological and chemical information to identify potential drug targets, predict drug efficacy and safety, and optimize drug design. This approach significantly reduces the time and cost associated with traditional drug discovery methods. AIpowered platforms can screen millions of compounds, predict their interactions with biological targets, and identify promising candidates for further development. Additionally, AI facilitates drug repurposing by identifying new therapeutic applications for existing drugs. While challenges remain in data quality and validation, AI is poised to transform the pharmaceutical industry, leading to faster development of more effective and personalized therapies.

Keywords: Artificial Intelligence (AI), drug discovery, pharmaceutical research, drug development, machine learning, deep learning

(PO-20)/STEM CELL INNOVATIONS: A NEW ERA IN REGENERATIVE MEDICINE

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Abstract:

Mayur Stem cell therapy is revolutionizing modern medicine by harnessing the body's innate ability to repair and regenerate damaged tissues. This cutting-edge field offers promising treatments for a range of conditions, including neurodegenerative disorders, cardiovascular diseases, and organ damage. Stem cells are classified based on their potency and origin, including embryonic stem cells (ESCs), adult stem cells (ASCs), and induced pluripotent stem cells (iPSCs). Recent advancements, such as 3D bioprinting,

nanotechnology integration, and personalized medicine, have expanded the potential of stem cell-based therapies. Key applications include tissue regeneration, neurological disorder treatment, hematopoietic transplantation, and organ repair. The therapeutic process involves patient evaluation, stem cell extraction, processing, targeted delivery, and post-treatment monitoring to ensure efficacy and safety. A notable breakthrough in 2024 is Dual-Double Stem Cell Ovarian Therapy (DDSCT), which has demonstrated restoration of ovarian function, hormonal balance improvement, and increased pregnancy rates in women with premature ovarian insufficiency (POI). Stem cell therapy represents a paradigm shift in healthcare, offering a future where degenerative diseases and organ failure can be effectively treated or even reversed. Continued research and clinical trials will shape the next frontier of regenerative medicine.

Keywords: Stem cell therapy, regenerative medicine, tissue engineering, Induced Pluripotent Stem Cells (iPSCs), neurodegenerative disorders, 3D bioprinting

(PO-21)/**THE DMD STORIES: FROM GENE TO THERAPIES!!**

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Abstract:

Duchenne muscular dystrophy (DMD) is a genetic disorder characterized by progressive muscle weakness and wasting. It is caused by a mutation in the dystrophin gene, which leads to a lack of the dystrophin protein. Dystrophin is essential for muscle cell structure and function. Without it, muscle cells become damaged and eventually die.DMD is a serious condition that can lead to significant disability and death. There is no cure for DMD, but there are treatments that can help to manage the symptoms and improve quality of life. These treatments include physical therapy, occupational therapy, and medications. DMD is a rare condition, affecting about 1 in 3,500 to 5,000 male births worldwide. It is inherited in an X-linked recessive pattern, which means that males are more likely to be affected than females.

Keywords: Mutation, dystrophin, X-linked, Duchenne

(PO-22)/**INCREASING PROPORTION OF BIOPHARMACEUTICALS**

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Abstract:

Since its introduction in 1982, biopharmaceuticals drugs have revolutionized the treatment of a broad spectrum of diseases are increasingly used in recent years, the biopharmaceuticals market has developed much faster than market for all drugs and is believed to have great potential for further dynamic growth because of the tremendous demand for these drug. Biobetters, which contain altered active pharmaceutical ingredients with enhanced efficacy, will play an important role in the development of biopharmaceuticals. Another significant group of group of biopharmaceuticals are biosimilars. Their unites states market will reduce the costs of biopharmaceutical treatment. This review highlights recent progress in the field of biopharmaceutical development and issues concerning the registration of innovative biopharmaceuticals and biosimilars. The leading class of biopharmaceuticals, the current discussed.

Keywords: Bio better, biopharmaceutical, biosimilar, drug market, monoclonal antibodies, recombinants vaccines

(PO-23)/NATURAL HEALING: CISSUS QUADRANGULARIS'S EFFECTIVENESS AS A NATURAL BONE SETTER

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Abstract:

Cissus quadrangularis Linn, a succulent plant from the Vitaceae family, is indigenous to India and thrives in tropical and subtropical xeric forest environments. Commonly known as Vitis quadrangularis, it is widely consumed as a food item in India and holds significant value in traditional medicine, particularly in Ayurveda. This plant has been used as a general tonic and analgesic, with notable efficacy in promoting bone fracture healing. Known as "Harjor," it has shown clinical promise in treating fractures, one of the most common traumatic injuries in humans. Bone fracture repair is a regenerative process that mirrors many of the biological events observed during embryonic skeletal development, typically leading to successful healing and restoration of bone integrity. Additionally, Cissus quadrangularis exhibits chondroprotective activity, preventing cartilage degradation and promoting joint health. Its medicinal properties have made it a valuable component in both traditional and modern therapeutic practices.

Keywords: Vitaceae, bone healing, vitis quadrangularis, harjor, chondroprotective

(PO-24)/EXPLORING THE BENEFITS OF HIBISCUS ROSELLE FLOWER

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Abstract:

The juice of *Hibiscus Sabdarifa* Linn is commonly used as a traditional medicine for Dysmenorrhea, Hypertension, Cancer, Liver health, and Mood Improvement. This study aimed to examine the effect of Hibiscus roselle juice for Women's health "a focus on Dysmenorrhea." This review synthesizes existing literature on the pharmacological mechanisms of hibiscus, particularly its antispasmodic, anti-inflammatory, and analgesic effects, which may contribute to pain relief during menstruation. Additionally, the review examines the safety, recommended dosage, and potential side effects of hibiscus juice consumption, providing a comprehensive overview of its therapeutic role for women's health.

Keywords: Hibiscus roselle juice, dysmenorrhea, mood improvement, liver health, sorrel

(PO-25)/RECENT TRENDS IN DRUG DISCOVERY AND RESEARCH

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Abstract:

Recent trends in drug discovery are revolutionizing pharmaceutical development, driven by technological advancements and evolving disease understanding. This abstract highlights key areas shaping the field. Artificial intelligence (AI) and machine learning (ML) are accelerating target identification, drug design, and clinical trial optimization. High-throughput screening (HTS) coupled with phenotypic screening allows for rapid evaluation of vast compound libraries. Genomics and proteomics are enabling personalized medicine, tailoring treatments to individual genetic profiles. Fragment-based drug discovery (FBDD) and structure-based drug design (SBDD) are refining lead optimization. Cryo-electron microscopy (cryo-EM) is providing unprecedented structural insights into complex biological targets. Innovative delivery systems, such as nanoparticles and gene therapies, are improving drug efficacy and reducing side effects. Finally, a renewed focus on drug repurposing and open-source drug discovery platforms is fostering collaboration and accelerating the development of treatments for neglected diseases. These trends collectively represent a paradigm shift towards more efficient, targeted, and personalized drug discovery.

Keywords: Artificial intelligence, high-throughput screening, fragment-based drug discovery, structure-based drug design, efficacy, cryo-electron microscopy

(PO-26)/SALIVA AS A TOOL FOR ORAL CANCER DIAGNOSIS AND PROGNOSIS

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Abstract:

Oral cancer is one of the most prevalent malignancies worldwide, with a high mortality rate primarily due to late-stage diagnosis. Traditional diagnostic methods, such as tissue biopsies and imaging, are invasive, time-consuming, and costly, often limiting early detection. Saliva-based diagnostics have emerged as a promising non-invasive alternative for early detection and monitoring of oral cancer. Saliva is rich in biomolecules, including proteins, DNA, RNA, and metabolites, which serve as potential biomarkers for malignant transformation. Recent advancements in molecular diagnostics have identified salivary biomarkers such as cytokines, microRNAs, and tumor-associated proteins, demonstrating high sensitivity and specificity in detecting oral cancer. Additionally, saliva collection is simple, cost-effective, and well-tolerated by patients, making it an ideal medium for largescale screening. Despite its potential, challenges such as biomarker validation, standardization of sample collection, and integration into clinical practice need to be addressed. Further research and technological advancements, including point-of-care diagnostic tools, are essential to establish saliva as a reliable and routine tool for oral cancer screening, ultimately improving early diagnosis and patient outcomes.

Keywords: Saliva, biomolecules, metabolites, oral cancer, diagnosis, microRNAs

(PO-27)/**BLOSSOMING HEALTH: A HERBAL APPROACH TO MENSTRUAL CARE**

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Abstract:

Objective – Reduce menstrual pain intensity: Decrease the sensitivity of menstrual cramps, spasm & discomfort Improve quality of life. Enhance overall well-being, allowing individuals to manage daily activities & responsibilities without interruption. Provide natural, safe & effective alternative offer a non-pharmacological, noninvasive option for managing menstrual pain. Background- Primary dysmenorrhea is a common condition that affects menstruating women, especially young women. Painful cramping in the lower abdominal area, nausea, vomiting, headache, and fatigue is associated with primary dysmenorrhea, which restricts women from normal living life. The productivity and work performance of women are heavily affected by the symptoms of primary dysmenorrhea. Non-Steroidal AntiInflammatory Drugs (NSAIDs) and Low Dose Oral Contraceptive Pills (OCPs) are commonly prescribed for the treatment of primary dysmenorrhea. However, variability in individual response to the drugs and their side effects hinder their long-term use among women. Complementary medicine such as

herbs is a promising alternative for the treatment of primary dysmenorrhea, but it lacks scientific evidence.
Methods- This study followed by using the maceration extraction process by using the aqueous & ethanolic solvents. The crude drugs are steeped in a solvent to extract bio active compounds. The finely divided crude drug powder can be used in companions with extract prepared. The powder mixture & extract can be used in warm water prior administration.
Result- The result demonstrated a significant reduction in the severity of dysmenorrhea. The herbal formulations were well tolerated and no adverse effect were reported.
Conclusion - The study concluded that Herbal drugs give efficient result as compare to other marketed preparation.

Keywords: Dysmenorrhoea, herbal crude drugs, natural remedies, women's health

(PO-28)/UNLOCKING THE HEALING SECRETS OF PRICKLY POPPY

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Abstract:
Argemone mexicana, commonly known as prickly poppy, is a plant with a rich history in traditional medicine. It is a source of various bioactive compounds, including alkaloids, flavonoids, and terpenoids, that have demonstrated promising pharmacological activities. This abstract explores the diverse therapeutic potential of Argemone mexicana, focusing on its traditional uses and scientific validation. It highlights the plant's potential in managing various ailments, including:
● Liver disorders: Argemone mexicana has shown hepatoprotective effects, potentially aiding in liver health and disease management. ● Inflammation: The plant's anti-inflammatory properties suggest its potential in treating inflammatory conditions. ● Pain relief: Argemone mexicana has been traditionally used for pain management, and some studies support its analgesic properties.
● Antimicrobial activity: The plant exhibits antimicrobial properties, suggesting its potential in combating infections. This abstract aims to provide a comprehensive overview of the traditional uses and scientific evidence supporting the therapeutic potential of Argemone mexicana. It emphasizes the need for further research to fully understand its mechanisms of action and translate its potential into clinical applications.

Keywords: Bioactive, alkaloids, flavonoids, terpenoids, hepatoprotective, analgesic

(PO-29)/DECODING CANCER DNA: INSIGHTS AND IMPLICATIONS

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Abstract:

Cancer chemotherapy, while effective, is often limited by the development of resistance and the toxicity it causes to normal cells. Tumor cells frequently use DNA repair mechanisms to reverse the damage induced by chemotherapy agents, contributing to the survival and proliferation of cancer cells despite treatment. Targeting DNA repair pathways presents a promising therapeutic approach to overcome resistance and improve chemotherapy efficacy. By inhibiting key repair proteins such as PARP (poly(ADP-ribose) polymerase), ATM/ATR (ataxia-telangiectasia mutated and Rad3-related), and DNA ligases, it is possible to enhance DNA damage accumulation in cancer cells and sensitize them to chemotherapy. This strategy aims to increase the therapeutic index of chemotherapy by selectively targeting cancer cells while minimizing toxicity to normal cells. This abstract discusses the role of DNA repair in cancer therapy, highlights current therapeutic strategies targeting repair pathways, and outlines potential future directions in enhancing chemotherapy outcomes.

