

## Clinical Trials and Drug Delivery

**Clinical Images and Case Reports Journal** focuses on the topics under Clinical Trials and Drug Delivery Case Reports that includes:

Bioavailability, Biopharmaceutics, Contraindications, Drug Delivery Systems, Drug Design, Drug Metabolism, Drug Safety Databases, Drug Stability, Drug Targeting, Industrial Pharmacy, Molecular Drug Design, Nanopharmaceutics, Pharmaceutical Nanotechnology, Pharmaceutics, Pharmacokinetics, Pharmacovigilance, Prodrug, Side effects, Adverse Drug Reactions, Drug Action, Drug Delivery, Drug Discovery, Drug interaction, Drug Intoxication, Drug Therapy, Drug Transport and Delivery, Emerging Drugs, Medicinal Chemistry, Pharmaceutical Analysis, Pharmaceutical Design, Pharmaceutical Sciences, Pharmaceutics and Drug Design, Pharmacoepidemiological Studies, Pharmacognosy and Pharmacology etc.

## Journal of Clinical Trials and Drug Delivery Case Reports

Journal of Clinical Trials and Drug Delivery Case Reports is the journal which publishes the research work-related or that covers the topic of clinical trials. Open-access refers to free access via internet, i.e., making the research work available to the world through online publishing. One such open access journal is journal of Clinical Trials which open access peer reviewed journals. This journal publishes such approved trials of all major medical and clinical practices around the world most of which are approved clinical trial procedures by FDA (Food and Drug Administration). Journal of Clinical Trials having a world class Editorial Board and maintains its quality publication with the support of its editors in Peer review process.

Journal of Clinical Trials and Drug Delivery Case Reports promotes latest research that makes a significant contribution to advancing knowledge of scientific disciplines that are critical to the discovery and development of new drugs and therapies. Journal emphasizes on all aspects of the pharmaceutical sciences which includes a wide range of fields in its discipline like Pharmacology, Pharmaceutics, Pharmaceutical Analysis, Medicinal Chemistry, Drug Metabolism, Drug Action, Drug Delivery, Drug Discovery, Drug Targeting and Clinical Sciences.

## Clinical Pharmacology

Clinical Pharmacology is the study of drugs and the interactions of chemical substances with living beings, with a view to understanding the properties and their actions, including the interactions between drug molecules drug receptors and how these interactions induce an effect. Clinical pharmacology studies addressing differences between populations or to determine the presence or absence of a drug interaction.

### **Adverse Drug Reactions**

Adverse drug reactions is that unwanted or harmful reaction which is experienced after the administration of a drug or combination of medicine under normal conditions of use. Adverse drug reactions embrace rashes, jaundice, anemia, a decrease in the white blood cell count, kidney damage, and nerve injury that will impair vision or hearing. Affected peoples are also allergic or supersensitized to the drug owing to genetic variations in the way their body metabolizes or responds to the medicine.

### **Pharmacoepidemiologic Studies**

Pharmacoepidemiologic studies offer assessments of potential short and long-run adverse drug events within the general population with a wide range of health status and demographic characteristics and with a way longer follow-up period than clinical trials, that measure initial drug effectiveness and safety. It embodies live population primarily based on benefits and risks of drug in large numbers of individuals. Studies include the analysis of prescribing medication and its determinant factors, implementation of pharmaco-epidemiologic information into action, describe and analyze the economics of drug use and to advise decision-makers.

### **Pharmaceutics**

Pharmaceutics is the science of preparing and dispensing drugs. Pharmaceutics encloses the non-scientific aspects such as how to make medications more palatable, where raw materials may be obtained, etc. It is also called the science of dosage form design. Applied Biopharmaceutics examines the interrelationship of the physical/chemical properties of the drug, the dosage form (drug product) in which the drug is given, and the route of administration on the rate and extent of systemic drug absorption.

### **Pharmaceutical Analysis**

Pharmaceutical Analysis is also known as Quantitative Pharmaceutical Chemistry Biology Essay. It determines the quality of drug products via analytical chemistry. Pharmaceutical analysis course will introduce areas such as method validation, handling raw materials and finished products, documentations, inspections that impact the development of pharmaceutical products.

