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PHARMA TAB

CLINICAL PHARMACY NEWSLETTER

C.L. BAID METHA COLLEGE OF PHARMACY

Affiliated to The Tamil Nadu Dr. M.G.R. Medical University & Approved by PCI

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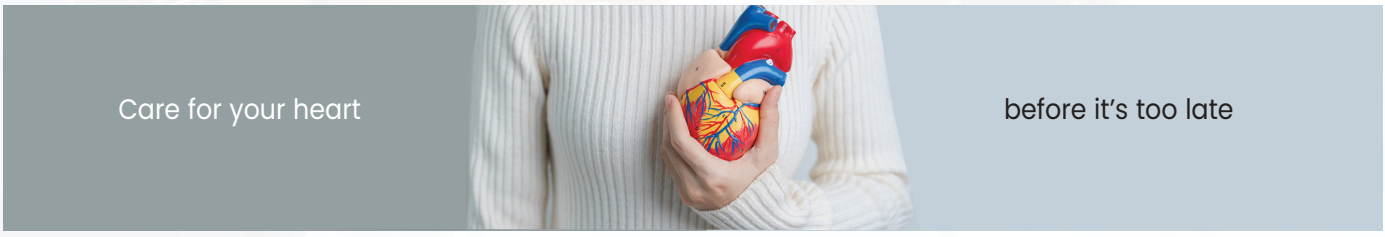
Theme: HEART DISEASE AND CARE

IN THIS ISSUE

Editor's Desk

As India moves into 2026 and beyond, the focus in healthcare is no longer on whether health care is digital, but on how reliable, connected, and responsive they are in real-world situation. Cardiovascular disease continues to pose India's greatest health challenge, demanding a shift from reactive treatment to early, precision-driven prevention. Advances in artificial intelligence, digital health tools, and predictive risk assessment are enabling earlier identification of cardiovascular risk and more personalized interventions. Wearables and remote monitoring are extending care beyond hospitals, while emerging insights into inflammation and residual cardiovascular risk are redefining treatment goals beyond cholesterol alone.

The future of heart care lies in integrated technology, proactive prevention, and multidisciplinary collaboration, with pharmacists playing a pivotal role in improving long-term cardiovascular outcomes. Hope you find this issue engaging and enjoyable to read.



DRUGS APPROVED BY US FDA

Drugs Approved by US Food and Drug Administration (US FDA) during the period of October 2025 to December 2025

Drug Name	Approved Date	Indication	Status in India
Aflibercept-boav (Injection)	02/07/2025	Macular degeneration, macular edema following retinal vein occlusion, Diabetic macular edema, Diabetic retinopathy	Not yet approved by CDSCO in India
Nerandomilast(Tablets)	07/10/2025	Idiopathic Pulmonary Fibrosis	
Fosfomycin (Injection)	22/10/2025	Urinary Tract Infection	
Clonidine Hydrochloride (Oral Solution)	23/10/2025	High Blood Pressure	
Elinzanetant (Capsules)	24/10/2025	Hot Flashes, Menopause	
Doxecitine and Doxribtimine (Powder for oral Solution)	03/11/2025	Thymidine Kinase 2 Deficiency	
Ziftomenib (Capsules)	13/11/2025	Acute Myeloid Leukemia	
Pertuzumab-dpzb (Injection)	13/11/2025	Breast Cancer	
Plozasiran (Injection)	18/11/2025	Familial Chylomicronemia Syndrome	
Sevabertinib (Tablets)	19/11/2025	Non Small Cell Lung Cancer	
Onasemnogene abeparvovec-brve (Suspension for Intrathecal Injection)	24/11/2025	Spinal Muscular Atrophy	
Sibeprenlimab-szsi (Injection etuvetidigene autotemcel)	25/11/2025	Immunoglobulin A Nephropathy	
Suspension for Intravenous Infusion	09/12/2025	Wiskott-Aldrich Syndrome	
Etripamil (Nasal Spray)	12/12/2025	Paroxysmal Supraventricular Tachycardia	
Zoliflodacin (Granules for Oral Suspension)	12/12/2025	Gonococcal Infection, Uncomplicated	
Depemokimab-ulaa (Injection)	16/12/2025	Asthma	
Amivantamab and hyaluronidase-lpuj (Injection)	17/12/2025	Non Small Cell Lung Cancer	
Aficamten (Tablets)	19/12/2025	Hypertrophic Cardiomyopathy	
Denosumab-mobz (Injection)	19/12/2025	Osteoporosis	
Tradipitant (Capsules)	30/12/2025	Motion Sickness	

Reference: https://www.fda.gov/drugs/new-drugs-fda-cders-new-molecular-entities-and-new-therapeutic-biological-products/novel-drug-approvals-2025

DRUGS APPROVED BY CDSCO

Drugs Approved by CDSCO during the period of October to December 2025

Drug Name	Approved Date	Indication
Erdafitinib Tablets 3 mg, 4 mg and 5 mg.	01/10/2025	Indicated for the treatment of adult patients with locally advanced or metastatic urothelial carcinoma (mUC) with susceptible FGFR3 genetic alterations whose disease has progressed on or after at least one line of prior systemic therapy. *Limitations of Use:* Erdafitinib is not recommended for the treatment of patients who are eligible for and have not received prior PD-1 or PD-L1 inhibitor therapy
Vorasidenib Tablets 10 mg/ 40 mg	15/10/2025	Vorasidenib is indicated for the treatment of adult and pediatric patients 12 years and older with Grade 2 astrocytoma or oligodendroglioma with a susceptible isocitrate dehydrogenase-1 (IDH1) or isocitrate dehydrogenase-2 (IDH2) mutation following surgery including biopsy, subtotal resection, or gross total resection.

Source: https://cdsco.gov.in/opencms/opencms/en/Approval_new/Approved-New-Drugs/

ACC/AHA HIGH BLOOD PRESSURE GUIDELINE

The 2025 ACC/AHA guideline replaces the 2017 version and reflects the latest evidence for prevention, detection, evaluation and management of high BP in adults. It emphasizes earlier treatment, personalized risk estimation and life style team-based care.