Keywords: Cancer chemotherapy, DNA repair, chemotherapy resistance, PARP inhibitors, DNA damage, therapeutic strategies, DNA repair pathways

(PO-30)/LATEST INNOVATIONS IN PHARMACEUTICAL INDUSTRY

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Abstract:

For more than a decade, analysts of the pharmaceutical industry have argued that the conventional blockbuster model of drug discovery and development is unsustainable, despite many years of investment in new life science technologies. Explanations have included a failure of innovation capacity and low productivity, a focus on incremental rather than radical innovation, excessive regulatory barriers and a lack of venture capital investment. However, an alternative argument can be posed that the pharmaceutical innovation model has been remarkably resilient and multinational companies have been extremely robust in maintaining their market dominance. Pfizer's recent announcement that it will close a major R&D site at Sandwich (Kent, UK) is a clear blow both to the North Kent regional economy and to the broader UK research base. Nevertheless, it illustrates a broader global trend in Big Pharma where large-scale merger and acquisition activity is followed by major company restructuring and R&D rationalisations as firms try to implement strategies to meet the growing demands of blockbuster innovation and sustain revenue streams. In this article, we consider the sustainability of current pharmaceutical innovation strategies in

the context of the challenges and opportunities posed by the life sciences. We argue that the regulatory system plays a predominant role in shaping innovation trajectories. We also consider the benefits of 'smart regulation' and conclude with some comments about the future of the big pharma sector. Our key question is whether the pharmaceutical R&D model is sustainable.

Keywords: Innovation, pharma industry, startups, trends

(PO-31)/FORMULATION AND EVALUATION OF POLYHERBAL COOKIES FOR DIABETIC PATIENT

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Abstract:

These herbs include Ashwagandha, Tecoma stans, and Tulsi leaves. Most people eat cookies for breakfast, snacks, and leisure time to satisfy their hunger and gain energy. There are several types of cookies on the market, and the major ingredients are refined flour, sugar, and butter. As a result, obese and diabetic individuals often avoid them since they cause high blood sugar levels. As a result, in this latest study, we developed Polyherbal cookies utilizing oob, wheat flour, and other Ayurvedic herbs. Diverse types were developed utilizing different plants to determine the ideal cookie composition based on palatability. Following selection, cookies were made for physiochemical, sensory, and nutritional study. The sensory analysis was graded based on organoleptic characteristics: color, taste, scent, and overall acceptability. The objective of the study is to design polyherbal cookies containing Tecoma stans. Tulsi leaves and ashwagandha. The essential target of the study was to formulate and evaluate antidiabetic polyherbal cookies that will have to work on antidiabetic enhancing property. Polyherbal formulation has wide therapeutic range, pure side effects, cheaper eco-friendly and rapidly available.

Keyword: Polyherbal cookies, obesity, diabetes, Ayurvedic herbs, sensory analysis, nutrition

(PO-32)/REVOLUTIONIZING DRUG DISCOVERY WITH AI

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Abstract:

The traditional drug discovery process is a long and expensive journey, typically taking 10-15 years and costing around $2.6 billion per successful drug. Artificial Intelligence (AI) is transforming pharmaceutical research by accelerating drug discovery, reducing costs, and enhancing precision. AI

technologies, including deep learning, machine learning, and natural language processing, analyze vast biological datasets, predict drug interactions, and design new compounds more efficiently than traditional methods. AI plays a crucial role in various stages of drug discovery: Target Identification - AI examines genetic and molecular data to pinpoint potential drug targets. Drug Screening and Design - Machine learning models predict compound effectiveness, reducing the need for extensive laboratory testing. Clinical Trials Optimization-AIassistsinselectingsuitabletrialcandidatesandpredicting outcomes. Precision Medicine - AI personalizes treatments based on patient genetics, improving efficacy and safety. AI significantly improves efficiency by reducing research timelines from years to months, minimizing R&D expenditures, and increasing the success rate of new drugs. AI-driven drug development also enhances safety by predicting adverse reactions before human trials. Technologies like deep learning, quantum computing, and natural language processing further optimize drug discovery and design. However, AI implementation faces challenges, including data biases, regulatory hurdles, and the need for human expertise. Ethical considerations must be addressed to ensure AI-generated drugs meet high safety standards.

Keywords: Artificial Intelligence, drug discovery, machine learning, neural networks, clinical trials, precision medicine, pharma technology

(PO-33)/ESSENTIAL OILS IN DERMOCOSMETICS: MECHANISMS, ADVANCES, AND FUTURE PERSPECTIVES

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Abstract:

Esessential oils (Eos) are concentrated plant- derived extracts known for their diverse bioactivities, including antioxidant, anti- inflammatory, antimicrobial, antifungal, antiviralal and skin- barrier repairing properties. These attributes have made EOs valuable candidates for dermocosmetic applications, addressing various dermatological conditions s uch as acne, inflammation, premature aging, hyperpigmentation, and xerosis. EOs exert their therapeutic effects through mechanisms such as modulation of oxidative stress, inhibition of microbial growth, regulation of inflammatory pathways, and reinforcement of skin barrier function. Key bioactive constituents, including terpenes, phenolics, and aldehydes, contribute to these activities. For instance, linalool and limonene exhibit anti - inflammatory and antimicrobial properties, while phenolic- rich EOs like tea tree and rosemary oil offer potent antioxidant protection against environmental damage. Recent advancements in formulation science and nanotechnology have improved the stability, bioavailability, and controlled release of EO- based dermocosmetics. Encapsulation techniques, such as nanoemulsions and liposomal delivery systems, enhance therapeutic efficacy while minimizing cytotoxicity and irritation. Despite their

potential, challenges such as variability incomposition, skin sensitization, and phototoxicity must be addressed through standardized extraction methods, rigorous safety assessments, and clinical trials. As research progresses, EOs are expected to play an expanding role in dermocosmetics, offering natural, sustainable, and effective alternatives to synthetic skincare ingredients.

Keywords: Essential oils, dermocosmetics, skin barrier, antioxidant, anti- inflammatory, antimicrobial, nanotechnology, bioactive compounds, formulation science, skincare applications

(PO-34)/COMPUTATIONAL STUDIES ON *S. CUMINI* PHYTOCHEMICALS AS INSULIN RECEPTOR MODULATOR IN THE MANAGEMENT OF POLYCYSTIC OVARY SYNDROME

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Abstract:

Polycystic Ovary Syndrome (PCOS) is a prevalent endocrine disorder affecting 8–13% of women of reproductive age, characterized by hormonal imbalance, irregular menstrual cycles, and metabolic complications. Insulin resistance is a key feature of PCOS, contributing to its pathophysiology. Currently available synthetic medications aim to treat hormonal imbalances in the body, often resulting in numerous side effects. In recent years, plant-based products have been increasingly used as alternatives for the treatment of PCOS. Syzygium cumini commonly known as jamun is a medicinal plant known for its anti-diabetic, antihyperlipidemic, and anti-obesity properties. In the current study, 42 ligands from S. cumini were selected and computationally analysed for their binding affinity against insulin receptor (PDB ID:3EKK). Molecular docking was performed by Autodock Vinca, absorption, distribution, metabolism, excretion, and toxicity (ADMET) properties were checked using SwissADME. Among the 42 compounds the highest docking scores were obtained for delphinidin, petunidin, cyanidin, peonidin and malvidin with -11.4, -10.7, -10.6, -10.5 and -10.0 kcal/mol, respectively, suggesting strong interaction against 3EKKprotein. SwissADME prediction showed promising drug-likeness properties. However, further in-vitro and in-vivo studies are necessary to validate these computational predictions and explore their therapeutic efficacy. This study provides a basis for future research into plant-based alternatives for PCOS treatment.

Keywords: PCOS, insulin resistance, *Syzygium cumini*, in-silico and 3EKK

(PO-35)/ADVANCEMENT OF NANOTECHNOLOGY AND NANOPARTICLES IN DIAGNOSIS AND DRUG DELIVERY SYSTEM FOR CANCER TREATMENT

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Abstract:

Nanotechnology and nanoparticles have revolutionized cancer treatment by enabling targeted drug delivery, early diagnosis, and enhanced therapeutic efficacy. Nanoparticles, such as liposomes, dendrimers, and gold nanoparticles, offer precise tumor targeting, reducing systemic toxicity and improving drug bioavailability. They facilitate controlled drug release, overcoming multidrug resistance and enhancing chemotherapy, radiotherapy, and immunotherapy outcomes. Additionally, nanotechnology enables advanced imaging techniques for early cancer detection and monitoring treatment responses. Despite promising advancements, challenges such as biocompatibility, toxicity, and large-scale production must be addressed. Future research and clinical trials will play a crucial role in harnessing nanotechnology's full potential in personalized and efficient cancer.

Keywords: Nanoparticles, nanomaterials, cancer biomarker, tumor imaging, drug delivery systems, nano formulations

(PO-36)/EXOSOME AND ANTI-AGING TRANSFORMING SKINCARE WITH NEXT GENERATION FACE SERUM

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Abstract:

This study present the development and evaluation of the novel pomegranate face serum, enriched with jojoba oil, retinol, collagen, vitamin E, glycerin, exosome, phenoxyethanol and fragrance with pleasent scent. The serum aims to provide a comprehensive hydration and skin tone.

Keywords: Pomegranate face serum, jojoba oil, retinol, collagen, vitamin E

(PO-37)/HERBAL INSTANT DISSOLVING STRIPS FOR THROAT INFECTION: A NOVEL APPROACH USING HERBAL EXTRACT

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Abstract:

Objective: To develop herbal fast-dissolving oral strips for throat infections. Utilize turmeric, ginger, and liquorice for antimicrobial and soothing effects. Improved Patient Compliance: They provide an easy-to-administer form of medication that may be more convenient than oral pills or injections. Ensure a natural, fast-acting, and commercially viable throat care solution. Background: Throat infections are common ailments often caused by bacterial or viral pathogens, leading to symptoms such as pain, inflammation, and irritation. Conventional treatments include lozenges, syrups, and gargles, which may have limitations such as delayed onset of action, poor patient compliance, and difficulty in administration, especially for pediatric and geriatric populations. Herbal instant-dissolving strips present an innovative and effective alternative for delivering natural therapeutic agents directly to the affected area, ensuring rapid relief and enhanced bioavailability. This study focuses on the formulation and development of herbal fast-dissolving oral strips containing turmeric (Curcuma longa), ginger (Zingiber officinale), and liquorice (Glycyrrhiza glabra)—three well-known medicinal herbs with potent antimicrobial, anti-inflammatory, and soothing properties.

Methods: The strips are prepared using the solvent-casting technique, incorporating natural film-forming polymers such as pullulan and hydroxypropyl methylcellulose (HPMC) to ensure fast dissolution, structural integrity, and optimal drug release. Plasticizers like glycerine and sorbitol are used to enhance flexibility, while natural sweeteners and flavouring agents improve palatability. Result: The results indicate that these herbal dissolving strips provide a convenient, effective, and natural remedy for throat infections, offering advantages such as rapid onset of action, ease of administration, improved patient compliance, and the absence of synthetic additives. Conclusion: The formulated herbal dissolving strips containing turmeric, ginger, and liquorice offer an effective, natural, and patient-friendly alternative for managing throat infections.

Keywords: Herbal medicine, fast dissolving oral strips, throat infections, turmeric, ginger, liquorice

(PO-38)/**A STEP TOWARD SUSTAINABILITY: A REVIEW OF BIODEGRADABLE PACKAGING IN THE PHARMACEUTICAL INDUSTRY**

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Abstract:

The pharmaceutical industry heavily relies on packaging to ensure product safety, stability, and compliance with regulatory standards. However, the extensive use of conventional plastic-based

packaging contributes significantly to environmental pollution. Biodegradable packaging presents a sustainable alternative, offering the potential to reduce plastic waste and environmental impact while maintaining the integrity of pharmaceutical products. This review highlights the advancements in biodegradable materials such as polylactic acid (PLA), polyhydroxyalkanoates (PHA), starch-based composites, and cellulose derivatives, which are gaining attention for pharmaceutical applications. These materials possess favourable properties such as biodegradability, biocompatibility, and mechanical strength, making them suitable for drug packaging. However, challenges such as cost-effectiveness, material stability, regulatory compliance, and large-scale production hinder widespread adoption. Innovative solutions, including bio-based coatings, smart biodegradable films, and nanotechnology, are being explored to enhance the functionality and sustainability of biodegradable packaging. Regulatory agencies such as the FDA and EMA are also addressing guidelines for the approval and implementation of these materials in the pharmaceutical sector. This poster presentation aims to provide insights into the current trends, benefits, and challenges of biodegradable pharmaceutical packaging. By adopting eco-friendly alternatives, the pharmaceutical industry can contribute to global sustainability goals, minimize environmental hazards, and support a circular economy. Further research and policy development are essential to accelerate the transition toward sustainable packaging solutions.