## **Medicinal Chemistry**

Medicinal chemistry is the chemistry discipline concerned with the design, development and synthesis of pharmaceutical drugs. Medicinal chemistry combines expertise from chemistry and pharmacology to identify, develop and synthesize chemical agents that have therapeutic use and to evaluate the properties of existing drugs.

## **Drug Metabolism**

Drug Metabolism is the process in which the body breaks down and converts medication into active chemical substances. It is also known as xenobiotic metabolism. Drug metabolism mainly takes place in the liver. Drug metabolism is a series of reactions. Oxidation, hydration, reduction, hydrolysis are a different kinds of reactions by which a drug is metabolized.

## **Drug Action**

Drug action is the effect of drug on various parts of the body. The drugs affect the rate of existing biological functions. Drug action can increase or decrease the rate of biochemical reactions inside the body. There are four types of drugs action when they are bringing with complex interactions with molecules of living organisms. They are: Molecular, Cellular, tissue and system.

## **Drug Discovery & Design**

Drug discovery is the process to identify new medications for bringing the disease to a safe and effective new treatment to patients. Design new drug involves the identification of screening hits, medicinal chemistry and optimization of those hits to increase the affinity, selectivity, efficacy, metabolic stability and oral bioavailability. Drug design is a splendid inventive process of new medication on the basis of biological target. It is also known as rational drug design or rational design.

## **Drug Delivery**

Drug delivery is the process of delivery of drugs to target sites of pharmacological actions for achieving a therapeutic effect in humans or animals. Drug delivery control the rate at which a drug is released and the location in the body where it is release. The use of nanotechnology in drug development is the developing process where the nanoparticles used to deliver the drug to the particular cell which is diseased. By this technology the particles which are engineered in such a way that they can attract to the diseased cell and allows treatment to the particular cell directly.

## **Pharmacognosy**

Pharmacognosy is the study of the physical, chemical, biochemical and biological properties of drugs, drug substances of natural origin as well as the search for new drugs from natural sources. Pharmacognosy deals especially with medicinal substances obtained from plants. It comprises of three subjects, botany, chemistry and pharmacology of the drugs from plants or simply the herbs.

## **Pharmacology**

Pharmacology is the science that deals with the study of drug origin, nature, chemistry, effects, and uses of drugs. It is the study of body reaction to the drug. Pharmacology is subdivided into two categories as mentioned above, pharmacodynamics and pharmacokinetics. Molecular pharmacology deals with understanding the molecular basis for the actions of drugs and the characteristics of interactions between drug molecules and those of the substrates of drug action in the cell.

## **Pharmaceutical Sciences**

Pharmaceutical Sciences is the branch of science which deals with the discovery and development of new drugs and therapies. Pharmaceutical sciences main categories includes: Drug Discovery and Design, Drug Delivery, Drug Action, Drug Analysis and Pharmacoeconomics. Analytical methods used in pharmaceutical science must be sufficiently accurate, specific, sensitive, selective and precise to conform to the regulatory requirements.

## **Drug Interaction**

Drug interaction is the process in which a drug affects the activity of a drug when both are administered together. This process can either increase the drug effect or decrease drug activity. In other words, Drug interaction is the action of one drug upon the effectiveness or toxicity of another. This interaction can be synergistic or antagonistic in nature thereby causing either an increased or decreased drug effect. Also, there may be a condition in which new a new effect can be produced that is neither produced on its own.

## **Emerging Drugs**

Emerging Drugs are newly formed drugs used for disease treatment. Emerging drugs are very important in the treatment of newly emerging and fatal diseases. Drug therapy also referred to as pharmacotherapy, is a common terminology often used in the field of biomedical science as well as epidemiology.

