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Perspective

Pharmaceutical Development and Technology – Future of Drug Development

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The era of development in science and technology has bring many developments in pharmaceutical field the future of drug development seems to be versatile for increasing longevity of life. Although little is known about these industries but we don't know it is one of the highest risk, time consuming industry, highest budget industries in world. Humans are using ''drugs'' to treat medical problems for more than 3000 years. Pharmacopeia, the five volumes book De Material Medica, registered in the first century CE by Dioscórides, a Greek botanist. William Withering in the1780s honored for isolating the active metabolite in a herbal remedy. He discovered digitalis from the foxglove treat patients.

With changing generations Oswald Schmiedeberg (1838–1921) is now esteemed for founder of modern pharmacology. He calculated the pharmacology of chloroform and chloral hydrate and in 1878 published the paradigmatic, Outline of Pharmacology. The journey in the drug development is not that easy every year we see couple of drugs licenced for use but we don't know about every year thousands of other drugs in development are wayside. The development of new drug takes 12 year and even more and budget may approximate around £1.15bn. The beginning of this development starts with milestone form research laboratory or pharmaceutical company by understanding the process of disease at cellular or molecular levels and then identifying the treatment. The old era believed in treatments from animal, plant, fungi or marine bodies but as knowledge of scientist increased over years they now believes in molecular alteration by proteins, better understanding of genetics and gene therapy. After short listing the exact treatment modalities the check for safety and efficacy is done by various pre - clinical trials and final the fewer one goes for approval by Medicines and Healthcare products Regulatory Agency (MHRA) before the trials in human is done Clinical Trial Application is put forward to scientist who will then confirm whether or not these primary trial should proceed for human trials. Approximately around 10 % of these drugs still failes in stage two that is stage of clinical trials. The process of marketing and authorization is similar worldwide that need the approval form national organization of food and drug administration the final submit contains preclinical and clinical information obtained the pharmacology of the drug, side effect, dosage etc. The pharmaceutical companies patents only those drugs that promises for early development this prevent it by coping from other companies. For every 25,000 compounds that begins in the lab, 25 are investigated for humans, 5 comes in to market and just one percent what was invested.

These grueling process in the development of drug and tremendous hard work of scientist and companies funding are all very complicated before medicine comes in market. It is well said that 'it is easy to get thousand prescription but hard to get single remedy' n numbers of these pharmaceutical companies are trying hard to give a single drug to be used safe by people worldwide.

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