Keywords: Biodegradable materials, Innovative solutions, environmental hazards, pharmaceutical industry

(PO-39)/**BOUGAINVILLEA-DERIVED BETALAIN PIGMENTS AS NATURAL pH INDICATORS: A SUSTAINABLE APPROACH FOR ANALYTICAL CHEMISTRY**

SAMRUDDHI S. KHONDE

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Abstract:

Bougainvillea, particularly Bougainvillea spectabilis and Bougainvillea glabra, contains betalain pigments, primarily betacyanins, which exhibit distinct color changes in response to pH variations. This study explores the innovative application of Bougainvillea bract extracts as a sustainable, plant-derived alternative for pH measurement, with potential integration into pH meter technologies. The anthocyanin-like properties of betacyanins enable their use as natural pH indicators, transitioning from deep violet in acidic conditions to yellow in alkaline environments. Scientific studies have demonstrated the efficacy of Bougainvillea extracts in titrations and analytical chemistry. Research has validated their use as acid-base indicators and confirmed their stability and reproducibility across a broad pH range. Such findings highlight the feasibility of incorporating Bougainvillea pigments into eco-friendly sensor designs,

reducing reliance on synthetic indicators. However, challenges remain in pigment stability, calibration for electronic detection, and interference from external substances. The integration of Bougainvillea-based indicators into pH meters could revolutionize sustainable analytical techniques, providing a biodegradable, cost-effective alternative in pharmaceutical, environmental, and industrial applications. Further research and technological advancements are necessary to optimize extraction methods and enhance sensor compatibility for commercial viability.

Keywords: Bougainvillea, pH indicator, betalains, sustainable sensors, natural dyes, analytical chemistry

(PO-40)/VITAMIN C: SUPPORTING VASCULAR HEALTH BY DISSOLVING PLAQUE IN BLOOD VESSELS

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Abstract:

Vitamin C, also known as ascorbic acid, plays a crucial role in maintaining vascular health and may contribute to the dissolution of plaque in blood vessels. Plaque buildup, primarily composed of lipids, calcium, and other substances, can lead to atherosclerosis and increase the risk of cardiovascular diseases. Recent studies suggest that Vitamin C's antioxidant properties can reduce oxidative stress, a key factor in plaque formation and progression. Additionally, Vitamin C aids in collagen synthesis, supporting the structural integrity of blood vessels, and may enhance the activity of enzymes involved in the breakdown of arterial plaque. This review explores the potential mechanisms through which to dissolute dissolve the flake the stabilization of lipid profiles. While further clinical research is necessary, current evidence indicates that adequate Vitamin C intake could be a valuable adjunct in managing vascular health and mitigating the adverse effects of plaque accumulation in the arteries.

Keywords: Vitamin C, ascorbic acid, plaque dissolution, cardiovascular diseases, antioxidant, collagen synthesis, vascular health management

(PO-41)/CISSUS QUADRANGULARIS: AN AYURVEDIC REMEDY FOR BONE HEALING AND RECOVERY

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Abstract:

Cissus quadrangularis, a traditional Ayurvedic herb, is widely recognized for its potent bone healing and regenerative properties. Commonly referred to as Hadjod. This medicinal plant has been extensively used in Ayurveda to promote bone fracture healing, enhance bone density, and support overall skeletal health. Rich in bioactive compounds such as flavonoids, triterpenoids, and ascorbic acid, *Cissus quadrangularis* exhibits strong anti-inflammatory, antioxidant, and osteogenic properties. Scientific studies have demonstrated its efficacy in accelerating bone mineralization, reducing fracture healing time, and improving collagen synthesis, making it a natural alternative to conventional treatments for osteoporosis and bone injuries. This review explores the phytochemistry, mechanisms of action, and clinical applications of *Cissus quadrangularis* in bone healing and recovery. It also discusses its potential benefits in orthopedic conditions such as fractures, osteoporosis, and arthritis, supporting its traditional use as a safe and effective herbal remedy for bone health.

Keywords: *Cissus quadrangularis*, hadjod, bone healing, fracture recovery, herbal remedy

(PO-42)/EVALUATION OF ANTILITHIATIC ACTIVITY OF GALIUM VERUM IN EXPERIMENTAL ANIMALS

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Abstract:

Ethanolic extract of Galium verum evaluated for antilithiatic activity. Preliminary phytochemical screening of ethanolic extract of Galium verum shows the presence of Glycosides, Flavonoids, Tannins, Iridoids, Terpenoids, and Saponins. Increase in level such as oxalate, calcium, and phosphate in urine, and uric acid, creatinine, and blood urca nitrogen (BUN) in serum shows induction of lithiasis in animals by ethylene glycol whereas level of these components decrease after treatment with standard drug (cystone) and the test extract.

Test extract in dose of 400 mg/kg of Galium verum L. significantly decreased the level of calcium, phosphate, and oxalate in urine, and uric acid, creatinine and blood urea nitrogen (BUN) in serum shows its Anti-lithiatic activity, may be due to presence of tannins and glycoside.

Keywords: Galium verum, cystone, ethylene glycol, calcium oxalate, kidney stone

(PO-43)/EFFICACY AND SAFETY OF RIFAXIMIN IN SMALL INTESTINAL BACTERIAL OVERGROWTH: A SYSTEMATIC REVIEW AND META-ANALYSIS

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Abstract:

Small intestinal bacterial overgrowth (SIBO) is characterized by an excessive proliferation of bacteria in the small intestine, leading to various gastrointestinal symptoms. Rifaximin, a non-absorbable antibiotic, has been investigated for its efficacy and safety in treating SIBO. A systematic review and meta-analysis encompassing 32 studies with 1,331 patients reported an overall SIBO eradication rate of 70.8% (95% CI: 61.4–78.2) in intention-to-treat analyses. Per-protocol analyses showed a similar eradication rate of 72.9% (95% CI: 65.5–79.8). Meta-regression identified that higher rifaximin doses, randomized controlled trial design, and combination therapy were significantly associated with increased eradication rates. The overall incidence of adverse events was low, at 4.6% (95% CI: 2.3–7.5). Additionally, symptom improvement or resolution in patients with eradicated SIBO was observed in 67.7% (95% CI: 44.7–86.9) of cases. These findings suggest that rifaximin is an effective and safe treatment option for SIBO, with dose-dependent efficacy and a favorable safety profile. However, the quality of available studies varies, and well-designed randomized controlled trials are needed to establish optimal treatment regimens.

Keywords: Rifaximin, Small Intestinal Bacterial Overgrowth (SIBO), antibiotic therapy, gut microbiota, eradication rate, gastrointestinal disorders

(PO-44)/FORMULATION AND EVALUATION OF CONVOLVULUS PLURICAULIS CHOISY LOZENGES

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Abstract:

The current research deals with formulation of convolvulus pluricaulis choisy lozenges , which would act as best brain tonic as a memory boosting formulation. Convolvulus pluricaulis choisy lozenges will give antidepressant , anti-stress , antioxidant , analgesic, immune-modulatory , neuro degeneratives, cardio-protective effects ,with increase onset of action , bioavailalbility , reduces gastric irritation and bypass the first pass metabolism and also offers better patients compliance , usually in flavored , sweetened base , that are intended to dissolve or disintegrate quickly in mouth .The technique used to prepare this formulation is healing and congealing. The technique involves heating of water sugar, drug and other additives at specified temperature, then this mixture is poured into the moulds of desired shape to form the lozenges. The lozenges have evaluated for the following parameters that are quality control test , physical and chemical testing, microbial testing, and stability testing . It is a formulation which is more organoleptically accepted particularly by the pediatric patients. These will show supplementary

advantages such as patient compliance, administration convenience for efficient treatment in respect of immediate onset of action.

Keywords: Convolvulus pluricaulis choisy, brain tonic, Onset of action, paediatric patients, lozenges

(PO-45)/**ONLINE PHARMACY – HOPE HYPE AND REALITY**

SAYALI RAUT*, TANUJA AGOLE, HUMAIRA FIRDOAS ABDUL SALEEM

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Abstract:

"Pharmacy is the health profession that links the health science with the chemical science and it is charged with ensuring safe and effective use of pharmaceutical drugs" buying drugs/medicines online is the latest trend among the Indian patients and consumers. Online pharmacy is one of the advanced technology that is about to create a huge demand in the upcoming days. As it easy to get there are some loopholes in using it under certain act.

Keywords: Medplus, e pharmacy, netmed's com, medlife, mchemist

(PO-46)/**STRUCTURE-ACTIVITY RELATIONSHIP (SAR) OF VINCA ALKALOIDS AND EXPERIMENTAL CASE STUDIES**

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Abstract:

Vinca alkaloids, including vincristine and vinblastine, are a pivotal class of anticancer agents that exert their effects by binding to tubulin, inhibiting microtubule assembly, and ultimately disrupting cell division. Understanding the structural features and modifications of these molecules provides insight into their activity, toxicity, and therapeutic potential. Here, we discuss the structure-activity relationship (SAR) of Vinca alkaloids, focusing on key structural components and their implications, supported by experimental case studies.

Keywords: Vinca alkaloids, structure activity relationship, drug development

(PO-47)/**PHARMACY STRENGTHENING HEALTH SYSTEM**

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Abstract:

Pharmacy plays a vital role in health systems, ensuring the safe, effective, and accessible use of medications. As health challenges grow—such as non-communicable diseases, antimicrobial resistance, and healthcare inequities—enhancing pharmacy services is essential for improving health outcomes. This abstract outlines a multifaceted approach to strengthening pharmacy, focusing on integration within healthcare models, workforce development, and policy reform. Key elements include improving the availability of essential medicines, optimizing supply chain management, and promoting the rational use of medications through evidence-based practices. Pharmacists must be recognized as integral healthcare team members, participating in therapeutic decisions and patient education. Effective workforce development is necessary to prepare pharmacists for expanded roles in public health and disease management, supported by robust education and training programs. Policy reforms that establish regulatory frameworks and standardize practice are essential to recognize pharmacists' contributions and ensure fair reimbursement for services. In conclusion, investing in pharmacy strengthening is crucial for advancing health systems, leading to better patient outcomes and enhanced public health. By focusing on capacity building, workforce training, and advocacy, stakeholders can fully leverage the unique skills of pharmacists to address current and future health challenges.

Keywords: Health systems, pharmacy sector, medication management, public health initiatives, health outcomes

(PO-48)/TO DESIGN AND EVALUATE POMEGRANATE TURFFLES FACE MASK FOR SKIN REJUVENATION AND PROTECTION

GAYATRI SHANKARRAO BHANGE

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Abstract:

To develop and evaluate a pomegranate fiber face mask, assessing its antioxidant activity, skin hydration, and wrinkle reduction properties. Pomegranate is a rich source of antioxidants, which can help protect the skin from environmental stress and promote rejuvenation. Pomegranate fiber face mask provide anti-aging, antioxidant activity, skin hydration, and wrinkle depth. The solvent casting method is a technique used to create thin films or membranes from polymer solutions for preparation of face mask. Result This study concluded that pomegranate fiber face mask offers a natural, effective, and antioxidant-rich solution

for skin rejuvenation and protection, providing improved hydration, wrinkle reduction, and antioxidant activity.

Keywords: Rejuvenation, antioxidant, skin hydration, protection, anti-aging

(PO-49)/TO DESIGN AND EVALUATE MOISTURIZING SOCKS WITH AN INTEGRATED ANTIOXIDANT RICH CREAM, FOR EFFECTIVE MANAGEMENT OF CRACKED HEELS

VAISHNAVI PRAMOD SATRANKAR*, POOJA SUBHASH PATIL

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Abstract:

Current treatments often provide temporary relief, highlighting the need for an effective and sustainable solution. Cracked heels and dry foot are a common dermatological condition characterized by dryness, fissures, and discomfort. Randomized, controlled trial was. conducted on participants with dry feet. Participants wore moisturizing socks with integrated cream or standard socks for 8- 12 hours. Foot hydration, skin elasticity, and participant satisfaction were assessed. Moisturizing socks with integrated cream demonstrated significant improvements in Foot hydration, Skin elasticity, and Participant satisfaction as compared to standard socks. This study concluded that Moisturizing socks with integrated antioxidant-rich detoxyfying cream offer a convenient, effective, and sustained solution for dry foot & crack heels management, providing improved hydration, skin elasticity, and user satisfaction.

