



PHARMA MONARCH

DEPARTMENT OF PHARMACEUTICS - NEWS LETTER



An Official Publication of

DEVAKI AMMA MEMORIAL COLLEGE OF PHARMACY

(Affiliated to Kerala University of Health Sciences, Thrissur and Approved by AICTE & PCI, New Delhi)

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INSTITUTION VISION

To be the ultimate destination for training, practice and research in pharmacy education to cater the health needs of the society.

INSTITUTION MISSION

To provide state-of-art infrastructure, research facilities with eminent faculties to disseminate advanced knowledge in pharmacy education through innovative teaching-learning process with human and ethical values.



FROM THE EDITOR'S DESK

A warm welcome to all the members and Readers!

On this with immense pleasure and honor, with lots of positivity and optimism, we bring this issue of "Pharma Monarch", in this New Year blossom.

"Every day brings a new opportunity to create your happy ending" and change being the necessity of human life always opens up newer chances, newer perspective and vigor.

But in present, as the global COVID-19 issues, an infection rates continuing to rise, and researchers around the world are racing to understand coronavirus and develop an effective vaccines. All major Pharma Industries have come together to help one another with sharing knowledge and resources, which an essential in fighting virus pandemic.

So walking with technological trends in today world is must and hence we have to keep a positive outlook towards creating such innovations against COVID-19, being a part of a noble profession.

Based on above fact, we committed to impart necessary skills and knowledge to our budding pharmacist in the best possible way to develop and enhance holistic personality for betterment of health care society against pandemic.

We are full of energy and enthusiasm to give the best positive opportunities to learn, thrive and become a force of nature! And by keeping same energy, we assure that we will trigger our success with new efforts.

And glad to inform you that, the details of department activities, events conducted and attended by our students, faculties and much more in this newsletter. And we have very informative articles on the importance of the *Navigating Medical and Treatment Developments for COVID - 19*.

Keep scrolling for insights of happenings and also to update your knowledge.

Hoping with new suggestions and progressive success.

Happy Reading!

Best Regards,
Prof. Dr. R. Nethaji,
Editor-in- Chief

IN THIS ISSUE ☞ Department Activities ☞ Pharma Articles

"We are working with our neighbors and friends from around the world to create the Network of Surveillance so that we can as quickly as possible determine when or if the VIRUS becomes rapidly transmittable between humans"~ Mike Leavitt



In the remembrance of
Shri. K.V. Sankaranarayanan
(01.01.1948 - 12.07.2013)
Founder, Devaki Amma Memorial Institutions

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DEPARTMENT ACTIVITIES

RESEARCH ACTIVITIES

Completed Research Projects

The Department has successfully completed the following research projects of PG and UG students recently and they are listed as follows:

| Project Title | Students Name | Guided by |
|---|---|-----------------------|
| Development and Evaluation of Mucoadhesive Tablet of Esomeprazole | Mr. Shakir Ali K.P. | Dr. R. Nethaji |
| Formulation and Characterizations of <i>Averrhoa Carambola</i> Fruit Extract Loaded Gel | Mr. Rashid Mon | Mr. P. Manikandan |
| Preparation and Characterization of Repaglinide Transdermal Patch | Mrs. Farseena | Mr. P. Manikandan |
| Formulation Development and Characterization of Floating Tablets using <i>Mentha Piperita</i> Extract | Ms. Aiswarya M | Dr. R. Nethaji |
| Formulation and Evaluation of Phytosomal Extract of <i>Psidium Guajava</i> Leaves for Anti-bacterial Activity | Mrs. Anju T | Mrs. S. Sudha |
| Development and Evaluation of Polyherbal Formulation with Anti-bacterial Properties | Ms. Gayathri C.P. | Mrs. S. Sudha |
| Design and Characterization of Antibiotic Emulgel for Topical Drug Delivery | Mrs. Harishma C.M. | Dr. R. Nethaji |
| Formulation and Evaluation of <i>Asparagus Racemosus</i> Extract Loaded Microballoons for Gastro-Retentive Delivery | Mrs. Shruthi N.K. | Dr. R. Nethaji |
| Transdermal Drug Delivery Systems- A Review | Mr. Ashwin C Ms. Nitha Parveen Ms. Saranya C.K. Ms. Unnimaya M.P. | Mrs. Anjali Narayanan |
| Bacterial Cellulose - The Natural Power To Heal Wounds : A Review | Ms. Anagha Vijayan K.M. Ms. Rashida P Ms. Sruthi S Mr. Mohamed Fayis V | Mrs. Binjusha E |