Source: https://www.jacc.org/doi/10.1016/j.jacc.2025.07.010

ALERT!

ARTIFICIAL SWEETENERS AND BRAIN HEALTH: EMERGING CONCERNS

In recent years, artificial sweeteners have gained widespread popularity in India's food and beverage sector, driven largely by the rising prevalence of obesity and diabetes. These low- and no-calorie sweeteners are commonly promoted for their potential benefits, including reduced caloric intake and improved glycaemic control. However, emerging evidence suggests that their long-term consumption may have unintended effects on brain health.

According to an 8-year prospective study published on October 7, 2025, in the journal Neurology, higher long-term intake of artificial sweeteners was associated with faster cognitive decline, particularly among adults younger than 60 years. The study, led by Gomes Gonçalves N et al., evaluated the consumption of commonly used sweeteners such as aspartame, saccharin, acesulfame-K, erythritol, xylitol, and sorbitol.

Participants underwent repeated cognitive assessments over the study period. Individuals with the highest intake of artificial sweeteners demonstrated up to a 62% faster decline in memory and cognitive function, corresponding to approximately 1.6 years of accelerated brain aging compared with those with lower intake. Notably, the association was stronger in adults under 60 years of age and in individuals with diabetes.

These findings raise important concerns regarding the long-term neurological safety of artificial sweeteners and highlight the need for cautious use, especially among younger populations and patients with metabolic disorders. Further research is warranted to better understand the mechanisms underlying these associations and to inform dietary recommendations.

Source: Gomes Gonçalves N, Martinez-Steele E, Lotufo PA, et al. Association between consumption of low- and no-calorie artificial sweeteners and cognitive decline: an 8-year prospective study. Neurology. 2025;105(7): e214023.

WEBSITES OF INTEREST

https://www.csi.org.in/

CARDIOLOGICAL SOCIETY OF INDIA

The Cardiological Society of India is a professional organization dedicated to the prevention, diagnosis, and management of cardiovascular diseases in India. The website provides access to Indian guidelines, scientific updates, and educational resources related to cardiology practice. It helps readers understand standard treatment approaches followed in Indian hospitals. The platform also highlights research activities and national conferences in cardiology. It serves as a reliable source for learning evidence-based cardiac care.

https://ihj.csi.org.in/

INDIAN HEART JOURNAL

The Indian Heart Journal is the official publication of the Cardiological Society of India. It publishes original research articles, reviews, and clinical studies focused on cardiovascular diseases. The content reflects real-world cardiac practices relevant to the Indian population. It supports understanding of recent advances in cardiac drug therapy and disease management. The journal is useful for academic learning and clinical reference.

Prepared by, ***Dr. Keren Ann George,*** *Assistant Professor*

Important Health Awareness Days (January - March 2026)

World Leprosy Day	30January
World Cancer Day	04 February
World Oral health Day	20 March
National De- Worming Day	10 February
World Hearing Day	03 March
World Obesity Day	04 March
National Multiple Personality Day	05 March
Glaucoma Day	12 March
World Kidney Day	13 March
World Disabled Day	15 March
World Down Syndrome Day	21 March
World Tuberculosis Day	24 March

AI + EYE SCAN = EARLY HEART WARNING

Shyam Sundar. S
V Pharm D

Eyes: A "Window to the Heart"

What if a simple photograph of our eye could warn you about a future heart attack or stroke? Thanks to Artificial Intelligence (AI), this is no longer science fiction, it is becoming a reality in everyday healthcare.

Hidden at the back of the eye lies the retina, a delicate network of tiny blood vessels. These microscopic vessels quietly tell a powerful story about our health. They closely mirror the condition of blood vessels in the heart and brain, making the eye a natural window into cardiovascular health.

Figure 1 : Eyes can reveal hidden risks to your heart.

What Can the Retina Reveal?

Even before any symptoms appear, subtle retinal changes may signal the presence of:

- High blood pressure – long before symptoms manifest
- Diabetes – even in early or undiagnosed stages
- High cholesterol – silently affecting blood flow
- Stroke and heart disease – years before a crisis

These early changes are often too subtle for the human eye to detect, leaving many risks hidden until now.

How AI "Reads" the Eye

During a routine eye checkup, a simple retinal photograph can become a powerful health tool. Using advanced deep learning, AI examines retinal images with remarkable precision, spotting patterns that are invisible to the human eye. [1] Within seconds, AI can estimate:

- Risk of cardiovascular disease
- Probability of stroke
- Early signs of high blood pressure
- Clues to vascular aging

A fast, painless eye scan today could unlock vital insights about your future health with No needles. No discomfort. No downtime.

What the Evidence Says: Retinal Imaging and AI in Cardiovascular Disease Prediction

A recent Study conducted by Syed MG et al, demonstrates that deep-learning analysis of routine retinal photographs can serve as a powerful, non-invasive tool for predicting long-term cardiovascular outcomes in individuals with type 2 diabetes to predict major adverse cardiovascular events (MACE), such as heart attack, stroke, and cardiovascular death. The retinal AI risk score showed a strong association with 10-year CVD risk and had comparable predictive performance to traditional clinical risk scoring tools. Combining the retinal AI output with conventional risk scores and genomic data further improved prediction accuracy. [2]

Another systematic review (Li LY et al, Sep 2024s) summarized 24 studies confirmed that deep-learning models applied to retinal fundus images can effectively predict cardiovascular risk markers and some cardiovascular disease outcomes. While results are promising, further prospective validation is needed. Overall, AI-based retinal imaging holds strong potential as a non-invasive tool for cardiovascular risk assessment. [3]

Clinical Pharmacists in AI-Driven Cardiovascular Prevention

AI can identify cardiovascular risk early, but prevention becomes effective only when these insights are translated into patient-centered care. Clinical pharmacists bridge this gap by working with physicians to interpret AI-generated risk reports, review medications, identify drug-induced risks, and optimize therapy for diabetes, hypertension, and dyslipidemia.