Keywords: Antioxidant, moisturising socks, dermatology, hydration

(PO-50)/DEVELOPMENT AND CHARACTERISATION OF NANOSPONGE BASED TOPICAL DRUG DELIVERY SYSTEM FOR THE TREATMENT OF DERMATOPHYTOSIS

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Abstract:

The study focused on creating Naf-NSs based topical drug delivery system using the synthesis of DPC crosslinked β-CD nanosponges method as an innovative approach for treatment of recurring infection of dermatophyte. An attempt to overcome the current limitations in the treatment of dermatophytosis was made. In-Silico techniques like molecular docking have been employed to opt out some selected drug and to proceed with the best fit potential drug candidate. Also material interaction study was done to elect the

suitable crosslinker for crosslinking the β-CD to form NSs. An optimization process using a 32 full factorial design revealed the impact of crosslinker concentration and reaction time on various nanosponge characteristics like particle size and entrapment efficiency. Thermal analysis confirmed the successful entrapment of Naf-HCl in the nanosponges and XRD confirmed transitioning it from a crystalline to an amorphous state. The nanosponge-gel demonstrated sustained drug release up to 24 hrs and improved drug deposition in skin compared to conventional formulations. The prepared hydrogel was non-irritating according to Draize tests and remained stable over three months. The in vitro antifungal activity of Naf-NSs based hydrogel using cup plate method were estimated and found to be more efficacious the standard against T. rubrum. Antidermatophytic activity studies on wistar rat revealed that the nanosponge-gel significantly effective against infection caused by T. rubrum.

Keywords: Nanosponges, dermatophytosis, In-Silico, full factorial design, β-CD

(PO-51)/DEVELOPMENT AND VALIDATION OF BIOANALYTICAL METHOD FOR BILASTINE BY RP-HPLC ON RAT PLASMA

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Abstract:

A rapid, sensitive and selective HPLC method for the determination of Bilastine in rat plasma was developed and validated. Sample preparation was assured by protein precipitation method. Separation was occurred on a Zodiac-100 C-18 RP column (150 cm x 4.6 mm, 5µm ID) with a mobile phase 0.5% Trifluoroacetic Acid and Acetonitrile: (80:20%v/v) pH 3.5 adjusted with orthophosphoric acid and was eluted at a flow rate of 1.0mL min-1 and the detection was done at 254 nm. The standard curve was linear over the concentration range of 15.6-500 µg /ml. The limit of quantification (LOQ) and limit of detection (LOD) of Pirfenidone was found to be 12.14 ng mL-1 and 36.79ng mL-1 respectively. The validation parameters of accuracy and precision study were performed at two levels such as intra-day and inter-day. The developed method shows good accuracy and precision. Accuracy ranges from 98.49% to 99.37% with the precision 0.26 – 1.22% in inter-day method. Intra-day method the accuracy ranges from 98.64% to 99.33% with the precision 0.61 – 1.44 %. Hence, the developed RP-HPLC method can be adopted for the routine analysis of Bilastine in bulk and pharmaceutical dosage form in quality control laboratories. This method was successfully applied for estimation of Bilastine in Rat plasma.

Keywords: Method development, RP-HPLC, bilastine, method validation, bioanalytical

(PO-52)/NEW HYPOGLYCAEMIC DRUGS: COMBINATION DRUGS AND TARGETS DISCOVERY

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Abstract:

New hypoglycaemic drugs, including glucagon-like peptide 1 receptor agonists (GLP-1RA), dipeptidyl peptidase-4 inhibitors (DPP-4i) and sodium-glucose cotransporter 2 inhibitors (SGLT-2i), which brings more options for the treatment of type 2 diabetes (T2DM). They are generally well tolerated, although caution is required in rare cases. Clinical trials have shown good glycaemic control with combination therapy with new hypoglycaemic drugs in prediabetes and T2DM (mostly traditional stepwise therapy), but early combination therapy appears to have faster, more, and longer-lasting benefits. With the widespread clinical application of oral semaglutide, it is time to develop combinations drugs containing new hypoglycaemic drugs, especially SGLT-2i and/or GLP-1RA, to control the risk of prediabetes and newly diagnosed T2DM and its cardiovascular complications, while improving patient compliance. Clinical and preclinical studies support that SGLT-2i exerts its protective effect on heart failure through indirect and direct effects. How this comprehensive protective effect regulates the dynamic changes of heart genes needs further study. We provide ideas for the development of heart failure drugs from the perspective of “clinical drug-mechanism-intensive disease treatment.” This will help to accelerate the development of heart failure drugs, and to some extent guide the use of heart failure drugs.

Keywords: Type 2 diabetes, combination medication, DPP-4i, GLP-1RA, SGLT-2i

(PO-53)/WATERMELON RIND: A NATURAL SOLUTION FOR SYNTHETIC DYE POLLUTION

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Abstract:

Water pollution caused by synthetic dyes from textile, paper, and leather industries is a major environmental concern. Conventional wastewater treatment methods often fail to remove these dyes efficiently. In recent years, bio-adsorbents have gained attention due to their eco-friendly, cost-effective, and sustainable nature. This study explores the potential of watermelon rind as a natural dye adsorbent for wastewater treatment. Watermelon rind, an agricultural waste product, contains cellulose,

hemicellulose, and pectin, which provide a high surface area and functional groups for dye adsorption. The adsorption efficiency of the rind was tested under varying conditions of pH, contact time, initial dye and concentration. The results indicated that watermelon rind exhibited high adsorption capacity for different synthetic dyes, making it a promising low-cost and biodegradable alternative for wastewater treatment. This study highlights the potential of utilizing agricultural waste for environmental remediation, promoting sustainability, and reducing industrial pollution.

Keywords: Watermelon rind, dye adsorption, bio-adsorbent, wastewater treatment, sustainable remediation

SUMMARIES

SCIENTIFIC MODELS

DETAILS OF SCIENTIFIC MODELS

CODE	TITLE	NAME OF RESEARCHERS	INSTITUTE
MO-01	ORGAN-ON-A-CHIP MODEL FOR DRUG TESTING	AVANTIKA WATANE*, PRATIKSHA MAHAJAN	P.R. PATIL INSTITUTE OF PHARMACY, TALEGAON (S.P.), DIST- WARDHA, MAHARASHTRA- 442 202
MO-02	REFLUX AQUA TECHNO: A WATER-SAVING REFLUX MODEL FOR PHARMACEUTICAL SYNTHESIS	SAKSHI R. METKAR*, KHUSHALI D. JEPULKAR	P R PATIL INSTITUTE OF PHARMACY, TALEGAON (S.P.), ARVI ROAD, WARDHA, MAHARASHTRA, INDIA
MO-03	DEVELOPMENT OF PERSONALIZED 3D BIOPRINTED SCAFFOLDS FOR SPINAL CORD INJURY REPAIR	PRATIKSHA BRAMHE*, PRAFULLA SABALE	DEPARTMENT OF PHARMACEUTICAL SCIENCES, RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY, NAGPUR, MAHARASHTRA, INDIA-440033
MO-04	EXPLORE THE ALIMENTARY CANAL: A MODEL OF THE DIGESTIVE SYSTEM	SHRAVANI S. THELKAR*, TRUPTI POJAGE	P.R. PATIL INSTITUTE OF PHARMACY, TALEGAON (S.P.), DIST- WARDHA, MAHARASHTRA- 442 202
MO-05	PROCESS OF MANUFACTURING OF MEDICINE	SHREYA C. RAMDE*, PURVI A. BHISE, HARSHADA G. SONARE	P.R. PATIL INSTITUTE OF PHARMACY, TALEGAON (S.P.), DIST- WARDHA, MAHARASHTRA- 442 202
MO-06	THE CARBON PURIFICATION MODEL FOR EFFICIENT CO2 CAPTURE AND UTILIZATION	DISHA ARUN RAMDHAM*, YOGITA MANOHAR TALMALE	P.R. PATIL INSTITUTE OF PHARMACY, TALEGAON (S.P.), DIST- WARDHA, MAHARASHTRA- 442 202
MO-07	THE NEURON: A MODEL OF LIFE	KASHISH Y. PATALE*, KUNAL R. KHANTE, MANASVI N. KAMDI	P.R. PATIL INSTITUTE OF PHARMACY, TALEGAON (S.P.), DIST- WARDHA, MAHARASHTRA- 442 202
MO-08	THE LUNG: A DYNAMIC INTERFACE OF LIFE	TANVI R. KHATDEV*, RUTIKA C. NIPANE	P.R. PATIL INSTITUTE OF PHARMACY, TALEGAON (S.P.), DIST- WARDHA, MAHARASHTRA- 442 202
MO-09	MOBILE HOLOGRAM PROJECTOR: A REVOLUTION IN VISUAL DISPLAY	AYUSH VERULKAR*, ANUJ DATIR, DIVYANI AVADHUT	P.R. PATIL INSTITUTE OF PHARMACY, TALEGAON (S.P.), DIST- WARDHA, MAHARASHTRA- 442 202
MO-10	DISTILLATION OF WATER	FATTESHWAR POTE*, SAMARTH SALUNKE, LOKESH AGLAWE	P.R. PATIL INSTITUTE OF PHARMACY, TALEGAON (S.P.), DIST- WARDHA, MAHARASHTRA- 442 202
MO-11	THE SCIENCE AND TECHNOLOGY BEHIND INDUSTRIAL CARBON PURIFICATION	PRATIK B. BARGAT*, AMISHA R. KOKATE, KEWAL G. MEKALWAR	P.R. PATIL INSTITUTE OF PHARMACY, TALEGAON (S.P.), DIST- WARDHA, MAHARASHTRA- 442 202

CODE	TITLE	NAME OF RESEARCHERS	INSTITUTE
MO-12	REAL -TIME SLEEP DETECTION FOR DRIVER USING EYE BLINK SENSOR	JANVI WATSAR	P.R. PATIL INSTITUTE OF PHARMACY, TALEGAON (S.P.), DIST- WARDHA, MAHARASHTRA- 442 202
MO-13	CRISPR-BASED CANCER TREATMENT MODEL	DARSHANA S. BAKHAL*, YASHASVI LAYBARE, KSHITIJ R. GOSWAMI	P.R. PATIL INSTITUTE OF PHARMACY, TALEGAON (S.P.), DIST- WARDHA, MAHARASHTRA- 442 202
MO-14	ANY TIME MEDICINE (ATM) VENDING MACHINE FOR MEDICINE SELFDISPENSING	PRAGATI B. PATIL*, SAMIKSHA A. PAKADE	P.R. PATIL INSTITUTE OF PHARMACY, TALEGAON (S.P.), DIST- WARDHA, MAHARASHTRA- 442 202
MO-15	SCIENCE MODEL ON CARBON PURIFICATION FOR PETROCHEMICAL INDUSTRIES	DNYANESWHWARI V. WANKHADE*, TEJASWINI G. AGRAWAL, SAMRUDDHI B. KECHE	P.R. PATIL INSTITUTE OF PHARMACY, TALEGAON (S.P.), DIST- WARDHA, MAHARASHTRA- 442 202
MO-16	USE OF NANOSTRUCTURED LIPID CARRIERS [NLCs] IN COSMECEUTCALS	KRUTIKA PATRE*, MANISHA GHATARE, MANSI THAKRE	P.R. PATIL INSTITUTE OF PHARMACY, TALEGAON (S.P.), DIST- WARDHA, MAHARASHTRA- 442 202
MO-17	FILTRATION FLASK	ADITYA ZADE*, PARIKSHIT DARANGE, VARUN KHANDELWAL	P.R. PATIL INSTITUTE OF PHARMACY, TALEGAON (S.P.), DIST- WARDHA, MAHARASHTRA- 442 202
MO-18	DRY SYRUP MANUFACTURING PROCESS	KARTIKESH KALMEGH*, RUTIK ARBAT, TEJAS BAKKAR, KSHITIJ SAPATE, HARISH DANGORE	P.R. PATIL INSTITUTE OF PHARMACY, TALEGAON (S.P.), DIST- WARDHA, MAHARASHTRA- 442 202
MO-19	HEART FUNCTION: A STRUCTURED OVERVIEW	ANKITA R. SHAPAMOHAN*, NIKITA P. DHARPAWAR AND HARSHANA P. SONTAKKE	P.R. PATIL INSTITUTE OF PHARMACY, TALEGAON (S.P.), DIST- WARDHA, MAHARASHTRA- 442 202
MO-20	ADME OF JOURNEY OF DRUGS	SHRADHA L. GHAGRE*, SNEHAL HEDAU, SARIKA P. TEKADE, PAYAL S. THROAT, PRAVINA. G. BADSHE	P.R. PATIL INSTITUTE OF PHARMACY, TALEGAON (S.P.), DIST- WARDHA, MAHARASHTRA- 442 202
MO-21	CHEMICALS WASTE WATER PURIFICATION UNIT	PRATIK JADHAV*, HARSHDEEP PANDEY, SUYOG GHATOL	P.R. PATIL INSTITUTE OF PHARMACY, TALEGAON (S.P.), DIST- WARDHA, MAHARASHTRA- 442 202
MO-22	JOURNEY FROM MOLECULE TO DRUG	ADITYA V. CHAUDHARI*, YASHASVI D. MURARKAR, SEJAL S. GAIKWAD	P.R. PATIL INSTITUTE OF PHARMACY, TALEGAON (S.P.), DIST- WARDHA, MAHARASHTRA- 442 202