Ongoing Research Projects

The department is inspired by identifying future needs of resources to be felt by fast developing academics and scientific research in the area of Pharmaceutics. The following research title in the pipeline:

| Project Title | Students Name | Guide by |
|---|---------------------|----------------|
| Formulation and Evaluation of Neem Seed Oil Suppositories Adapting Novel Bases. | Ms. Akshaya P | Dr. R. Nethaji |
| Formulation Development and Evaluation of Herbal Floating Tablets using Natural Mucilage. | Ms. Anjima K.K. | Dr. R. Nethaji |
| Development and Evaluation of Herbal Cream for Anti-inflammatory activity. | Ms. Anusha P | Mrs. S. Sudha |
| Development and Evaluation of Polyherbal Formulation for Insect Bite. | Mr. Hari Krishnan N | Mr. Vimal K.R. |

"Research is to see what everybody else has seen, and to think what nobody else has thought." ~ Albert Szent-Gyorgyi

| Project Title | Students Name | Guide by |
|--|-------------------------|----------------|
| Novel Approach of Herbal Microsponges: Design, Formulation and Characterization. | Ms. Lakshmi K.U. | Dr. R. Nethaji |
| Organic Mosquito Repellent Formulations Development, Evaluation and Comparative Study with the Marketed Formulations. | Mr. Mohammed Hasif M.P. | Mr. Vimal K.R. |
| Development and Evaluation of Herbal Ethosomal Formulation for the Treatment of Acne. | Mrs. Noosila M.K. | Mrs. S. Sudha |
| Preparation and Evaluation of Antibiotic nano-fibrous scaffold by Electrospinning technique for skin tissue regeneration in wound. | Mr. Vivek M.C. | Mrs. S. Sudha |

RESEARCH PUBLICATIONS

The faculties and students are encouraged to involve in the research activities. They too involved in research and carried out various activities, which are evidenced by their paper publications and communication in reputed international journals.

Dr. R. Nethaji *et al.*

Formulation and Evaluation of Mucoadhesive Tablet of Pantoprazole Sodium. *International Journal of Recent Scientific Research*, Vol. 11, Issue, 08 (D), August 2020, 39610-39618.

Formulation and Evaluation of Herbal Gel Containing *Averrhoa Carambola* Linn Fruit Extract, *Asian Journal of Pharmaceutical and Health Sciences*. April - June 2019, Vol.9: Issue 2, 2084-2093.

Preparation and Characterization of Nanoparticles containing Cefuroxime Axetil. *Saudi Journal of Medical and Pharmaceutical Sciences*. (Communicated).

Development and Evaluation of Mucoadhesive Tablets of Esomeprazole. *International Journal of Pharmaceutical Science Review and Research* (Communicated).

P. Anusha *et al.*

Pulmonary Nano-Drug Delivery Systems for Lung Cancer. *International Journal of Pharmacy and Pharmaceutical Research*, Vol.18, Issue.4, July 2020, 723-736.

M.K. Noosila *et al.*

Filtration Efficiency of Different Material of Masks. *International Journal of Pharmacy and Pharmaceutical Research*, Vol.18, Issue.4, July 2020, 755-754.

K.U. Lakshmi *et al.*

Targeted Drug Delivery System: In Tumour. *International Journal of Pharmacy and Pharmaceutical Research*, Vol.19, Issue.1, August 2020, 28-41.