They provide personalized interventions by adjusting drug therapy, ensuring adherence, preventing adverse effects, and counseling patients on lifestyle measures such as healthy diet, salt reduction, smoking cessation, and safe physical activity. Clinical pharmacists also simplify AI results for patients, address concerns, and ensure ethical, rational medication use.

By combining AI technology with clinical expertise, pharmacists turn data into actionable prevention.

Future Outlook:

- Retinal imaging may routinely screen cardiovascular risk
- Pharmacists may lead AI-guided prevention clinics
- Cardiovascular disease may be prevented before symptoms appear

References:

1. Poplin R, Varadarajan AV, Blumer K, et al. Prediction of cardiovascular risk factors from retinal fundus photographs via deep learning. Nature Biomedical Engineering. 2018 Feb 16;2(3):158–64.

2. Syed MG, Trucco E, Mookiah MRK, Lang CC, McCrimmon RJ, et al. Deep-learning prediction of cardiovascular outcomes from routine retinal images in individuals with type 2 diabetes. Cardiovascular Diabetology. 2025 Jan 2;24(1):3.

3. Li LY, Isaksen AA, Lebiecka-Johansen B, et al. Prediction of cardiovascular markers and diseases using retinal fundus images and deep learning: a systematic scoping review. European Heart Journal - Digital Health. 2024 Sep 10;5(6):660–9.

WHAT WE EAT AND WHAT IT DOES TO OUR HEART

Tharani T
V Pharm D

The dietary patterns of South India have undergone a significant transformation over recent decades, influencing the region's growing burden of cardiovascular disease (CVD). Traditional South Indian diets were rich in whole grains, millets, legumes, vegetables, and cardioprotective spices. However, the ongoing *nutrition transition*—characterized by increased consumption of refined carbohydrates, polished white rice, and high-sodium accompaniments—has contributed to rising rates of coronary heart disease and hypertension[1].

Shift to Refined Carbohydrates

Polished white rice has become the dominant staple in modern South Indian diets, replacing traditional millets and whole grains. White rice has a high glycemic index (GI >70), leading to rapid post-meal glucose and insulin spikes. Chronic exposure to high-GI foods promotes insulin resistance, abdominal obesity, and atherogenic dyslipidemia, a metabolic pattern commonly seen in South Asians and strongly linked to CVD risk[2]. In contrast, traditional millets such as foxtail (Thinai), little (Samai), and barnyard (Kuthiraivali) have lower GI values and provide sustained energy release with reduced metabolic stress.

Sodium Intake and Traditional Accompaniments

Excessive sodium intake remains a major concern in South Indian cuisine. Frequent consumption of pickles (achar), papads, vathals, and salted chutneys significantly increases daily salt intake beyond recommended levels. High sodium intake raises blood pressure by increasing vascular resistance and arterial stiffness, thereby increasing cardiac workload and accelerating vascular damage [3].

Fats, Cooking Practices, and Nutrient Loss

Traditional use of ghee and coconut oil was historically moderate, but modern dietary habits often involve deep-fried snacks and sweets rich in saturated fats. Deep-frying at high temperatures oxidizes lipids, promoting inflammation and endothelial dysfunction. Additionally, prolonged overcooking of vegetables—common in stews and gravies—can destroy heat-sensitive antioxidants and micronutrients essential for cardiovascular protection [2].

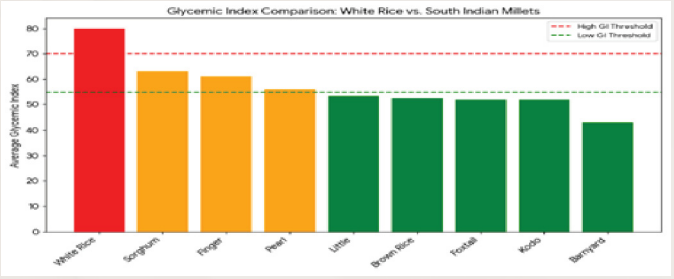
Protective Elements and the Importance of Processing

South Indian cuisine also contains powerful cardioprotective components such as turmeric, garlic, ginger, and curry leaves, known for their anti-inflammatory and antioxidant properties. However, these benefits are often overshadowed by excess refined carbohydrates and salt. Importantly, the health benefits of millets are retained only when consumed in unpolished form. Polishing removes fiber and key minerals like magnesium and potassium, increasing GI and reducing cardiovascular protection [4].

Table: 1The table below provides a detailed comparison of common South Indian staples.

Food Item (English)	Tamil Name	Glycemic Index (GI)	Classification	Key Benefit
White Rice (Polished)	Vellai Arisi	70 – 89	High	Quick energy, low fiber
Brown / Red Rice	Siggappu Arisi	50 – 55	Low	Retains bran and fiber
Barnyard Millet	Kuthiraivali	41 – 45	Low	Highest fiber content
Foxtail Millet	Thinai	50 – 54	Low	Rich in protein and iron
Little Millet	Samai	52 – 55	Low	High in magnesium
Kodo Millet	Varagu	49 – 55	Low	Rich in antioxidants
Finger Millet	Kezhvaragu	54 – 68	Medium	Extremely high in Calcium
Sorghum	Cholam	61 – 65	Medium	Gluten-free energy

Source: https://www.rssdi.in/



Source: https://www.rssdi.in/

Fig: 1 Bar chart comparing the Glycemic Index of White Rice vs. various South Indian Millets, showing White Rice in the 'High' category and most millets in the 'Low' category.

Conclusion

Reintroducing unpolished millets, reducing hidden dietary sodium, and adopting healthier cooking practices can significantly lower cardiometabolic risk. A return to traditional, fiber-rich dietary patterns may be a crucial strategy in combating the rising epidemic of cardiovascular disease in South India.

