

International Journal of Pharmacology and Pharmaceutical Technology

Manuscript 1014

Editorial

Priti Das

Follow this and additional works at: <https://www.interscience.in/ijppt>



Part of the [Medical Pharmacology Commons](#)

Editorial

With the rapid inducements of technology into the field of drug action on biological systems pharmacology embraces many interrelated disciplines and becomes a holistic domain. In its entirety the discipline encompasses knowledge of the sources, chemical properties, biological effects, and therapeutic uses of drugs. In the recent scenario Pharmacologists also use molecular modeling and computerized design as drug discovery tools to understand cell function. New pharmacological areas include the genomic and proteomic approaches for therapeutic treatments. While remarkable progress has been made in developing new drugs and in understanding how they act, the challenges that remain are endless. Ongoing discoveries regarding fundamental life processes will continue to raise new and intriguing questions that stimulate further research and evoke the need for a fresh scientific insight. The new area of Pharmacology includes Adverse Drug Reactions, Anticancer and Antiviral Agents, Behavioral Pharmacology, Cancer, Chemotherapy, Cellular Pharmacology, Combinatorial Chemistry, Developmental Pharmacology, Drug Policy and Regulation, Environmental Pharmacology, Gastrointestinal Pharmacology, Gene Therapies, Immunopharmacology, New Drug Design and Development, Pharmacogenetics, Pharmacology of Aging. In the beginning of the 20th century, Paul Ehrlich conceived the idea of specifically seeking special chemical agents with which to treat infections selectively, and is thus considered the “Father of Chemotherapy.” His work on the concept of the “magic bullet” treatment of infections paved the way for the triumphs of modern-day chemotherapy. The progress and contribution of 20th century pharmacology have been immense, with over twenty pharmacologists having received Nobel prizes. Their contributions include discoveries of many important drugs, neurotransmitters and second messengers, as well as an understanding of a number of physiological and biochemical processes.

A major contribution of pharmacology has been the advancement of knowledge about cellular receptors with which hormones and chemical agents interact. Through this research an understanding of the process of activation of cell surface receptors and the coupling of this response to intracellular events has been made possible. New drug development has focused on steps in this process that are sensitive to modulation. Identifying the structure of receptors will allow scientists to develop highly selective drugs with fewer undesirable side effects.

Out of this research have come a multitude of discoveries and achievements: advances in antibacterial and anticancer chemotherapy which have played a major role in reducing infectious diseases produced by bacteria and certain spirochetes and in producing cures for certain types of cancers; the development of drugs for the treatment of hypertension, congestive heart failure, and cardiac arrhythmias; more effective treatments for asthma; and the development of drugs that control pain, anxiety and chronic psychiatric disorders with far fewer unpleasant side effects than before.

A second major contribution that is currently receiving renewed attention is the area of pharmacogenetics, i.e., how variation in genetic information impacts how a particular drug is adsorbed, metabolized, and/or eliminated, as well as how the particular drug interacts with its cellular targets. This field, which has experienced a major boost from the completion of the human genome project, offers considerable promise for the development of novel therapeutics, optimized drug trials, and medicine tailored to your personal response.

Over the next several decades, the knowledge emerging from pharmacological studies will have an immeasurable impact on society. Major challenges include the development of drugs for the treatment of AIDS and other viral diseases, cancer, drug-resistant bacteria, and the rejection of organ transplants. A better understanding of the potential toxic effects of abused substances on the fetus and on the heart, brain, and other organ systems will evolve. Research on drug addiction holds the promise of developing new treatments for drug dependence and withdrawal as well as identifying individual differences that may influence a person's susceptibility to drug abuse. Gene therapy is a new focus of pharmacological research. The possibility of developing gene products that would alter the course of a disease will open new horizons in the effectiveness and the selectivity of therapeutic agents. The effect of the chemical substances in the environment and their possible causal relationship to cancer or birth defects will be an area of great social concern and one with which pharmacologists will be confronted. Finally, the discoveries in the area of pharmacogenetics will allow for a better understanding and avoidance of adverse drug reactions, as well as the development of individualized therapeutic regimens.

Progress in areas of social concern and in aspects of health-related drug intervention will require pharmacologists who are not only schooled in scientific disciplines, but who possess a sense of ethics, a sense of logic, and a firm understanding of the philosophical overtones of their research.

The present issue of the journal is presented to the research community with a noble objective of bridging the gap between the theoretical developments and the practices. Many gray areas are there which have been imbibed into it which has been addressed in this special volume of Journal. I feel honored to enjoy this editorial privilege in introducing such a noble work to the whole world.

All the papers are appealing to the subject as well as to its scope. I extend sincere gratitude to the research scholars for their indomitable spirit in bringing such commendable research work. The nobility of this volume has become dubious in its approach towards supplementing the field of research.

I sincerely thank to the board of editors for their generous gifts of time, energy and intellect. I salute to the technical committee, organizing committee and publishing house for their unbroken professional commitments in bringing this special volume. I hope this gracious piece of effort will earn a significant appreciation from the readers to whom I owe indebtedness. I must welcome constrictive feedbacks for future development.

With Warm Regards

Editor

Dr. Priti Das

Department of Pharmacology

S. C. B. Medical College, Cuttack- 753001

Email: pritidaspatnaik@gmail.com