CODE	TITLE	NAME OF RESEARCHERS	INSTITUTE
MO-23	REPRESENTATION OF HUMAN EYE AND ITS WORKING	SAMIKSHA K. MANOHARE*, VANSHIKA B. KOHALE, VAIDEHI R. BAWANKULE	P.R. PATIL INSTITUTE OF PHARMACY, TALEGAON (S.P.), DIST- WARDHA, MAHARASHTRA- 442 202
MO-24	SOLAR DISTILLATION: A STEP TOWARDS SUSTAINABLE DEVELOPMENT	DHANSHRI ULHE*, KRUTIKA PATRE, MANSI THAKRE	P.R. PATIL INSTITUTE OF PHARMACY, TALEGAON (S.P.), DIST- WARDHA, MAHARASHTRA- 442 202
MO-25	NUCLEAR POWER PLANTS MODEL	GAYATRI DUKARE*, LAVANNYA FATING, MOHIT RITHE	P.R. PATIL INSTITUTE OF PHARMACY, TALEGAON (S.P.), DIST- WARDHA, MAHARASHTRA- 442 202
MO-26	FOOT-STEP POWER GENERATION	KSHITIJ DHAMANKAR*, NILESH LADVIKAR, VEDANT KALE	P.R. PATIL INSTITUTE OF PHARMACY, TALEGAON (S.P.), DIST- WARDHA, MAHARASHTRA- 442 202
MO-27	PHARMACEUTICAL MACHINES: PILLARS OF PRECISION IN DRUG MANUFACTURING	SANIKA SAWANT*, APURVA PATIL, KHUSHI SURYAVANSHI, PRATIKSHA GHATOL	P.R. PATIL INSTITUTE OF PHARMACY, TALEGAON (S.P.), DIST- WARDHA, MAHARASHTRA- 442 202
MO-28	ECO-FRIENDLY MENSTRUAL HYGIENE: EXPLORING THE POTENTIAL OF BANANA FIBER IN SANITARY PAD	ANKIT PRAFULL KINGE	DR. RAJENDRA GODE COLLEGE OF PHARMACY, AMRAVATI, MAHARASHTRA, INDIA – 444602

(MO-01)/ORGAN-ON-A-CHIP MODEL FOR DRUG TESTING

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Summary:

Introduction: Drug discovery and biomedical research rely heavily on traditional methods such as animal testing and 2D cell cultures, which often fail to accurately replicate human physiology. Organ-on-a-Chip (OOC) technology is an innovative approach that integrates microfluidic engineering and cell biology to mimic the structural and functional properties of human organs. These devices provide a controlled microenvironment where cells can interact dynamically, allowing researchers to study drug efficacy, toxicity, and disease mechanisms in a way that is more predictive of real human responses. This project aims to develop a functional model of an Organ-on-a-Chip that demonstrates how microfluidic technology can simulate blood flow, nutrient exchange, and drug interactions in a lab setting. This model serves as a visual representation of how OOC can revolutionize pharmacological research, reducing the dependency on animal testing and conventional in vitro methods. Conclusion: This Organ-on-a-Chip model effectively simulates a real human organ's microenvironment, demonstrating how fluid flow, cell interactions, and drug absorption occur in a laboratory setting. The use of microfluidics in pharmaceutical research bridges the gap between conventional testing methods and real human physiology, making drug development more efficient, cost-effective, and ethical. By presenting this model, we aim to raise awareness about the potential of Organ-on-a-Chip technology in modern healthcare, paving the way for personalized medicine, safer drug formulations, and faster clinical translations.

Keywords: Drug discovery, toxicity, model, drug testing

(MO-02)/REFLUX AQUA TECHNO: A WATER-SAVING REFLUX MODEL FOR PHARMACEUTICAL SYNTHESIS

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Summary:

Introduction: Water consumption possess a significant challenge in pharmaceutical manufacturing, as traditional reflux synthesis often results in substantial wastage. This method is time-consuming and requires considerable water, particularly in college laboratories that depend on continuous water flow for condensation. To address this issue, we propose “Reflux Aqua Techno” a water saving reflux model for

pharmaceutical synthesis that utilizes a carrier cooler box to reduce water wastage. Aim: To reduce water wastage in traditional reflux synthesis. Objectives: 1. Reduce water waste 2. Enhance sustainability 3. Improve process efficiency 4. Promote green chemistry.

Methodology: A reflux condenser is connected to a closed-loop system with a carrier cold box for temperature maintenance. A motor-driven circulation system ensures continuous cooling without water loss. Alternative Coolants – Investigates glycol-based or non-aqueous coolants for sustainability. Conclusion: Reflux Aqua Techno conserves water, reduces environmental impact, and supports global green chemistry initiatives.

Keywords: Water Saviour, pharmaceutical synthesis, sustainability, green chemistry, Motor driven circulation

(MO-03)/DEVELOPMENT OF PERSONALIZED 3D BIOPRINTED SCAFFOLDS FOR SPINAL CORD INJURY REPAIR

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Summary:

Three-dimensional (3D) bioprinting has emerged as a promising approach to fabricate living neural constructs with anatomically accurate complex geometries and spatial distributions of neural cells (NCs) for spinal cord injury (SCI) repair. This project focuses on the development of biomaterial-based scaffolds using extrusion-based 3D bioprinting for spinal cord injury (SCI) repair. The proposed project aims to design, fabricate, and optimize biocompatible, biodegradable, and bioactive scaffolds that can support neural regeneration by providing a favourable microenvironment for cell attachment, proliferation, and differentiation. The main aims is to develop personalized 3D bioprinted scaffolds for spinal cord injury repair, utilizing an polymeric hybrid hydrogel system for enhanced neuroprotection and regeneration. The research integrates biomaterials engineering with regenerative medicine, offering a scalable therapeutic approach. Expected outcomes include optimized bioinks, biodegradable scaffolds with tailored properties, and validation of neuroprotective effects.

Keywords: 3D bioprinting, biomaterials, spinal cord injury, regenerative medicine, scaffolds

(MO-04)/EXPLORE THE ALIMENTARY CANAL: A MODEL OF THE DIGESTIVE SYSTEM

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Summary:

The digestive system, a marvel of biological engineering, orchestrates the complex breakdown and absorption of nutrients essential for life. This intricate network, spanning from the oral cavity to the rectum, employs a combination of mechanical and chemical processes. Initially, mastication and salivary enzymes initiate carbohydrate digestion in the mouth. The bolus then travels through the esophagus to the stomach, where gastric acids and enzymes denature proteins and create chyme. In the small intestine, pancreatic enzymes, bile, and intestinal secretions further degrade macromolecules into absorbable units. Microvilli and villi maximize surface area, facilitating nutrient uptake into the bloodstream. The large intestine primarily reabsorbs water and electrolytes, solidifying waste into feces. Microbial fermentation within the colon also yields valuable byproducts. Finally, the rectum stores waste until elimination. This finely tuned system, regulated by neural and hormonal signals, ensures efficient nutrient acquisition and waste removal, highlighting its critical role in maintaining homeostasis.

Keywords: orchestrates, spanning, mastication, microvilli, electrolytes, homeostasis

(MO-05)/**PROCESS OF MANUFACTURING OF MEDICINE**

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Summary:

The manufacturing of medicine is a highly regulated, multi-step process ensuring safety, efficacy, and quality. It involves several key stages: drug discovery, formulation, production, quality control, and packaging.1. Drug Discovery & Development: Scientists identify potential active pharmaceutical ingredients (APIs) through extensive research and clinical trials. 2. Formulation & Preclinical Testing: The API is combined with excipients to create a stable and effective dosage form (tablet, capsule, injection, etc.). 3. Manufacturing Process: Large-scale production occurs in pharmaceutical plants, following Good Manufacturing Practices (GMP). Techniques like granulation, tablet compression, encapsulation, and sterilization ensure consistency. 4. Quality Control & Assurance: Each batch undergoes strict testing for purity, potency, and stability to meet regulatory standards set by agencies like the FDA or WHO. 5. Packaging & Distribution: Medicines are packaged in blister packs, vials, or bottles, labeled with essential information, and transported under controlled conditions. This model showcases how medicines transition from research labs to pharmacies, ensuring they are safe and effective for patient use.

Keywords: APIs, GMP, quality control and assurance, packaging & distribution

(MO-06)/THE CARBON PURIFICATION MODEL FOR EFFICIENT CO2 CAPTURE AND UTILIZATION

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Summary:

The increasing levels of atmospheric carbon dioxide (CO2) pose a significant threat to global climate stability. This study represents a novel carbon purification model designed to efficiently capture and utilise CO2 from various sources. Our model integrates advanced technologies including membrane separation chemical absorption and catalytic conversion to achieve high purity CO2 (>99%) with minimum energy consumption. The proposed system can be tailor for various applications including industrial process power plants and direct air capture. Our result demonstrates the potential of this model to significantly reduce greenhouse gas emission while generating valuable chemicals and fuels the innovative approach offers a promising solution for mitigating climate change and promoting a sustainable future. “Carbon purification industrial settings” would primarily focus on the application of activated carbon to remove contaminants from industrial liquids and gases through the process of adsorption. The chemical absorbent such as amine-based solvents diethanolamine and methyl diethanolamine are commonly use in industries.

Keywords: Carbon capture and utilization, CO_2 purification, chemical absorption, catalytic conversion, climate change mitigation

(MO-07)/THE NEURON: A MODEL OF LIFE

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Summary:

The neuron is the fundamental unit of the nervous system, responsible for transmitting electrical and chemical signals throughout the body. The neuron model provides a framework for understanding how these cells function in processing and communicating information. A typical neuron consists of three main parts: the dendrites, which receive signals; the cell body (soma), which processes information; and the axon, which transmits signals to other neurons or effectors. At the axon terminals, neurotransmitters

facilitate communication across synapses. The Hodgkin-Huxley model mathematically describes how action potentials propagate along the axon through ion exchange. Alternatively, the Leaky Integrate-and-Fire model simplifies neuronal behavior, emphasizing the threshold-based firing mechanism. Artificial neural networks (ANNs), inspired by biological neurons, simulate information processing in artificial intelligence. Neural models help explain brain functions, learning mechanisms, and disorders like epilepsy or Alzheimer's. Understanding neuronal dynamics is crucial for developing treatments for neurological diseases and advancing technologies like brain-computer interfaces. Ongoing research in neuroscience and computational modeling continues to refine our knowledge of neuronal behavior, bridging the gap between biology and artificial intelligence.

Keywords: Transmitting, dendrites, soma, leaky integrate-and-fire, Hodgkin-Huxley model

(MO-08)/**THE LUNG: A DYNAMIC INTERFACE OF LIFE**

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Summary:

The lung, a marvel of biological engineering, serves as the critical interface between the atmospheric environment and the circulatory system, facilitating vital gas exchange. Its intricate architecture, from the branching airways to the delicate alveoli, maximizes surface area for efficient oxygen uptake and carbon dioxide elimination. This abstract explores the lung's multifaceted role beyond respiration, encompassing immune surveillance, metabolic functions, and even influencing systemic homeostasis. We delve into the complex interplay of cellular components, including epithelial cells, macrophages, and fibroblasts, and their dynamic responses to environmental stressors and pathogens. Furthermore, we examine the lung's susceptibility to a range of diseases, from inflammatory conditions like asthma and COPD to devastating malignancies like lung cancer. By understanding the lung's intricate physiology and pathophysiology, we can develop innovative diagnostic and therapeutic strategies to combat respiratory diseases and enhance overall health. This model competition aims to highlight the lung's complexity and inspire advancements in respiratory medicine.

