

PURPOSE, DUTIES AND BRIEF HISTORY OF THE SCIENCE OF CLINICAL PHARMACOLOGY

Mamadjonova Khakima Gulomjonovna

Andijan State Medical Institute, Uzbekistan

Abstract: Clinical pharmacology is a discipline that holds great significance in the field of medicine, focusing on the interaction of drugs with the human body. This article aims to provide an overview of the purpose, duties, and a brief history of clinical pharmacology.

Keywords: effects, history, development, study, aspects, science, drugs, technology

Introduction: The development of pharmacology led to the enrichment of practical medicine with highly effective drugs. Technical progress Today, taking into account the experience of the world medicine collected in scientific and practical medicine about the effect of drugs on the human body, the World Health Organization recognized "Clinical pharmacology" as a separate science in 1971.

The purpose of this is to deepen the clinical study of pharmacodynamics, pharmacokinetics, interaction and adverse effects of drugs on the basis of modern technology. Clinical pharmacology is the science of choosing an effective drug for a specific disease or syndrome based on the clinical and pharmacological description of the drug, recommending a combination of effective and safe drugs, and monitoring the effectiveness and safety of pharmacotherapy.

Therefore, the main goal of clinical pharmacology is effective. is to provide safe, individualized pharmacotherapy. Although the science of clinical pharmacology is young, the issues it solves are relevant for medical practice today. According to experts of the World Health Organization, the tasks of clinical pharmacology include:

1. Developing effective and safe ways to use drugs improve the quality of pharmacotherapy with exit.
2. Clinical testing of new drugs: collection of scientific and practical data on drug pharmacodynamics, pharmacokinetics, interactions and adverse effects (scientific research).
3. Collecting and teaching (dissemination of knowledge) data collected in world practice about the effects of Dorilam on the human body.

Pharmacodynamics - studies the changes caused by the effect of drugs on biological objects and the human body. The pharmacological effect of drugs depends on their interaction with special macromolecules «<target» cells. Receptor devices, ion channels, enzymes, transport systems and genes can be involved as "target" cells.

Receptors are active groups in substrate macromolecules that interact with drugs and provide a substance-specific effect. 4 types of receptor devices are distinguished:

Directly controlling the activity of ion channels receptors. This type of receptors includes n-choline receptors, GAMKA- receptors, glutamate receptors.

"G-proteins - secondary transmitters" or "<G-proteins - receptors of the ion channel type. Receptors of this type exist for many hormones and mediators (m-cholinerceptors, adrenoreceptors).

Receptors that directly control the work of effector enzymes. They bind to tyrosine kinase and control protein phosphorylation. Insulin and some growth factors are based on this principle.

Receptors that control DNA transcription. Unlike type I-III cell membrane receptors, they are intracellular receptors (soluble cytosol or nuclear proteins).

Steroid and thyroid hormones interact with this type of receptors comes into effect.

Clinical pharmacology is" that tone- discipline that teaches, does exploration, frames policy, offers data and recommendation about the moves and respectable makes use of of medicine treatments in people and tools that know- style in medical practice".

Clinical pharmacology is innately a translational tone- discipline sustained by using the abecedarian wisdom of pharmacology, engaged in the experimental and experimental find out about of the disposition and issues of capsules in humans, and devoted to the restatement of wisdom into substantiation- grounded rectifiers. It has a wide compass, from the discovery of new thing motes to the consequences of medicine application in total populations.

The essential thing of medical pharmacology is to induce statistics for loftiest quality use of capsules and the exercise of substantiation- grounded drug'. Clinical pharmacists have scientific and scientific coaching that allows them to consider evidence and produce new information thru well- designed studies.

Clinical pharmacists should have get entry to to sufficient victims for medical care, educating and education, and exploration. Their scores to victims include, still are now not confined to, detecting and analysing inimical medicine results and responses, rectifiers, and toxicology conforming of reproductive toxicology, perioperative medicine operation, and psychopharmacology.

Ultramodern medical pharmacists are also educated in information evaluation chops. Their styles to assay information can encompass modelling and simulation styles(e.g. crowd analysis,non-linear mixed- goods modelling). Medicinal makes use of of factory and beast means have been frequent because neolithic times. numerous countries, similar as China, Egypt, and India, have written attestation of numerous regular remedies.

A many of these requital are nevertheless viewed as useful moment, still most have them have been discarded, due to the fact they had been ineffective and presumably dangerous.For numerous times, remedial practices have been primarily grounded on Hippocratic humoral proposition, vulgarized via the Greek croaker Galen(129 –c. announcement 216) and now not on trial.

In round the seventeenth century croakers began to follow use ways to learn about standard remedies, though they nonetheless demanded strategies to take a look at the suppositions they had about how capsules worked. By the late 18th century and early nineteenth century, ways of experimental physiology and pharmacology started to be developed via scientists similar as François Magendie and his pupil Claude Bernard.