## **Drug Therapy**

Drug therapy is a process used to treat disease. In this process drugs interact with receptors or enzymes in cells to promote healthy functioning and reduce or cure illness. Drug therapy is also known as pharmacotherapy. Drugs interact with receptors or enzymes in cells to promote healthy functioning and reduce or cure illness. Pharmacotherapy is the treatment of disease through the administration of drugs. As such, it is considered part of the larger category of therapy.

### **Pharmaceutical Design**

Pharmaceutical design is the process of inventing new drugs for the treatment of disease based on the knowledge of biological targets. Pharmaceutical design is also known as rational drug design. It is used for the therapeutic benefit of patient. It is also known as rational drug design or rational design. That is the invention in medical history in order to yield significant therapeutic response.

### **Drug Transport and Delivery**

Drug transport and delivery is process of transferring a pharmaceutical compound into the body for providing therapeutic effect to the body. Drug transport and delivery is integrated with dosage form and route of administration. Common routes of administration of drugs are through the mouth, skin, Trans mucosal and inhalation routes.

### **Drug Intoxication**

Toxicology is the study of the adverse effects of drugs and chemicals on biological systems. Drug intoxication is the physical state in which impairment is caused after exposing to a drug. Drug intoxication can have mental effects also. Detoxification (detox for short) is the physiological or medicinal removal of toxic substances from a living organism, including, but not limited to, the human body, which is mainly carried out by the liver.

### **Pharmacovigilance**

Pharmacovigilance is a type of pharmacological science that deals with the detection, assessment and prevention of adverse effects of drugs to get the safe and rational use of medicines. Pharmacovigilance is for improving patient care and public health. Good pharmacovigilance practice is an important guideline to provide information regarding minimum standard for monitoring the safety of medicine on sale to the public of EU.

### **Biopharmaceutics**

The study of the physical and chemical properties of drugs and their properties and drug dosage as related to the onset of action of a drug, duration, and intensity of drug action. The evaluation of the chemical and physical

properties of drugs and the biological effects they produce. Biopharmaceutics as its dosage form as related to the onset, duration, and indication of its action.

### **Bioavailability**

Bioavailability is said to be the amount of drug that is reaching into the systemic circulation of blood or the rate of the extent of blood that is reaching into the blood is known as bioavailability. Bioavailability alludes to the degree and rate at which the dynamic moiety (medication or metabolite) enters systemic flow, in this manner getting to the site of activity.

### **Contraindication**

A Condition or symptom where to give an indication against the advisability or to give advice against a treatment. Relative contraindication denotes that alert ought to be utilized when two medications or methodology are utilized together, it is worthy to do as such if the advantages exceed the danger.

### **Drug Delivery Systems**

Drug delivery refers to approaches, formulations, and transporting a drug compound in the body as needed to administer safety and therapeutic effect. It may induce site-targeting within the body, or it may involve facilitating systemic pharmacokinetic and pharmacodynamic properties i.e., administration, metabolism, excretion etc. Medications have long been utilized to enhance wellbeing and expand lives. The act of medication conveyance has changed drastically in the most recent couple of decades and considerably more prominent changes are foreseen sooner rather than later.

### **Drug Design & Development**

Abnormal biochemical and cellular changes caused by disease are identified, and then compounds that may specifically prevent or correct these abnormalities (by interacting with specific sites in the body) can be designed. Most of the drugs in current use were discovered by experiments conducted in animals and humans. However, many drugs are now being designed with the specific disorder in view.

### **Drug Metabolism**

Drug Metabolism is said to be processed by which the body breaks down and converts medication into active chemical substances. Toxicology is a branch of Medical Science that deals with the effects of chemical compounds used in diagnosis, treatment, or prevention of disease or other abnormal condition on the body. Drug

metabolism involves the enzymatic conversion of therapeutically important chemical species to a new molecule inside the human body.

### **Drug Properties**

Drug properties include molecular entity, molecular weight, chemical reaction, dissolution properties, and structural design of the molecule etc. Medicinal chemists in private industry, research centers and government labs; ADME scientists who develop assays and perform measurements, as well as instrument vendors and software companies in this area; and students in medicinal chemistry and pharmaceutical sciences.