Keywords: Biological engineering, architect, homeostasis, COPD

(MO-09)/**MOBILE HOLOGRAM PROJECTOR: A REVOLUTION IN VISUAL DISPLAY**

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Summary:

The advancement of display technology has led to an era where holography is no longer a concept of science fiction but a reality. Our project focuses on developing a mobile hologram projector, a simple yet innovative visual display system that transforms 2D content into an interactive 3D hologram without requiring expensive setups or additional power sources. The project is based on the principle of Pepper's Ghost Illusion, where a specially designed transparent structure reflects light at a precise angle, creating the illusion of a floating 3D projection. By carefully positioning a pyramidal transparent sheet, we enable mobile screens to project immersive holographic visuals that appear to float in mid-air. This technique offers significant advantages in education, entertainment, marketing, and medical visualization, allowing users to experience interactive 3D models without specialized hardware. The system is cost-effective, user-friendly, and easily adaptable, making it a practical solution for real-world applications. Despite its simplicity, challenges such as image clarity, viewing angles, and display resolution need to be optimized for better results. Further research and advancements in material selection and image rendering techniques will enhance the realism and functionality of holographic projections.

Keywords: Holography, 3D projection, pepper's ghost illusion, mobile hologram, visual display, interactive technology

(MO-10)/**DISTILLATION OF WATER**

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Summary:

Water distillation is a purification process that removes impurities, contaminants, and dissolved solids by utilizing phase changes. The process involves heating water to generate steam, which is then condensed back into liquid form, leaving behind non-volatile substances such as salts, heavy metals, and microorganisms. Simple distillation, fractional distillation, and solar distillation are common methods used for water purification in households, laboratories and industrial settings. Distilled water is widely used in medical, pharmaceutical, and food industries due to its high purity. Advances in distillation technology, including energy-efficient and solar powered systems, contribute to sustainable and cost-effective water purification solutions.

Keywords: Distillation, water, household, energy-efficient

(MO-11)/THE SCIENCE AND TECHNOLOGY BEHIND INDUSTRIAL CARBON PURIFICATION

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Summary:

Industries play a crucial role in economic growth, but they also contribute significantly to environmental pollution, particularly through carbon emissions. This project introduces a practical and eco-friendly solution for carbon purification, offering a cost-effective and adaptable method that can be integrated into various industrial processes. At the core of this project are efficient carbon purification techniques designed to reduce harmful pollutants before they are released into the atmosphere. Unlike traditional emission control methods, which can be expensive and require complex infrastructure, this approach is affordable, easy to maintain, and highly adaptable across different industrial sectors. The system utilizes advanced filtration, adsorption, and catalytic conversion technologies to capture and neutralize carbon-based pollutants, ensuring cleaner air and a healthier environment. One of the key advantages of this method is its low operational cost compared to conventional purification systems. The materials and techniques used are selected for durability and efficiency, minimizing the need for frequent maintenance and reducing longterm industrial expenses. Additionally, the system is highly flexible, allowing customization to suit various industrial setups, from manufacturing plants to power stations. By implementing this purification system, industries can significantly lower their carbon footprint, helping combat climate change while complying with stringent environmental regulations. This project not only highlights the importance of sustainable industrial practices but also demonstrates how simple yet impactful solutions can drive meaningful environmental change.

Keywords: Carbon purification, industrial emissions, air pollution control, emission reduction, eco-friendly purification

(MO-12)/REAL -TIME SLEEP DETECTION FOR DRIVER USING EYE BLINK SENSOR

JANVI WATSAR

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Summary:

This system is designed to prevent accidents caused by driver drowsiness by monitoring eye movements. It use in an infrared (IR) sensor or detect abnormal blinking patterns, such as prolonged eye closure, which

indicates fatigue. How It Works: 1. Eye Tracking: The sensor continuously monitors whether the driver's eyes are open or closed. 2. Data Processing: A microcontroller (Arduino, Raspberry Pi, or ESP32) processes the sensor data. 3. Alert Activation: If the eyes remain closed beyond a set threshold, the system triggers an alarm.Alert Mechanisms: Buzzer/Speaker: Emits a loud sound. Vibrating Motor: Provides tactile feedback via the steering wheel or seat. Flashing LED Lights: Serves as a visual warning. Components Used: IR Eye-Blink Sensor Microcontroller (Arduino, Raspberry Pi, ESP32) Buzzer, LED Lights, Vibration Motor Power Supply (Battery/Car Adapter) Conclusion: This cost-effective and easy-to-implement system enhances road safety by reducing drowsy driving risks. It can be integrated into modern vehicles as part of advanced driver assistance systems (ADAS).

Keywords: Real time, processor, infra red, eye-blink

(MO-13)/**CRISPR-BASED CANCER TREATMENT MODEL**

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Summary:

Introduction: CRISPR (Clustered Regularly Interspaced Short Palindromic Repeats) is a revolutionary gene-editing tool with immense potential in cancer treatment. By precisely
modifying genetic sequences, CRISPR-Cas9 offers targeted approaches to disable oncogenes, repair tumor-suppressor genes, and enhance immunotherapy. This model demonstrates how CRISPR can transform cancer treatment through precision medicine. Aim: To demonstrate the mechanism and potential applications of CRISPR-cas9 gene editing technology in precise genetic modifications, disease treatment and advancements in biotechnology. Methodology: Our model visually represents CRISPR's action in cancer treatment, featuring. 1. Gene Knockout: Disabling mutated oncogenes to stop cancer progression. 2. Gene Editing: Repairing defective tumor-suppressor genes. 3. Immunotherapy Enhancement: Engineering T-cells for improved cancer targeting. 4. Targeting Drug Resistance: Modifying resistance-causing genes. Results: The model effectively demonstrates how CRISPR-Cas9 edits genes with precision, highlighting its applications in disease treatment, biotechnology, and cancer therapy. It also presents potential risks like off-target effects. Conclusion: CRISPR is a groundbreaking gene-editing tool with immense potential in medicine and science. While it offers promising solutions for genetic disorders and
cancer treatment, ethical and safety concerns must be addressed for its responsible use
in the future.

Keywords: CRISPR, Cas9, gene editing, cancer therapy, oncogenes, tumor suppressor

genes, precision medicine

(MO-14)/ANY TIME MEDICINE (ATM) VENDING MACHINE FOR MEDICINE SELF-DISPENSING

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Summary:

Introduction: Medicines are a very important aspect for the overall well-being of a person. They are essential in maintaining health, preventing illness, managing chronic conditions and curing disease. But the existing social status have caused a lot of health inequalities. This project helps in providing medicines for common health issues as well as for first aid. It displays the medicines present so that the user can select the medicines according to their requirement. The major advantage of this vending machine is that it can be implemented in public places such as Malls, National Highways, Railway Stations, Bus Stand and many other places providing access any time 24/7. This venture comprises of a processor which controls the other sub frameworks such as RFID, GSM, pharmaceutical allocator, and stock control. Aim: The proposed system will be beneficial in saving life in rural areas, remote areas where medical stores remain unavailable in cases of emergency. Methodology: The methodology involves several key steps, ensuring efficient, authenticated, and error-free medicine dispensing Step-by-Step Methodology 1.Prescription Input & Verification: If required, the user scans a prescription QR code, barcode, or manually enters the prescription number. 2. User Authentication To ensure safe dispensing, the system requires authentication via: Biometric verification, One-Time Password (OTP), Health Card/Insurance Card. 3. Payment Processing If payment is required, users can pay via: Credit/Debit Card or UPI. 4. Automated Dispensing Mechanism. This system ensures convenience, accessibility, and security for medicine distribution, especially in rural and high-demand areas. Conclusion: Any Time Medicine Vending Machine has been executed on Arduino Mega 2560. The main intent of this project is to make medicine accessible to all people irrespective of their locations. Significant bit of leeway is that individuals would have the option to get to the medications by means of this proposed system in open places, for examples shopping centers, railroad stations, on parkways, territories where clinical store are constrained.

Keywords: Arduino Mega2560, RFID, LCD, keypad, database, gsm

(MO-15)/SCIENCE MODEL ON CARBON PURIFICATION FOR PETROCHEMICAL INDUSTRIES

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Summary:

Introduction: The continued warming of the planet resulting from anthropogenic CO emissions requires immediate action to meet climate change mitigation targets. The utilization of CO from waste streams and ambient air has attracted increasing attention as a powerful emission mitigation tool. To keep greenhouse gases at manageable levels, large decrease in CO2 emissions through separation and utilization will be required. Furthermore, carbon dioxide emission potential will become an important factor in technology selection when cost of carbon dioxide emissions is set to be included in the processing cost. CCU technology regards CO as a raw material and reduces CO emissions. However, purity and pressurization requirements in most CCU technologies are high. Flue gas that is emitted from industries and transportation requires advanced purification and pressurization, which limits the development and decreases the feasibility of CCU application. Ocessing cost. The reduction of greenhouse gas emissions is an ever-increasing challenge for production units and power plants in view of the global warming concerns. Aim : To developed and utilizing carbon purification models in petrochemicals industries. Methadology: Our model represent and used for the purification of carbon from petrochemicals industries. Enhance Purification Efficiency: Optimize the processes by which carbon materials (like activated carbon) remove contaminants from air, water, or other materials. Reduce Energy Consumption: By 43odelling the purification process, industries can minimize energy use, particularly in the regeneration of carbon adsorbents, making the process more sustainable. Minimize Waste and Maximize Reusability: These models help improve the regeneration process of carbon materials, making them reusable and reducing the environmental impact of discarded spent carbon materials.
Results : The model effectively used for air purification and also used in petrochemicals industries for carbon purification.

Keywords: Carbon Absorber, CCU technology

(MO-16)/USE OF NANOSTRUCTURED LIPID CARRIERS [NLCs] IN COSMECEUTCALS.

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Summary:

Nanostructured lipid carriers [NLCs] are novel drug delivery system that have gained huge significance in cosmeceuticals industry due to their qualities such as high drug loading capacity, improved stability

and increased skin penetration. NLCs has been found to be comparatively more efficient and effective than first generationvnanoparticles i.e. SLNs overcoming its drawbacks. These NLCs are solid lipid matrix mixed with a liquid lipid, resulting in a distinct structure allowing better drug entrapment and release characteristics . They have been employed as carriers in cosmeceuticals to improve transport and its performance on the targeted site. NLCs are advanced approach in Targeted Drug Delivery System, having characteristics like better penetration into skin, improved absorption and rapid onset of action including elimination of first pass metabolism. This review article will provide an overview of types of NLCs, its method of preparation, cosmeceuticals benefits on NLC, its current use in cosmetics, interaction with skin and factors affecting permeation of NLC through skin etc. Furthermore, its mechanism of action is also discussed.

Keywords: Nanostructured Lipid Carriers [NLCs], Solid Lipid Nanocarriers [SLN], targeted drug delivery, skin permeation, cosmeceutical benefits

(MO-17)/**FILTRATION FLASK**

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Summary:

A filtration flask, also known as a vacuum filtration flask or Büchner flask, is a laboratory glassware designed for efficient filtration using a vacuum. Made from thick-walled borosilicate glass, it is built to withstand pressure changes and features a sidearm for connecting to a vacuum pump. This flask is primarily used in laboratory settings to separate solids from liquids, making it essential in fields like microbiology, chemistry, and pharmaceutical research where precise filtration is needed. The vacuum filtration process significantly speeds up filtration, making it more efficient than traditional gravity filtration. The filtration flask works as follows: A Büchner funnel or similar filtration apparatus is placed on top of the flask, sealed airtight with a rubber stopper. Filter paper is inserted into the funnel, and the flask's sidearm is connected to a vacuum pump. When the vacuum is applied, a pressure difference forces the liquid through the filter paper, leaving solid particles behind. The filtered liquid (filtrate) collects in the flask, while the solids remain trapped on the paper. This process is faster and more effective than gravity filtration. Once filtration is complete, the vacuum is turned off, and the flask is cleaned for future use.