References

1. Popkin BM. Nutrition transition and the global burden of cardiometabolic disease. N Engl J Med. 2017; DOI: 10.1056/NEJMra.

Misra A, Shrivastava U. Obesity and dyslipidemia in South Asians. Nutrients. 2013;5(7):2708–2733. doi:10.3390/nu5072708.

2. He FJ, MacGregor GA. Salt reduction lowers cardiovascular risk: meta-analysis of outcome trials. Lancet. 2011;378(9791):380–382.

3. Anitha S, Botha R, Kane-Potaka J, Givens DI, Rajendran A, Tsusaka TW, Bhandari RK. Can millet consumption help manage hyperlipidemia and obesity? A systematic review and meta-analysis. Front Nutr. 2021;8:700778. doi:10.3389/fnut.2021.700778.

RESIDUAL CARDIOVASCULAR RISK DESPITE STATIN THERAPY: ROLE OF INFLAMMATION AND NOVEL BIOMARKERS

Cardiovascular diseases (CVDs) continue to be the leading cause of global mortality. Statins remain the cornerstone of both primary and secondary prevention of atherosclerotic cardiovascular disease due to their proven low-density lipoprotein cholesterol (LDL-C)–lowering benefits. However, even after achieving guideline-recommended LDL-C targets, a significant proportion of patients continue to experience major adverse cardiovascular events (MACE). This ongoing threat is known as residual cardiovascular risk.

Understanding Residual Cardiovascular Risk

Residual cardiovascular risk refers to the persistence of myocardial infarction, stroke, or cardiovascular death despite optimal statin therapy. Large clinical trials have demonstrated that more than half of cardiovascular risk remains unaddressed even with aggressive LDL-C reduction, highlighting the limitations of lipid-centric management alone.

Inflammation: A Central Driver

Atherosclerosis is now well recognized as a chronic inflammatory disease. Inflammation contributes to endothelial dysfunction, plaque progression, and plaque rupture leading to thrombosis. Although statins exert modest anti-inflammatory effects, they may not sufficiently suppress vascular inflammation in all patients. The landmark CANTOS trial provided compelling evidence that targeting inflammation independent of lipid lowering significantly reduces cardiovascular events, establishing inflammation as an independent and modifiable risk factor. [1]

Key Inflammatory and Novel Biomarkers

- **High-Sensitivity C-Reactive Protein (hs-CRP):**

  A robust marker of systemic inflammation. Elevated hs-CRP levels predict higher cardiovascular risk even in statin-treated patients.

- **Interleukin-6 (IL-6):**

  A pro-inflammatory cytokine involved in plaque destabilization and strongly associated with cardiovascular mortality.

- **Lipoprotein(a) [Lp(a)]:**

  A genetically determined lipoprotein with pro-atherogenic and pro-thrombotic properties, largely unaffected by statins and a major contributor to residual risk.

- **Neutrophil-to-Lymphocyte Ratio (NLR):**

  An inexpensive and readily available inflammatory marker associated with disease severity and adverse outcomes.

- **Circulating MicroRNAs:**

  Emerging biomarkers that regulate inflammation, lipid metabolism, and vascular remodeling, offering promise for personalized risk assessment. [2,3]

Evidence Supporting Inflammatory Risk

Findings from trials such as JUPITER and CANTOS confirm that elevated inflammatory markers predict cardiovascular events even when LDL-C is optimally controlled. Importantly, inflammation reduction alone resulted in meaningful reductions in myocardial infarction, stroke, and cardiovascular mortality. [4]

JOANNA PHEBE. A
V Pharm D

Role of the Pharmacist

Clinical pharmacists are uniquely positioned to address residual cardiovascular risk by:

- Promoting comprehensive risk assessment beyond LDL-C
- Supporting medication adherence and lifestyle modification
- Educating patients on diet, physical activity, and smoking cessation
- Collaborating with clinicians to optimize individualized therapy

Pharmacist-led interventions have demonstrated significant improvements in long-term cardiovascular outcomes. [5]

Future Directions

The future of cardiovascular prevention lies in integrated lipid and inflammation management, supported by biomarker-guided therapy and emerging anti-inflammatory agents. Personalized medicine approaches will be key to reducing residual cardiovascular risk.

Conclusion

Residual cardiovascular risk persists in many patients despite optimal statin therapy, largely driven by unresolved inflammatory pathways and non-traditional risk factors. Incorporating novel biomarkers such as hs-CRP, IL-6, Lp(a), NLR, and microRNAs into routine practice—along with pharmacist-led care—offers a comprehensive strategy for improving cardiovascular outcomes.

References

1. Ridker PM, Everett BM, Thuren T, et al. Antiinflammatory therapy with canakinumab for atherosclerotic disease. N Engl J Med. 2017;377(12):1119–1131.

