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Editorial: Navigating the Frontiers in Pharmaceutical Sciences: A Digest of Review and Original Articles

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Dear Readers,

As an editor of this esteemed journal, it is my pleasure to introduce the brilliant research encapsulated in the new issue, featuring a compilation of intriguing review and original articles that cover a broad spectrum of pharmaceutical sciences. The review articles commence with an enlightening piece on the utilization of PLGA, an innovative biodegradable polymer, in drug delivery systems, authored by Sonawane, Pingale, and Amrutkar. They delve into the groundbreaking capabilities of this polymer and how it is revolutionizing the realm of drug delivery. This is followed by Koliyote and Shaji's fascinating review on the synthesis, characterization, and applications of gold nanoparticles using plant extracts, which highlights the natural, sustainable, and cost-effective approach towards nanotechnology in therapeutics.

Govindaswamy, Dhivya, and Sivaprakasam present a timely systematic review on the prevalence and complications of Diabetes Mellitus in India, drawing attention to the need for effective management strategies. This is succeeded by Swain's comprehensive exploration of the antidiabetic properties of natural products from Cyperus species plants, which suggests promising therapeutic potential. The original articles offer a deeper insight into various dimensions of pharmaceutics, pharmacognosy, pharmaceutical chemistry, and pharmacy practice. Notable among these are studies by Sharma and Verma on double-layered transdermal patches of Diclofenac Diethylamine, and Bhambar and Gadakh's research on the formulation of a sustained release mucoadhesive microcapsule of Baclofen, demonstrating the evolution of drug delivery systems. Kathpalia, Venkatesh, and Sathe introduce a novel topical film-forming clotrimazole emulgel, which could revolutionize topical antifungal treatment.

In the realm of nanotechnology, Chaudhari and colleagues investigate the potential of drug-drug cocrystals of Lopinavir-Ritonavir to enhance solubility and dissolution. Meanwhile, Dinesh *et al.*'s study provides intriguing insight into the biofabrication and characterization of eggshell nanoparticles, illustrating the innovative application of waste material.

Moving into pharmacognosy, Kuraganti, Edla, and Viddamuri describe the preparation and bactericidal evaluation of silver nanoparticle cross-linked polymeric cages using freshwater cyanobacteria, which could open new avenues in the fight against multi-drug resistant bacteria. Giri and his team authenticate *Averrhoa carambola* L. using DNA Barcoding, a critical step towards ensuring the quality of medicinal plant resources.

Pharmaceutical chemistry is well-represented by Sabale and colleagues' design, synthesis, and biological screening of novel carbazole tethered oxyethylamino derivatives as antimicrobial agents, potentially paving the way for new weapons in the war against infectious diseases. The section on pharmacy practice opens with Ashok, Kumar, and Mundayat's pilot randomized clinical trial on the influence of chair aerobics and Nadisodhana Pranayama in managing anxiety in coronary artery bypass grafting patients. This merges the world of complementary therapies with clinical medicine, illustrating the importance of holistic care. Alyami and his team discuss the inhibitory role of Rutin on hepatic and pancreatic cancer cell proliferation by inhibiting CYP3A4 and GST.

In summary, the research articles in this issue underscore the progress in various fields of pharmaceutical sciences. They reflect the ongoing commitment of researchers worldwide in improving healthcare by focusing on effective drug delivery systems, exploiting the potentials of nanotechnology, unveiling the pharmacological properties of medicinal plants, developing new synthetic molecules, and integrating complementary therapies into clinical practice. As we continue to delve into the molecular intricacies and therapeutic potentials within the realm of pharmaceutical sciences, it becomes increasingly clear that the future of this field is not just promising, but crucial. Our role as scientists is not just to observe and understand, but also to innovate, evaluate, and put forward the best options for the betterment of human health. This collection of research is a testament to the passion and dedication that fuels this exploration.

I hope that the readers will appreciate the depth and breadth of these articles, and find them as inspiring and insightful as we have in preparing this issue.

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