Keywords: Vacuum, filtrate, büchner funnel,side arm, filter paper

(MO-18)/**DRY SYRUP MANUFACTURING PROCESS**

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Summary:

Introduction : A dry syrup model is a reconstitutable oral liquid formulation where the drug is in dry powder or granule form and requires water before use. It consists of an active pharmaceutical ingredient (API), excipients like sweeteners and preservatives, and is designed for better stability, accurate dosing, and ease of administration, especially for children and elderly patients. The dry form extends shelf life, while reconstitution ensures proper drug dispersion before consumption. Aim: Enhance Stability Prevent Drug Degradation by Keeping It In Dry Form. Methodology: Methodology for Making Dry Syrup (Short Form) 1. Selection of API & Excipients – Choose the active drug and suitable excipients (sweeteners, preservatives, stabilizers). 2. Dry Mixing – Blend API with excipients to ensure uniformity. 3. Granulation (if needed) – Improve flow properties and stability. 4. Drying & Sieving – Remove moisture and achieve the desired particle size. 5. Packaging – Fill into moisture-proof bottles with proper labeling. Result: The dry syrup model provides a stable, effective, and easy-to-administer formulation. It ensures accurate dosing, extended shelf life, and improved patient compliance, especially for paediatric and geriatric patients. The formulation remains free from microbial contamination in dry form and shows uniform dispersion after reconstitution. Conclusion: The dry syrup model is a practical and efficient drug delivery system, offering better stability, convenience, and cost-effectiveness compared to liquid syrups. It enhances patient adherence while maintaining therapeutic effectiveness.

Keywords: Reconstitute, API, excipients, dispersion, stability

(MO-19)/**HEART FUNCTION: A STRUCTURED OVERVIEW**

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Summary:

Introduction: The heart is a vital muscular organ responsible for circulating blood, supplying oxygen and nutrients to tissues, and removing waste products. It functions through a coordinated sequence of electrical and mechanical events, ensuring continuous blood flow throughout the body. Aim: To understand the working mechanism of the heart, including its structure, function, and role in maintaining circulation and overall health. Methodology: The heart's function is analyzed by studying its anatomy, electrical conduction system, and blood flow dynamics. Key aspects include the role of heart chambers,

valves, blood vessels, and the cardiac cycle. The methodology involves understanding how electrical impulses regulate heartbeats and how blood is pumped efficiently. Objectives: 1. To study the structure of the heart and its chambers. 2. To understand the cardiac cycle and blood flow mechanism. 3. To explore the role of electrical impulses in heart regulation.4. To analyze the importance of heart valves in maintaining circulation. Results: The heart functions as an efficient pump, ensuring continuous circulation through a rhythmic cycle. Proper coordination of electrical signals and mechanical actions maintains life by delivering oxygen and nutrients while removing waste products.

Keywords: Heart, circulation, blood flow, cardiac cycle, atria, ventricles, valves, oxygenation, electrical impulses, sinoatrial (SA) node, contraction

(MO-20)/**ADME OF JOURNEY OF DRUGS**

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Summary:

Introduction: The pharmacokinetics of a drug is determined by the ADME process-Absorption, Distribution, Metabolism, and Excretion. These processes influence drug efficacy, bioavailability, and elimination, affecting therapeutic outcomes and potential toxicity. Understanding ADME is essential in drug development and clinical applications. Aim: To analyze the ADME characteristics of drugs and their role in determining pharmacokinetic behavior, therapeutic effectiveness, and safety profiles. Methodology: A literature review of pharmacokinetics was conducted, focusing on drug absorption mechanisms, tissue distribution patterns, metabolic pathways, and excretion routes. Studies on enzymatic metabolism and renal clearance were examined to understand drug elimination. Objectives: To evaluate how different routes of administration affect drug absorption.

To assess factors influencing drug distribution in the body. To analyze metabolic transformations, including enzyme-mediated biotransformation. To understand drug excretion mechanisms and their impact on drug half-life. Results: Drug absorption depends on solubility, pH, and membrane permeability. Distribution is influenced by plasma protein binding, tissue affinity, and blood flow. Metabolism occurs mainly in the liver via Phase I and Phase II reactions, altering drug activity. Excretion occurs primarily through the kidneys, affecting drug elimination rates. Conclusion: The ADME process is crucial for optimizing drug formulation and dosing strategies. A comprehensive understanding of pharmacokinetics enhances drug safety, minimizes side effects, and improves therapeutic efficacy.

Keywords: Pharmacokinetics, absorption, distribution, metabolism, excretion, drug bioavailability

(MO-21)/**CHEMICALS WASTE WATER PURIFICATION UNIT**

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Summary:

Introduction: Wastewater purification is the process of removing pollutants and contaminants from wastewater to produce clean water that can be safely reused or discharged into the environment. With the increasing global water crisis and growing concerns about environmental pollution, effective wastewater purification has become a critical necessity. The goal of wastewater purification is to remove pollutants, chemicals and contaminants from wastewater to produce a high-quality effluent that meets regulatory standards and is safe for reuse or discharge into the environment. Aim: To remove harmful chemical pollutants from wastewater through chemical reaction converting them less toxic or non-hazardous compound. Objectives:1. Remove pollutants and contaminants. 2. Protect public health. 3.Preserve the environment. Methodology: A) physical method: 1. Screening: remove large objects and debris. 2. Sedimentation: chlorine remove suspended solids that settle. 3. Filtration: remove remaining suspended solids. B) chemical methods: 1. Coagulation and flocculation: add chemicals to remove suspended solid.2. Disinfection: kill bacteria & other microorganism. 3. Ph adjustment: calcium hydroxide adjust to neutralize acidity or alkalinity. Results and conclusions: The chemical wastewater purification model effectively removes pollutants, adjusts pH, and reduces sludge production, producing treated water that meets regulatory standards.

Keywords: Sedimentation, chemical absorbent, precipitation, neutralization

(MO-22)/**JOURNEY FROM MOLECULE TO DRUG**

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Summary:

The transformation of a simple molecule into a life-saving drug is a complex and rigorous process that takes years of research and development. It begins with drug discovery, where potential molecules are identified through computational 47odelling, natural sources, or chemical synthesis. Promising candidates undergo preclinical testing in laboratories to assess their safety and efficacy. Next, the drug enters clinical trials, conducted in three phases to evaluate its effects on humans. If successful, the drug undergoes

regulatory review by authorities like the FDA or CDSCO before receiving approval for commercial production. Finally, post-marketing surveillance ensures long-term safety and effectiveness. This journey, though lengthy and expensive, is essential for bringing innovative and safe medicines to patients worldwide.

Keywords: Drug discovery, toxicity, pharmacokinetics (ADME), biological activity, clinical data, New Drug Application (NDA)

(MO-23)/**REPRESENTATION OF HUMAN EYE AND ITS WORKING**

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Summary:

The human eye is a complex organ responsible for vision, and understanding its intricate anatomy is essential for various fields, including medical education, ophthalmology, and computer graphics. A 3D human eye model provides a detailed and interactive representation of the eye's structure, enabling a deeper understanding of its components and functions. This model includes essential parts such as the cornea, iris, lens, retina, optic nerve, and associated blood vessels, accurately replicating their spatial relationships. By utilizing advanced 3D modeling techniques and rendering software, the model enhances visualization for students, researchers, and medical professionals. It can be integrated into virtual reality (VR) and augmented reality (AR) applications, offering an immersive learning experience. Additionally, it aids in biomedical simulations, surgical planning, and disease diagnosis by providing a realistic and manipulable representation of the eye.

Keywords: Cornea, iris, lens, retina, optic nerve, blood vessels

(MO-24)/**SOLAR DISTILLATION: A STEP TOWARDS SUSTAINABLE DEVELOPMENT**

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Summary:

Solar distillation is a process to use solar energy to purify water through evaporation and condensation. When solar energy is used to treat saline water, the process is termed as water desalination. The equipment used to undertake the distillation or desalination process with the help of solar energy is usually termed as solar still. Solar still comes in different designs though the operating principle is the same. In a simple

design of solar still, water is placed in an airtight basin having a sloped transparent cover normally made of glass or plastics. To maximize the absorption of solar energy, the basin is coated with a black lining. The incident solar radiation is transmitted through the glass cover and is absorbed as heat by the black surface in contact with the water to be distilled. The water is thus heated and gives off water vapor. The vapor condenses on the glass cover, which is at a lower temperature because it is in contact with the ambient air and runs down into a tray from where it is fed to a storage tank. The economic viability of solar still depends upon a number of factors including its design, construction material, local market conditions, and available solar resource.

Keywords: Solar distillation, Desalination, solar radiation, evaporation, condensation

(MO-25)/**NUCLEAR POWER PLANTS MODEL**

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Summary:

Introduction -Nuclear power plants generate electricity by harnessing the energy released from the splitting of atomic nuclei, a process known as nuclear fission. These plants provide a significant portion of the world's electricity, offering a reliable and efficient source of power. Aim-The aim of this nuclear power plant is to generate safe, reliable, and environmentally friendly electricity, while minimizing waste production and reducing greenhouse gas emissions, thereby contributing to a sustainable energy future. Methodology- Nuclear fission: A neutron collides with a uranium atom, causing it to split into two smaller atoms. This process also releases additional neutrons. Heat: The energy released from fission heats the reactor's coolant, usually water. Steam: The heated coolant is turned into steam. Turbines: The steam spins turbines. Electricity: The turbines activate an electric generator to produce electricity. Conclusion: Nuclear power plants generate electricity through a controlled nuclear fission reaction. The methodology involves fuel preparation, reactor operation, heat transfer, power conversion, and safety features to ensure reliable and safe electricity generation.

Keywords: Low operating cost, high energy density, reliability, zero greenhouse gas emissions

(MO-26)/**FOOT-STEP POWER GENERATION**

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Summary:

Introduction: we are generating electrical power Non-conventional method by simply walking or running on the foot step. The basic principle behind is piezoelectric effect Aim- Foot-step power generation. Objective – Generate electricity: Convert the energy from footfalls into electricity Store electricity: Store the electricity for later use. Use renewable energy: Use a renewable energy source to reduce reliance on conventional energy sources Reduce pollution: Reduce environmental pollution by using a renewable energy source. Provide electricity to rural areas: Provide electricity to areas that may not have access to conventional power. Use in public places: Use the electricity to power street lights, signs, and other public displays. Use in homes: Use the electricity to power small electronics and charge batteries. Methodology – Piezoelectric materials. When pressure is applied to piezoelectric materials, they generate electrical energy. 2. Spring mechanism. When pressure is applied to a plate, a spring pushes connecting a LED to generate electricity. Result – The pressure which is exerted into the metal plate of piezoelectric effect the 50roductionn of energy which converts mechanical energy into electrical energy by foot step. Discussion: A piezoelectric sensor measures the pressure applied by footsteps. A floor sensor collects the pressure. The pressure is converted into electrical energy. The electrical energy is stored and used as a power source.

Keywords: Non-conventional, electrical power, Generate electricity, Piezoelectric materials, production of energy

(MO-27)/**PHARMACEUTICAL MACHINES: PILLARS OF PRECISION IN DRUG MANUFACTURING**

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Summary:

Pharmaceutical manufacturing relies on a diverse range of machines that ensure precision, efficiency, and consistency in drug production. Among these, fundamental equipment like the ball mill and hammer mill play a crucial role in material processing, affecting drug formulation and bioavailability. These machines have stood the test of time, evolving alongside advancements in pharmaceutical sciences while retaining their significance in modern production. The ball mill, known for its ability to finely grind active pharmaceutical ingredients (APIs) and excipients, utilizes rotating cylindrical chambers filled with grinding media to achieve uniform particle size reduction. This is essential for improving solubility and dissolution rates, particularly in poorly water-soluble drugs. On the other hand, the hammer mill operates on impact force, shattering materials into fine powders through high-speed rotating hammers. This

method is widely used in granulation, tablet compression, and even waste material recycling. Despite being well-established, these machines continue to be integral to pharmaceutical advancements, as the industry demands more efficient, scalable, and sustainable manufacturing solutions. Modifications in their design, automation integration, and energy-efficient models are keeping them relevant in today's high-tech production facilities. Understanding the functionality, advantages, and applications of pharmaceutical machines like the ball mill and hammer mill is not just academic—it is essential for the next generation of pharmaceutical professionals. Their continued use and improvement reflect the industry's commitment to high-quality drug manufacturing, ensuring that patients receive safe and effective medications with optimal therapeutic outcomes.