P. Akshaya *et al.*

Liposomal Gene Delivery Systems for Lung Cancer. *International Journal of Pharmacy and Pharmaceutical Research*, Vol.19, Issue.1, August 2020, 42-52.

CONFERENCES PARTICIPATION & PRESENTATION

Our teaching faculties and M. Pharm students were sponsored to take part as delegates in various National and International conferences to update the current trends and developments in the field of their specialization. It is evidenced by their participation as given below:

Post Graduate students have actively participated in the Two days International Conference on "Recent Trends in Nano Biogovernance" organized by All India Council for Technical Education and conducted by Al-Shifa College of Pharmacy, Perinthalmanna, Kerala, held on 27th & 28th September 2019.





International Conference Participation - Nano Biogovernance

Mrs. Anjali Narayanan, Asst. Professor, has participated in the National Seminar on "New insights in Pharmacogenomics & Recent Advances in Computer Aided Drug Design", Organized by JDT College of Pharmacy, Kozhikode, held on 16th November 2019.

Our Post Graduate students, have participated in the One Day National Seminar on "Recent Trends in Drug Research and Development", organized and conducted by Nehru College of Pharmacy, Thrissur, held on 22nd November 2019.



PG Students - Seminar Participation (Pharmacon - XI -2019)

Our students have successfully presented their research works at Disso Research Presentation India (DRPI) 2020 online, conducted by Society for Pharmaceutical Dissolution Sciences (SPDS) in collaboration with APTI, held on 27th May 2020. It's evidenced by our students are presented their work are as follows:

| Students Name | Research Presented |
|------------------|--|
| Ms. Aiswarya M | Formulation Development and Characterization of Floating Tablets using <i>MenthaPiperita</i> Extract |
| Ms. Gayathri C P | Development and Evaluation of Polyherbal Formulation with Anti-bacterial Properties |

APPRECIATION AWARD

Dr. R. Nethaji, Professor & Head, invited as a Speaker and delivered an effective research work entitled "Formulation and Evaluation of Mucoadhesive Tablets of Pantoprazole Sodium" and has got appreciation award in the World Congress on Pharmacology - 2019, "Drug Discovery and Development", Organized by BioGenesis Health Cluster, held on 28th & 29th August 2019, at J.N. Tata Auditorium, Indian Institute of Science, Bangaluru, Karnataka. He has chaired two scientific sessions. The presented research work was well appreciated by Guests and delegates who gave a proud memorable moment to our Department.

The one thing I regret was that my work required an enormous amount of my time, and a lot of travel." ~ Neil Armstrong





Research Paper Presentation



Appreciation Award



Virtual Awardee

Dr. R. Nethaji, have also been received **ICONIC EDUCATIONIST AWARD**, a National Virtual Award, for the most Promising Educational Development and Research Services, which was organized by Glorious Organization for Accelerated Literacy, New Delhi, scheduled on 27th December 2020.

FACULTY ACHIEVEMENTS

Dr. R. Nethaji, has e-Presented the published article entitled on "Drug Utilization Evaluation of Antiepileptic Drugs in a Tertiary Care Hospital", in International Journal of Science and Research (IJSR), Paper ID: ART20173857, are available online at: https://www.ijsr.net/get_abstract.php?paper_id=ART20173857 and also available direct link to the video is: <https://youtu.be/uDXEEDrui4>.

Our Department Congratulate, **Mr. Vimal K.R.**, Assistant Professor, who has been successfully completed his public viva voce exam of Degree of Doctor of Philosophy in Pharmacy for his thesis entitled "Preparation and Evaluation of Dutasteride Niosomal and Proniosomal Gel for Treating Androgenic Alopecia", from Sri Sathya Sai University of Technology and Medical Sciences, Madhya Pradesh. He has over 8 years of teaching and research experiences and has published more than 7 research articles in various peer reviewed national and international journals.