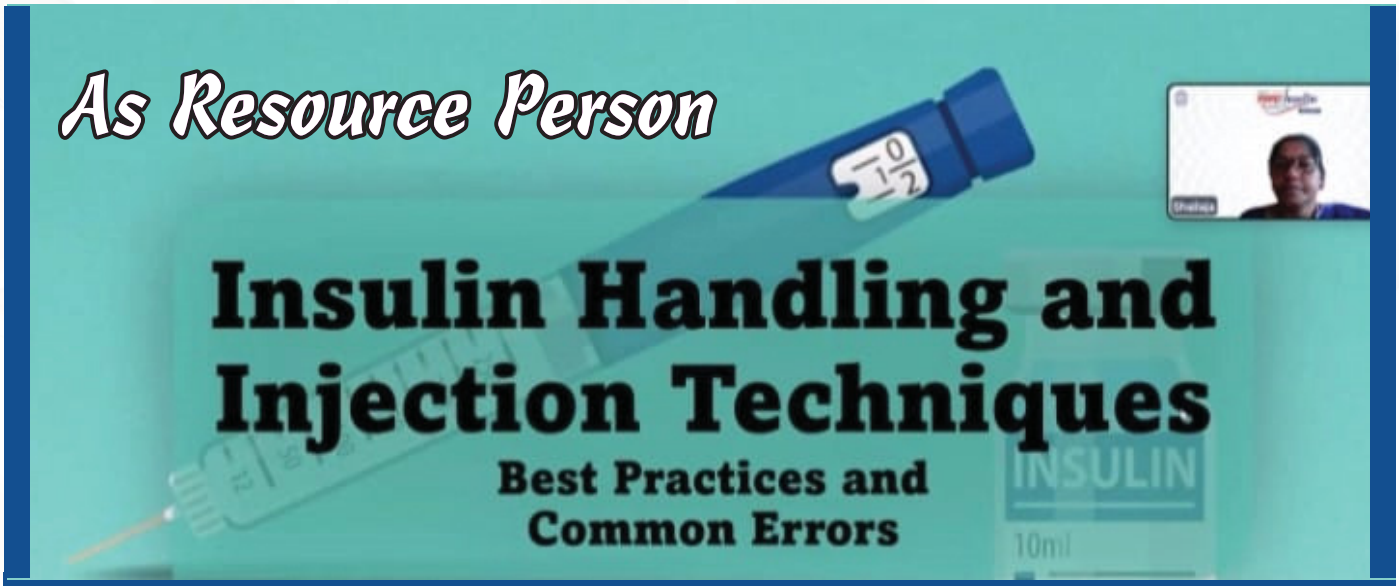
2. Libby P, Ridker PM, Hansson GK. Inflammation in atherosclerosis. J Am Coll Cardiol. 2009;54(23):2129–2138.

3 Ridker PM. Residual inflammatory risk: addressing the obverse side of atherosclerosis prevention. Eur Heart J. 2016;37(22):1720–1722.

4. Tsimikas S. Lipoprotein(a): diagnosis and emerging therapies. J Am Coll Cardiol. 2017;69(6):692–711.

5. Weber C, Noels H. Atherosclerosis: current pathogenesis and therapeutic options. Nat Med. 2011;17(11):1410–1422.

As Resource Person



Prof. Dr. K Shailaja delivered a talk on Insulin Handling and Injection Techniques: Best Practices and Common Errors, orgainzed by Indian Pharmaceutical Association in collaboration with Lupin, under the Lupin Insulin Suraksha Prorgam on 10th October 2025.

Do You Know?

CRISPR: A POTENTIAL "GAME CHANGER" IN CARDIOVASCULAR CARE

Mrs. Leena Muppa Associate Professor

CRISPR (Clustered Regularly Interspaced Short Palindromic Repeats) is a cutting-edge gene-editing technology that has rapidly reshaped biomedical research and is now advancing toward therapeutic applications. Unlike traditional pharmacotherapy, which primarily manages symptoms or disease risk factors, CRISPR enables precise correction or inactivation of disease-causing genes, offering the promise of durable or potentially one-time treatments for genetically mediated cardiovascular conditions.

One of the most compelling areas of CRISPR research in cardiovascular medicine is genetic modulation of lipid metabolism. Recent clinical studies have demonstrated that CRISPR-based therapies may dramatically lower harmful lipids that drive atherosclerotic cardiovascular disease.

A Phase 1, first-in-human trial of CTX310, a CRISPR-Cas9 therapy targeting the ANGPTL3 gene, showed that a single intravenous infusion safely reduced LDL-cholesterol by nearly 50% and triglycerides by approximately 55% in adults with refractory dyslipidaemia. These effects were observed within two weeks and were sustained for at least 60 days of follow-up[1].

In addition, CRISPR base-editing therapies targeting the PCSK9 gene (such as VERVE-101/VERVE-102) have demonstrated significant and durable LDL-cholesterol reductions in preclinical primate models and early human studies, supporting the concept of long-term lipid lowering through permanent gene modification[2]. These strategies are supported by human genetic evidence showing that loss-of-function mutations in ANGPTL3 or PCSK9 are naturally associated with lifelong lower LDL-cholesterol levels and reduced cardiovascular risk[3].

Clinical Potential in Heart Care: CRISPR technology is being explored to:

- Correct inherited cardiac disease mutations (e.g., familial cardiomyopathies)
- Reduce harmful cholesterol levels via gene inactivation (PCSK9, ANGPTL3)
- Advance understanding of heart failure pathology and cardiac repair mechanisms

A key advantage of CRISPR-based therapies is the potential for long-lasting or 'one-and-done' treatment, which could significantly reduce the need for lifelong medications and improve patient adherence.

Challenges and Considerations: Despite promising early data, several challenges remain:

- Safety and off-target effects, requiring long-term monitoring
- Ethical and regulatory concerns, particularly around gene editing governance
- Cost and accessibility, which may initially limit widespread use

References

1. Laffin LJ, Nicholls SJ, Scott RS, et al. In vivo CRISPR–Cas9 gene editing targeting ANGPTL3 for treatment of dyslipidaemia: a phase 1 study. N Engl J Med. 2025;392:1734-1745.

2. Musunuru K, Chadwick AC, Mizoguchi T, et al. In vivo CRISPR base editing of PCSK9 durably lowers cholesterol in primates. Nature. 2021;593:429-434.

3. Gane E, Locatelli G, Guyton JR, et al. Gene editing therapies for cardiovascular disease: current evidence and future directions. Eur Heart J. 2024;45:512-520.