Keywords: Pharmaceutical Machines, ball mill, hammer mill, drug manufacturing, particle size reduction, granulation.

(MO-28)/ECO-FRIENDLY MENSTRUAL HYGIENE: EXPLORING THE POTENTIAL OF BANANA FIBER IN SANITARY PAD

ANKIT PRAFULL KINGE

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Summary:

Menstrual hygiene is a critical aspect of women's health, and traditional sanitary pads have been the primary solution. However, these pads contribute significantly to plastic waste, harming the environment and human health. This study explores the development of eco-friendly sanitary pads made from banana fiber, providing a sustainable alternative for menstrual hygiene. The banana fiber sanitary pads are biodegradable, compostable, and exhibit high absorbency, making them a viable option for women and girls. The production process involves extracting banana fiber from banana plant waste, processing the fiber into yarn, and manufacturing the sanitary pad. The eco-friendly sanitary pads offer numerous benefits, including reduced plastic waste, promotion of healthy menstrual hygiene, and empowerment of women and girls. The study highlights the potential of banana fiber as a sustainable material for sanitary pad production and emphasizes the need for increased adoption of ecofriendly menstrual product. This innovation has the potential to transform the menstrual hygiene landscape, providing a sustainable, healthy, and empowering solution for women and girls worldwide.

Keywords: Sustainability, hygiene, ecofriendly, biodegradable, banana fiber

SUMMARIES

SCIENTIFIC PROJECTS

DETAILS OF SCIENTIFIC PROJECTS

CODE	TITLE	NAME OF RESEARCHERS	INSTITUTE
PR-01	DEVELOPMENT, OPTIMIZATION AND EVALUATION OF BLOCK COPOLYMER CONJUGATED MICELLES FOR TARGETED DELIVERY OF ANTICANCER AGENTS	SUCHITA WAGHMARE*, NILESH RAROKAR, PRAFULLA SABALE, PRAMOD KHEDEKAR	DEPARTMENT OF PHARMACEUTICAL SCIENCES, RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY, NAGPUR, MAHARASHTRA, INDIA-440033
PR-02	DESIGNING OF DERMAL PATCHES FOR CRACKED HEELS	ANANDI S. KADU*, ANISHKA R. THAKARE, ANJALI GIRHEPUNJE	P.R. PATIL INSTITUTE OF PHARMACY, TALEGAON (S.P.), DIST- WARDHA, MAHARASHTRA- 442 202
PR-03	FORMULATION OF BATHBOMB FOR SMOOTH MUSCLE RELAX	KRITIKA MESHRAM*, SHRUSHTI MAHUR	P.R. PATIL INSTITUTE OF PHARMACY, TALEGAON (S.P.), DIST- WARDHA, MAHARASHTRA- 442 202
PR-04	SANITARY NAPKINS FROM BANANA FIBRE AND BIODEGRADABLE PLASTIC	SAMIKSHA R. AMBULKAR*, VAIBHAVI N. SABALE	P.R. PATIL INSTITUTE OF PHARMACY, TALEGAON (S.P.), DIST- WARDHA, MAHARASHTRA- 442 202
PR-05	BLOOD CIRCULATORY SYSTEM	CHETAN H BHENDEKAR*, VEDANT DESHMUKH, ROHAN KENKAR	P.R.POTE PATIL COLLEGE OF PHARMACY, AMRAVATI

(PR-01)/DEVELOPMENT, OPTIMIZATION AND EVALUATION OF BLOCK COPOLYMER CONJUGATED MICELLES FOR TARGETED DELIVERY OF ANTICANCER AGENTS

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Summary:

Introduction- Cancer is leading cause of disease worldwide. Therefore, the future of targeted therapy for breast cancer appears bright in recent decades. JAK-STAT Pathway and CD44 cells showed important role in tumerogenesis. Nanotechnology offering multiple benefits for targeting drug at such site. Aim and Objectives: To develop, optimized and evaluate Hyaluronic acid-Pluronic F127 Conjugated Micelles for Targeted Delivery of Anticancer Agent.

Methodology- Copolymer conjugate was synthesized and characterized by UV, FTIR, DSC, XRD and NMR. Self-assembled micelles were prepared and optimized By using Box Behnkam design, optimized batch was obtained and Particle size, zeta potential, drug content, entrapment efficiency, in-vitro drug release studies, SEM and TEM analysis, stability, in-vivo pharmacokinetics, histopathology, cell line investigations (MTT Assay) and apoptosis were further assessed.

Result and Discussion- The Conjugated micelles showed particle size of 176.2 nm, zeta potential is 25mV, Drug content was 95%, more than 88.3% of drug entrapment, drug release study revealed that 96.45±1.01% drug release after 12 h. from optimized batch which consist of 150 mg of conjugated polymer and 50 mg of drug, SEM and TEM analysis confirms that Drug loaded Self assembled micelles has been formulated, Stability studies showed that formulation was stable over the period of 3 months. Histopathological studies indicate no toxicity of formulation to lungs, liver and kidneys were found. IC50 value for HA-PF127 Curcumin micelles was found to be 31.32±0.34µg/mL. Conclusion: Hence the Curcumin loaded HA-PF127 conjugated micelles acted as potential drug carrier for fulfilling the demand of targeted therapy for breast cancer.

Keywords: Conjugated polymer, breast cancer, JAK-STAT Pathway, targeted drug delivery

(PR-02)/DESIGNING OF DERMAL PATCHES FOR CRACKED HEELS

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Summary:

Cracked heels are a common dermatological issue caused by dryness, pressure and skin thickening leading to discomfort and potential infections. Dermal patches offer a promising way to treat cracked heels. These patches work by delivering moisturizing ingredients directly to the affected area, helping to soften and heal the skin. The patches create a controlled environment for skin regeneration, offering a convenient and effective solution for cracked heel treatment. Key design Consideration: Hydration: The patch needs to provide intense moisturization to soften the thick, dry skin of cracked heels. Ingredients like urea, lanolin, or hyaluronic acid can help draw moisture into the skin. Occlusion: The patch should create a barrier to prevent moisture loss, promoting healing. This can be achieved with materials like hydrogel or silicone. Adhesion: The patch needs to adhere well to the heel, even with movement. The adhesive should be gentle to avoid irritating the skin. Comfort: The patch should be comfortable to wear, especially since it will be in contact with the skin for extended periods.

Keywords: Cracked heels, patches, dryness, hydration

(PR-03)/FORMULATION OF BATHBOMB FOR SMOOTH MUSCLE RELAX

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Summary:

Bathbombs had origin back in the 1980s. when they were first introduced by Mo Constantine. Bathbombs are tablets that dissolve in bath water, releasing fragrances, colours, and moisturizing ingredients. They promote relaxation, skin care, and aromatherapy, and come in various types, including fizzy, creamy, and herbal. The moisturizing agent present in Bathbombs such as Shea butter or coconut oil can leave the skin feeling nourished , soft and rejuvenated. Ingredients: Sodium bicarbonate , Citric acid, Corn starch , Magnesium sulfate, Eucalyptus oil, Rose oil, Amaranth.

Keywords: Bathbomb , muscle relaxation , bathing , skin care and Sparking

(PR-04)/SANITARY NAPKINS FROM BANANA FIBRE AND BIODEGRADABLE PLASTIC

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Summary:

Sanitary napkins made from banana fiber and biodegradable plastic offer an eco-friendly alternative to conventional products, which often contribute to environmental pollution. Banana fibers, extracted from the pseudostems of banana plants, are biodegradable, sustainable, and strong. These fibers are naturally absorbent, making them a suitable material for the construction of sanitary napkins. The use of biodegradable plastics further enhances the product's environmental benefits by ensuring it breaks down over time, unlike traditional plastics that persist in landfills for centuries. These innovative sanitary napkins not only reduce the reliance on synthetic materials but also support agricultural waste utilization, as banana plant stems are typically discarded after fruit harvesting. By turning this agricultural waste into a valuable resource, the production of banana fiber-based sanitary napkins contributes to waste reduction and sustainability. The combination of banana fiber and biodegradable plastic in sanitary napkins addresses both environmental concerns and the need for affordable, high-performance menstrual hygiene products. These eco-friendly options hold the potential to revolutionize the menstrual care industry by reducing waste, minimizing environmental impact, and providing a sustainable solution for women across the globe. As research and development in this area advance, we can expect even more efficient, biodegradable alternatives to traditional products in the near future.

Keywords: Banana fiber, pseudostem, biodegradable, menstrual care, sustainable

(PR-05)/**BLOOD CIRCULATORY SYSTEM**

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Summary:

The circulatory system, also known as the cardiovascular system, is a complex network of organs and vessels that transport blood throughout the body. It plays a crucial role in delivering oxygen and nutrients to cells and removing waste products. The system consists of the heart, arteries, veins, and blood vessels, which work together to maintain blood flow and pressure. The circulatory system is essential for maintaining overall health and function.

Keywords:

Circulatory system, cardiovascular system, heart, arteries, veins, blood vessels

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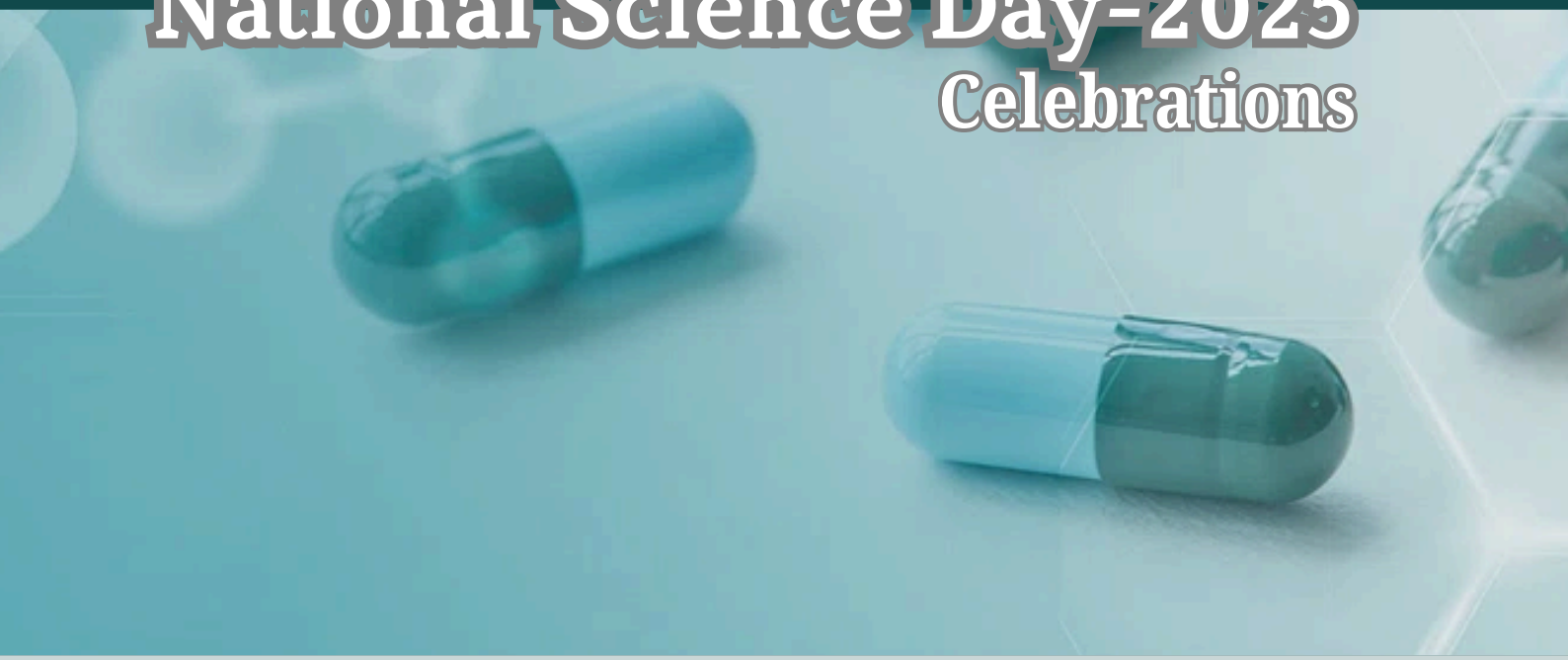

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