### **Drug Safety Databases**

Drug safety databases contain a professional assessment of the potential of drugs. This database permits the risk-profit analysis of medicinal products taking into consideration new and emerging information, within the context of additive data. Drug safety database offers programming of alerts for fast cases, follow-up cases and reports submission to fulfill regulative timeline compliance.

### **Drug Safety Information Maintenance**

Drug Safety Information maintenance maintains a periodic report preparation method so as to enable the surveillance and signal detection that allows for the delivery of greater patient safety.

### **Drug Targeting**

Drug targeting is the art of science where the drug delivery is aiming for delivery of the particular compound to a particular tissue or a part of the body. Targeted drug delivery system is a special form of drug delivery system where the medicament is selectively targeted or delivered only to its site of action, or absorption and not to the non-target organs or tissues.

### **Drug Stability**

Drug stability involves the length of the time a drug retains its properties without loss of potency; usually referred to as shelf life. Drug stability is to maintain the physical, chemical, therapeutic and microbial properties during the time of storage and usage by the patient.

### **Industrial Pharmacy**

Industrial Pharmacy is a branch of pharmacy that includes manufacturing, development, marketing, distribution of products of formulations that will take place. Industrial pharmacy has 2 research areas that are pharmaceutical industry and pharmaceutical technology. The research topics are focused on solving current general problems

in pharmaceutical industry, such as formulation and characterization of sticky amorphous drugs, problem-solving for pediatric medicines and miniaturization of manufacturing processes.

### **Molecular Design**

Molecular design of a drug involves the molecular modeling by various researches, and also involves the chemical and structural changes in the modeling of molecule or compound. Molecular Modeling allows scientists to use computers to visualize molecules means representing molecular structures numerically and simulating their behavior with the equations of quantum and classical physics.

### **Nanopharmaceutics**

Nanopharmaceutics can be defined as the science that applications with the implementation of the standards of nanotechnology in pharmaceutics. These conveyance frameworks, in light of their size impact, are equipped for changing the properties of a medication, including their bioavailability, biodistribution and pharmacokinetics. Nanomaterials, with their one of kind size-subordinate physical and synthetic properties, have indicated promising focal points as medication and quality conveyance vehicles, ultra-delicate intracellular identifiers and novel helpful medications. Nanopharmaceutics is one of the controls that will advantage the most from this innovation.

### **Pharmaceutical Technology**

The application of scientific knowledge or technology to pharmacy, pharmacology, and the pharmaceutical industry is said to be the Pharmaceutical Technology. Pharmaceutical technology implies to the advancements of modern technology towards the pharmaceutical field in the area of manufacturing, research, clinical and analytical and many more.

### **Pharmaceutical Nanotechnology**

Nanotechnology is a multidisciplinary field where the joining of fundamental sciences and connected controls like biophysics, molecular science, and bioengineering. It has made high impact effect in different fields of solution including cardiology, ophthalmology, endocrinology, oncology, pulmonology, immunology etc. Various new sub-atomic elements (NMEs) chose for full-scale improvement taking into account their wellbeing and pharmacological information experience the ill effects of undesirable physicochemical and biopharmaceutical properties, which prompt poor pharmacokinetics and dispersion after in vivo organization.

### **Prodrug**



A class of medications, at first in idle frame, that are changed over into dynamic structure in the body by typical metabolic procedures. A prodrug must undergo chemical conversion by metabolic processes before becoming an active pharmacological agent. Initially a prodrug is administered as in inactive form.eg: cyclophosphamide (inactive)- Cytochrome P-540(active).

### **Side effects**

The unintended effect of any drug that induces any reaction or causes harmful effects to the body. A reaction is typically viewed as an undesirable auxiliary impact that happens notwithstanding the craved restorative impact of a medication or drug.

### **Related Journals**

American Journal of Drug Delivery and Therapeutics, American Journal of Advanced Drug Delivery, Journal of Pharmaceutics & Drug Delivery Research, Research & Reviews: Drug Delivery, Journal of Clinical Trials, Journal of Cancer Clinical & Tumor Trials etc.

## **Manuscript Submission**

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