INDIAN HEALTHCARE BEYOND 2025: A SHIFT TOWARDS RELIABLE DIGITAL CARE

The year 2025 marked a pivotal milestone in Indian healthcare. The sector moved beyond experimental adoption of digital tools into a phase where technology has become an integral component of routine healthcare operations. As India enters 2026 and beyond, the focus is no longer on whether healthcare is digital, but on how reliable, connected, and responsive it is in real-world clinical environments.[1]

Today, most healthcare providers in India use digital platforms for electronic medical records, diagnostics, billing, and administrative workflows. While digital access is now widespread, the next phase of progress centres on digital dependability. Hospitals must ensure that systems function seamlessly during peak patient loads, emergencies, regulatory audits, and across multi-location networks. Clinicians require rapid access to patient information, nurses depend on continuity across shifts, and patients expect timely communication without repeated follow-ups. Reliable digital systems are now directly linked to confidence in care delivery.[2]

Healthcare delivery has also expanded beyond hospital walls. Care in India is increasingly distributed by default, with physicians consulting across institutions, specialists supporting peripheral centres remotely, diagnostics operating across cities, and home-based care growing steadily. Modern healthcare systems are evolving into connected networks that enable secure data exchange and coordinated decision-making across locations.[3]

Communication, once a major source of clinical delays, is now being embedded into routine workflows. Hospitals are integrating voice, secure messaging, and collaboration platforms into daily care processes. The objective is not to add more technology, but to reduce friction, improve handovers, and enable faster, more informed decision-making among multidisciplinary teams.[4]

Artificial intelligence has progressed from theoretical promise to practical implementation. A growing number of Indian clinicians now use AI-enabled tools to support diagnostics, identify patient risk earlier, manage hospital capacity, and access relevant clinical insights at the point of care. Although patients may not directly observe AI at work, they benefit from quicker decisions, fewer delays, and more personalised care pathways.[5]

As digital systems expand, patient data protection has become a critical safety requirement. National initiatives such as the Ayushman Bharat Digital Mission and ABHA Health IDs have substantially increased the volume of digital health records. Safeguarding this data is now essential for maintaining public trust, ensuring continuity of care, and preventing service disruptions due to cyber threats.[6]

Mrs. Leena Muppa
Associate Professor

Healthcare organisations are also shifting from technology ownership to operational assurance. Leadership priorities increasingly include system uptime, performance during emergencies, interoperability, and regulatory compliance. Unified and managed digital ecosystems allow healthcare teams to focus more on patient care and less on technical challenges.[7]

At the same time, 2025 reshaped how health itself is perceived. Mental wellbeing gained recognition as a core component of overall health, and preventive care became as important as reactive treatment. Longevity is no longer defined solely by lifespan, but by health span, with greater emphasis on functional ability and quality of life.[8]

With India's digital health market projected to grow rapidly in the coming years, digital healthcare is no longer a trend, it is the foundation of modern medicine. Beyond 2026, the strength of Indian healthcare will be judged not by the number of digital tools deployed, but by how reliably these systems support patients and clinicians when it matters most.

References

1. NITI Aayog. Digital Health in India: Roadmap and Vision 2025. Government of India; 2023.
2. World Health Organization. Global Strategy on Digital Health 2020–2025. WHO; 2021.
3. Ministry of Health and Family Welfare. Telemedicine Practice Guidelines. Government of India; 2020.
4. Kuperman GJ, McGowan JJ. Potential benefits of health information exchange. J Am Med Inform Assoc. 2011;18(1):3–7.
5. Rajpurkar P, Chen E, Banerjee O, Topol EJ. AI in medicine. N Engl J Med. 2022;386(5):465–468.
6. National Health Authority. Ayushman Bharat Digital Mission: Strategy Overview. Government of India; 2022.
7. Bates DW, Singh H. Two decades since To Err Is Human. N Engl J Med. 2018;379(10):936–938.
8. World Health Organization. Decade of Healthy Ageing 2021–2030. WHO; 2020.

PROUD MOMENT

Our respected Principal Prof. ***Dr. C. N. Nalini*** *served as the Chairperson for the Pharmacy Session at the International Medical Conference – Future of Medicine (FOM 2.0): Excel and Educate 2025 held on 16th October 2025.*

CONGRATULATIONS

HIT HACKTHON 2025- Pharm.D 5th year students **S. Shirly, A. Mathesh, D. Darius Alan,** and **V. T. Jayani** participated in the HIT Hackathon conducted by JSS College of Pharmacy, Mysuru on November 3rd and December 12th. The hackathon comprised three competitive rounds.

SEMINAR

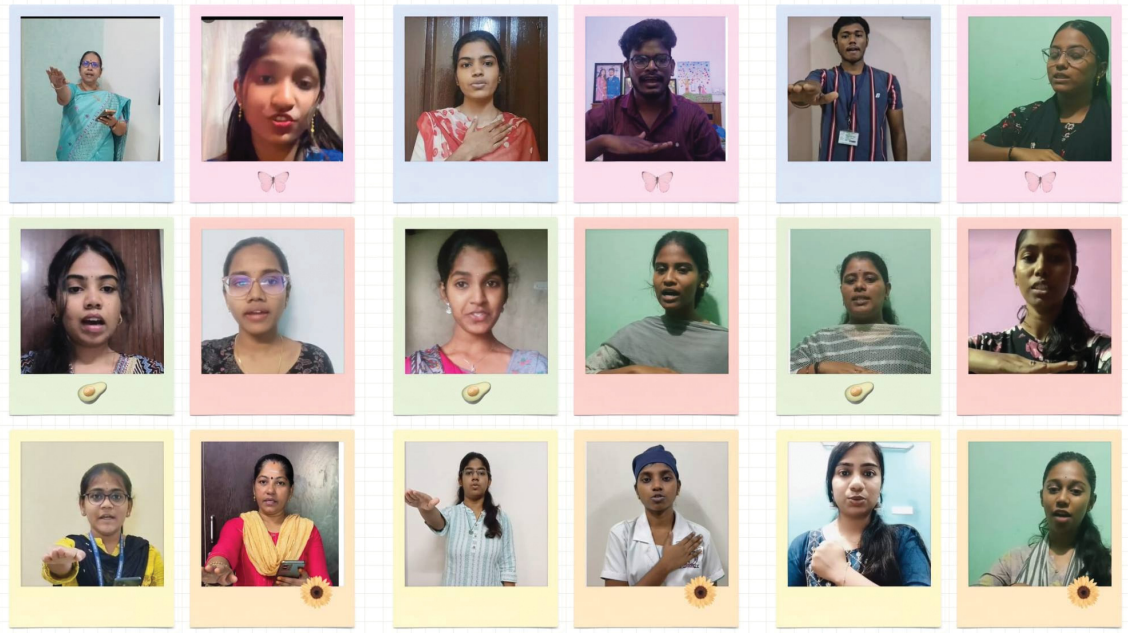
Palliative Radiotherapy: Pain & Symptom Control