**Article e-Presentation
by Dr. R. Nethaji**



**Online Mode Viva Voce
by Mr. Vimal KR**

MEMBERSHIP IN EDITORIAL BOARDS

Dr. R. Nethaji, has been appointed as Editorial Board Member and Editor-in-Chief in the following reputed International Journals:

- World Journal of Pharmaceutical Research.
- Journal of Bio Innovation.
- EJ-PHARMA-European Journal of Pharmaceutical Research, Belgium.
- European Journal of Pharmaceutical and Medical Research.
- Editor-in-Chief for Seventh Sense Research Group (SSRG)-International Journal of Pharmacy and Biomedical Engineering (IJPBE).

"Research is creating new knowledge" ~ Neil Armstrong

WEBINAR CONDUCTED

In order to develop a holistic personality of students, we greatly stress on developing skills and confidence of the students for Pharmacy field. Due to Covid - 19 pandemic issue and extended lockdown, Pharmaceutics Department have arranged online webinar on *"A Brief insight into The Pharmaceutical Industry and Changing Trends Due to Covid-19"*, which was presented by **Mr. Vyshak P**, Quality Assurance Executive, Sance Laboratories, Kottayam, Kerala, on 11th May 2020. He has delivered the topic entitled, *"Basic concepts of Pharma industry and its departments, Role & responsibilities of Pharma graduates"* etc. He has also focused on impact of Covid-19 in the Pharmaceutical Industry.



**High Profile talks
(11th May 2020)**



**International Webinar
(28th May 2020)**

We have arranged an online International webinar session on *"How to Pursue A Scientific Research Career?"*, presented by **Dr. Arjun Bhaskaran**, Post-Doctoral Fellow, Department of Pharmacology & Therapeutics, Faculty of Medicine, McGill University, Montreal, Canada, on 28th May 2020. He was presented a short overview of how different factors contributing to phenotypes affecting the neuronal network and cellular excitability in Fragile X Syndrome. He also shared his views on scientific research career and its importance in current era. Overall in both sessions, 100 delegates were actively participated and both events were co-ordinated by our department faculties.

NEWFACE

Pharmaceutics Department is pleased to introduce our new faculties.

Ms. Devi Sneha M, has joined as Lecturer on 11th January 2021. She has completed her B.Pharm, from College of Pharmaceutical Sciences, Government Medical College & M.Pharm (Pharmaceutics) from National College of Pharmacy, Kozhikode, Kerala. Her research interests include Nanoparticles drug delivery, Brain targeting, and modernized novel drug delivery systems.



Ms. Navya Krishna V.P, has joined as Lecturer on 11th January 2021. She has completed her B.Pharm & M.Pharm (Pharmaceutics), from Srinivas College of Pharmacy, Mangalore, Karnataka. Her research interests include Nanoparticles Formulations, Gastro intestinal drug delivery systems and Modernized Novel drug delivery systems.



PHARMA ARTICLES

NAVIGATING MEDICAL & TREATMENT DEVELOPMENTS FOR COVID-19

Ms. Devi Sneha M & Ms. Navya Krishna VP, Lecturer, Department of Pharmaceutics

The COVID-19 treatment Hub provides physicians, patients, and caregivers with information about the latest research in the fight against pandemic disease. Many companies are currently developing new therapies and vaccines for coronavirus and/or evaluating how drugs that are currently available may treat the symptoms of COVID-19. While there are no drugs, therapeutics, or vaccines yet approved to specifically treat, cure, or prevent COVID-19, there are options - from enrolling in clinical trials to requesting access to investigational products being tested by biopharmaceutical companies.

Clinical trials are necessary to gain regulatory approvals so new treatments are broadly available to patients as quickly as possible. Expanded access, which can provide access to investigational therapies when a patient does not qualify for a clinical trial, is sometimes available as well but must not interfere with clinical trials as it could delay availability of the approved treatment to the wider public.