From the late 18th century to the early twentieth century, advances have been made in chemistry and physiology that laid the foundations wanted to fete how capsules act at the towel and organ situations. The advances that have been made at this time gave directors the capacity to make and promote medicines that they claimed to be effective, still have been in numerous cases empty.

There had been no strategies for assessing similar claims till rational remedial principles had been set up in drug, beginning at about the quit of the nineteenth century. The enhancement of receptor principle at the begin of the twentieth century and latterly tendencies led to advanced grasp of how medicines act and the enhancement of numerous new medicine treatments that are each defended and effective.

Expansion of the scientific generalities of pharmacology and scientific pharmacology continues moment. ultramodern medicine remedy has surely changed the fitness of peoples in developed transnational locales over the remaining 50 times. Conditions similar as poliomyelitis, diphtheria and pertussis have generally been canceled in fat nations. numerous deadly transmissible affections can be cured by means of ultramodern- day antimicrobial agents.

And complicated surgery, past the cleverness of our fathers, can be carried out safely and efficaciously the operation of contemporary anaesthetic agents. Those with continual affections have served immeasurably with the emergence of defended and superb requital for asthma, hypertension and hypercholesterolaemia. nonetheless, there stays big unmet medical want in developing, rising and developed countries.

There is, for illustration, a critical want for positive vaccines in opposition to HIV/ AIDS, malaria and tuberculosis. We've nothing to stop the inexorable decline in neurological characteristic in humans with neurodegenerative problems similar as Alzheimer's complaint, Parkinson's complaint or Huntington's complaint. And, when profitable vaccines and requital have been developed, they're too regularly unapproachable to these in the poorer factors of the world.

During utmost of the 2d half of of the twentieth century, exploration- grounded medicinal pots were, for realistic purposes, the sole force of new drugs. They discovered, developed and delivered wares – frequently with enormous imagination – for healthcare structures that have been in a position to have the finances for the freights needed to keep the assiduity's structure.

People in poorer countries, unfit to meet these prices – as duly as missing an fantastic healthcare structure – solely hardly ever served. The prospect for enjoyable unmet scientific want has, in some senses, in no way been lustrously. Advances in molecular strategies give the pledge of figuring out medicine-sensitive objects that may devaluate or treatment numerous saddening and life- hanging conditions.

The large chemical libraries handy to utmost pharmaceutical companies, coupled with high- outturn webbing and combinatorial chemistry, give implausible prices for us all. In addition, the emergence of an array of biotechnological strategies affords special styles to the enhancement of revolutionary drugs.

Yet, anyhow of the pledge from the wisdom, the outlook is now not favourable. Despite document backing in biomedical lookup by way of the public region and not- for- profit associations, as duly as with the aid of medicinal and biopharmaceutical companies, the volume of new energetic motes registered by using medicine nonsupervisory authorities has fallen dramatically.

The prices of bringing a new product to the request are growing at a price of 10 per annum, due in phase to the screw ups of wares throughout development, still also to the prolonged musts for substantiation- grounded attestation from nonsupervisory authorities(e.g. in aged cases). Added to this, numerous of the biggest medicinal pots are facing, through 2011, a reduction of 30 – 40 in development as their ' blockbusters ' come off patent.

There have also been marvelous recessions of some retailed medicines over the ending many times due to the fact of security enterprises. As a consequence, medicine nonsupervisory authorities have turn out to be decreasingly further peril antipathetic and vicinity ever increased requirements on directors to parade the security of their wares earlier than and after marketing. While this may also have some advantages for medicine safety, these measures are in all liability to amplify the figure of medicine treatments until they're carried out with tremendous care.

Conclusion: Clinical pharmacology has evolved into a vital field that aims to optimize drug therapy for individual patients, enhance patient care, and explore new therapeutic strategies. With a rich history spanning over a century, this discipline continues to evolve, embracing advancements in scientific knowledge and technological innovation. Through research, monitoring, and education, clinical pharmacologists play a crucial role in the safe and effective use of medications to improve patient outcomes.

References:

1. Zhou WC, Zhang QB, Qiao L. Pathogenesis of liver cirrhosis. *World J Gastroenterol.* 2014; 20(23): 7312-7324.
2. Albillos A, de Gottardi A, Rescigno M. The gut-liver axis in liver disease: pathophysiological basis for therapy. *J Hepatol.* 2020; 72(3): 558-577.
3. Y. M. Mamadov. *Klinik farmakologiya*, 2010, Toshkent: "TURON-IQBOL". ISBN 978-9943-14-131-5.
4. Zheng Z, Wang B. The gut-liver Axis in health and disease: the role of gut microbiota-derived signals in liver injury and regeneration. *Front Immunol.* 2021; 12:775526.
5. Xu C, Lei C, Meng L, Wang C, Song Y. Chitosan as a barrier membrane material in periodontal tissue regeneration. *J Biomed Mater Res B Appl Biomater.* 2012;