Dr. Azmi Saundarya K, *Clinical Lead, Glenangles Global Health City, Chennai, focusing on effective pain relief and holistic symptom management, delivered a seminar on Palliative Radiotherapy: Pain & Symptom Control on 19th December 2025*

WEBINAR

Our students actively participated in the webinar – "NCSAM 2025" – Chetna Series Lecture & Cyber Security Awareness Activities on theme, "Cyber Jagrit Bharat," emphasizes cyber hygiene, digital safety, and the protection of digital assets.

Sh. Gaurav Gupta, Director/Scientist 'F', Ministry of Electronics and Information Technology, delivered an enlightening session on the various cybercrimes occurring in our day-to-day digital world and the need for our younger generation to stay alert and safe online.

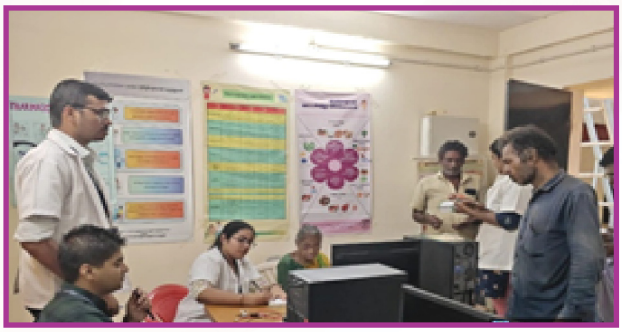


Principal **Dr. C N Nalini,** *Professor* **Dr K Shailaja**, *and students attend webinar - NCSAM 2025*

DEPARTMENTAL ACTIVITIES

WORLD DIABETES DAY

C. L. Baid Metha College of Pharmacy in collaboration with the Institute of Diabetology, Government Stanley Medical College & Hospital, organized a two-days awareness program on 14 and 15 November 2025 at the Institute of Diabetology, Chennai.



V Pharm D students provided counseling on weight management, dietary habits, medication adherence, insulin storage, foot-care techniques, and recognition of early symptoms of hypo- and hyperglycemia.

V Pharm D students actively participated in the Patient Education Programme on diabetes awareness organized by the Institute of Diabetology, Stanley Medical College & Hospital, Chennai, on World Diabetes Day

DEPARTMENTAL ACTIVITIES

NATIONAL PHARMACY WEEK

As part of the 64th National Pharmacy Week (16th–22nd November) celebrations, C. L. Baid Metha College of Pharmacy, in association with the Indian Pharmaceutical Association – Tamil Nadu State Branch, organized an expert session on "Pharmacists as Advocates of Vaccination" on 24th November 2025 at the Prof. M. L. Schroff Seminar Hall.

The program featured two distinguished guest speakers. **Dr. Rajasree S**, Senior Consultant in Paediatrics and Neonatology, delivered an insightful talk on "Pediatric Vaccines: Latest Updates and Best Practices," highlighting recent advancements and the importance of timely immunization. **Dr. Swaramya M S**, Founder of Swara Health and Senior Consultant in Robotic & Laparoscopic Surgery, discussed "Adult Vaccines: Advances with Focus on HPV and Shingles," emphasizing preventive care across the lifespan

As a part of NPW celebration C. L. Baid Metha College of Pharmacy, The Pharm D Fifth-Year students prepared and distributed vaccination awareness pamphlets to the Pharmacists at the Diabetology and Paediatric Departments of Government Stanley Hospital, as well as to various community pharmacies in and around Washermanpet.

V Pharm D students distributed Vaccination Awareness Pamphlets among pharmacists at the Diabetology and Paediatric Departments of Government Stanley Hospital, as well as to various community pharmacies in and around Washermanpet on 24th November 2025, as part of the 64th National Pharmacy Week

DEPARTMENTAL ACTIVITIES

National cGMP Day

Mr. Govindan Gopalan, *Vice President – Quality, Novitium Labs Pvt. Ltd, delivered a guest lecture on "Good Manufacturing Practices in the Pharma Industry" on 10th October 2025, National cGMP Day*

DEPARTMENTAL ACTIVITIES

FIRE MOCK DRILL

*A fire mock drill was conducted at the college by the **Government Fire Service Department** on 18th October 2025 to promote fire safety awareness and emergency preparedness*

DEPARTMENTAL ACTIVITIES

WORLD AIDS DAY

On 1st December 2025, C.L. Baid Metha College of Pharmacy, in association with Voluntary Health Services (VHS), Infectious Diseases Medical Centre (IDMC), organized a "World AIDS Day" rally at VHS Hospital on global theme "Overcoming Disruption, Transforming the AIDS Response." with the aim to spread awareness among the community. the rally aimed to educate the public about HIV transmission, prevention strategies, and the need for continuous global and local action. A total of 100.Pharmacy students participated in the rally. Students carried awareness posters, raised slogans, and interacted with community members to promote accurate knowledge about HIV/AIDS.

CL Baid Metha Students carried awareness posters, raised slogans, and actively participated in the "World AIDS Day Rally" at VHS Hospital on 1st December 2025, World AIDS Day

DEPARTMENTAL ACTIVITIES

NALAM KAPPOM

We proudly appreciate our students for their active participation in the Nallam Kappom Programme, organized by the Urban Primary Health Center, Kannagi Nagar.