Anti-Malaria & Other Anti-viral Drugs

Some approved medications are being studied to treat COVID-19 and are being made available under special circumstances. For example, chloroquine and hydroxychloroquine, drugs already approved for treating malaria and other conditions, are being tested to determine whether these can be used to treat patients with COVID-19. In April, FDA issued a Drug Safety Communication cautioning against the use of hydroxychloroquine or chloroquine for COVID-19 outside of the hospital setting or a clinical trial due to risk of heart rhythm problems. On May 1, FDA issued an Emergency Use Authorization to allow remdesivir to be used for certain patients with severe COVID-19.

Investigational COVID-19 Convalescent Plasma & Hyperimmune Globulin

One investigational treatment being explored for COVID-19 involves the use of convalescent plasma collected from recovered COVID-19 patients. It is possible convalescent plasma that contains antibodies to SARS-CoV-2 might be effective against the infection. FDA is facilitating expanded access to COVID-19 convalescent plasma for use in patients with serious or immediately life-threatening COVID-19 infections. The initial effort focused on emergency Investigational New Drug Applications (eINDs) for individual patients under 21 CFR 312.310. FDA is also helping to facilitate a collaborative effort with industry, academic, and government partners to implement a protocol for the use of convalescent plasma for patients in need across the country who may not have access to institutions with clinical trials in place. This does not include the use of COVID-19 convalescent plasma for the prevention of infection. FDA is also working with industry and government partners to accelerate the development and availability of hyperimmune globulin for investigation for the potential treatment COVID-19. Hyperimmune globulin is a biological product manufactured from convalescent plasma. The FDA is helping to coordinate a study of hyperimmune globulin that will be conducted by the National Institute of Allergy and Infectious Diseases of the National Institutes of Health, as well as coordinating other efforts in this area. The COVAX facility is the global procurement mechanism and there are currently more than 50 COVID-19 vaccines in trials and some vaccines are approved by the government.

Medical Devices for the COVID-19 Pandemic

The FDA is responsible for regulating medical devices used to diagnose, prevent, and treat COVID-19, such as diagnostic tests, ventilators, and personal protective equipment (PPE)-including masks, face shields, respirators, gowns, and gloves. To control and manage the situation, health authorities around the globe have advised everyone to stay in self-quarantine and to wear a face mask while venturing out homes to minimise the risk of spreading the disease.

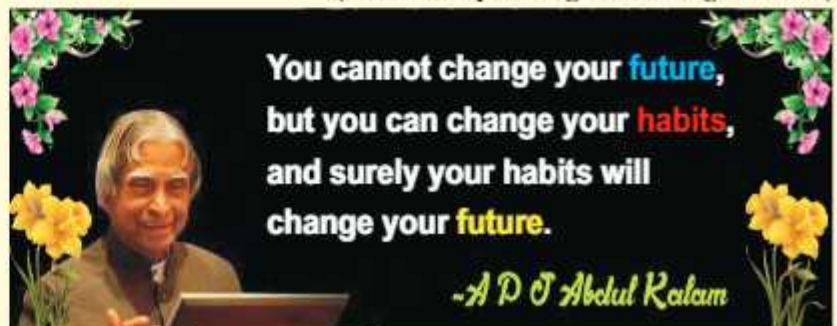
COVID-19 and Food Safety

The U.S. Food Supply remains safe for both people and animals. Currently there is no evidence associating food or food packaging with transmission of COVID-19. The virus that causes COVID-19 leads to respiratory illnesses, unlike a foodborne gastrointestinal virus such as norovirus and hepatitis A. However, while it is possible that COVID-19 might survive on surfaces or objects, this is not thought to be the main way the virus spreads. To avoid foodborne illness, it is always important to follow the four standard steps of food safety: clean, separate, cook, and chill. The food industry has been designated federally as critical infrastructure, recognizing food growers, manufacturers, distributors, and retailers as essential services during this time of crisis. FDA is closely monitoring the food supply chain for any shortages in collaboration with industry and its federal and state partners.

(Source: <https://reaganudall.org/covid-19>)

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