Our Pharm D students – **Sivaram, Shruthi, Prasanna, Padmapriya, and Roshini** *– were appreciated by the Hon'ble Health Minister* **Thiru Ma. Subramaniyan** *for their excellent efforts in disseminating Tuberculosis (TB) awareness among the public at Kannagi Nagar.*

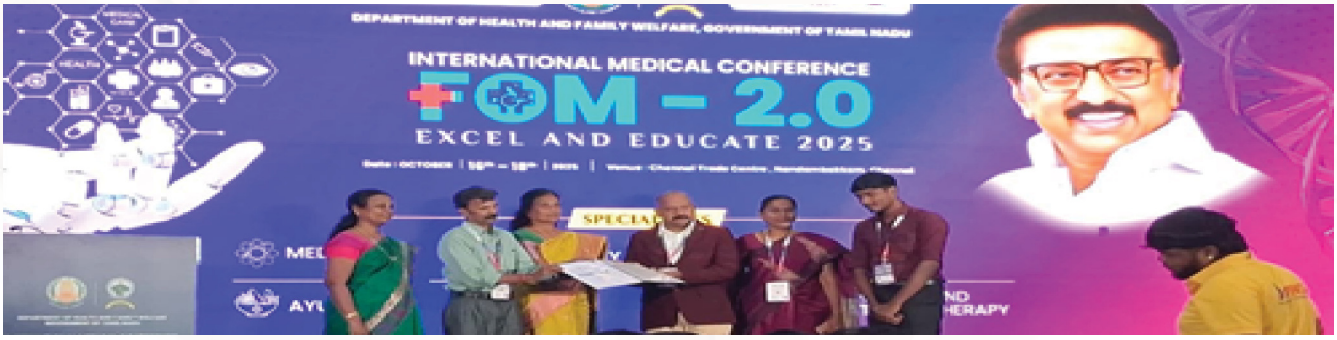
CONFERENCES ATTENDED

Name of the student	Topic presented	Conference and organized by	Date
Mathesh A Shirly S.	Learning-Driven Predictive Analytics For Cold Chain Optimization Minimizing Temperature Related Pharmaceutical Wastage	University research day - Arivelvi 2025 The Tamilnadu Dr.M.G.R. Medical University, Chennai	26th October 2025
S. ShirlyS.	Development of an AI-Controlled Thermoelectric Collant Container for Portable Insulin and Vaccine Storage	Health Innovation Technologies Hackathon (HIT 2025) J SS College of Pharmacy, Mysuru.	3rd, 4th November and 12th December 2025
A Darius Alan	To address the problem of maintaining optimal storage conditions for temperature sensitive insulin to prevent potency loss and ensure effective diabetes management Assessment Of Regional Variations In Antimicrobial Resistance Patterns And Their Clinical Implications	Health Innovation Technologies Hackathon (HIT 2025) J SS College of Pharmacy, Mysuru. National CEP "Bridging Bioethics And Regulations In Clinical Research Department of Pharmacology, Govt Stanley Medical College	3rd,4th November and 12th December 2025 06th-07th November 2025
D.S.Aadhithan	Prevalence and Interrelationship of Vitamin D, Vitamin B12, Haemoglobin, and Glycemic Status in a Telangana Population: A Cross-Sectional Statistical Analysis	National CEP "Bridging Bioethics And Regulations In Clinical Research Department of Pharmacology, Govt Stanley Medical College	06th-07th November 2025

Dr. Keren Ann George, Assistant Professor and V pharm D students at National CEP "Bridging Bioethics And Regulations In Clinical Research"

STUDENTS ACHIEVEMENTS

International Medical Conference - Future of Medicine 2.0 "Excel and Educate"



*V Pharm D student **Shyam Sundar. S** received best oral presentation on topic "Pharmacogenomic Perspectives on Antihypertensive Therapy: A Meta-Analysis of ADRB1, CYP2D6, GRK4, and Related Genetic Variants" at Future of Medicine 2.0 organised by Department of Health and Family Welfare, Government of Tamil Nadu, and The Tamil Nadu Dr. M.G.R. Medical University, Guindy, Chennai on 16th October 2025*

STUDENTS CORNER

- Prepared by, **Dr. Dhivya K, Assistant Professor**

Send your answers to pharmatabclbaid@gmail.com

First five winners name will be displayed in the next issue

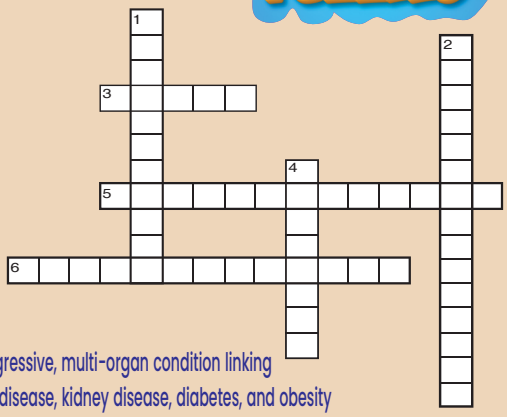
Winners

of Previous Issue
(September 2025, Volume 6, Issue 03)

Congratulations

1. **Nandhini Devi** Pharm D 4th Year
2. **Sandya Anand** Pharm D 4th Year
3. **Kanchana A** Pharm D 4th Year
4. **Pushkal Kanna BR** Pharm D 3rd Year
5. **Reshmi Fathima** Pharm D 4th Year

CROSSWORD PUZZLES



Across

3. An inflammatory biomarker used to assess cardiovascular risk even in individuals without overt heart disease
5. The drug improves outcomes in heart failure patients by enhancing myocardial energetics
6. The lipid-lowering agent acts by inhibiting ATP-citrate lyase

Down

1. A progressive, multi-organ condition linking heart disease, kidney disease, diabetes, and obesity
2. The antidiabetic drug promotes osmotic diuresis and improves myocardial metabolism
4. An oral anticoagulant for patients with mechanical heart valves

Answer for the Word Puzzle previous issue (September 2025, Volume 6, Issue 03)

Across
4. FDAForm3500 5. Vigibase 6. ADRMS

Down
1. YellowCard 2. Nearmiss 3. UMC

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