

Hello students, I am Dr. B. L. Malik, Associate Professor from P.E. S's R.S. N. College of Arts and Science, Farmagudi, Ponda, Goa.

Today under Industrial chemistry subject with course code ICD 102 with course title Pharmaceutics and Pharmacognosy we're going to study in the module Historical background and development of Pharmaceutical industry in India.

While going through this module, you will come across certain terminologies like Ayurveda, Panchmahabhuta, three dosha, saptadhatu, flora and fauna, and pharmacopeia.

After going through this module you will learn about historical background of pharmacy in India you will understand the meaning of some of the terms involved in Aayurveda, you will know the meaning of pharmacopoeia, monographs etc. You will also study various steps involved in the development of Indian Pharmacopoeia.

Let us try to understand historical background. Indian art of healing is as old as that of Hinduism itself. Aayurveda is believed to be prevalent for more than 5000 years which deals with the disease, injuries, fertility, sanity and health. According to Aayurveda the main principle behind life is the Panchamahabhuta or the hypothesis that everything in the universe is composed of five basic elements. Those are earth, water, space, fire and gas. They exist in the human body in combined form, like Vatta, to include space and gas, Pitta includes energy and liquid, kuffa includes liquid and solid. Vatta, Pitta and kaffa are termed as three dosha means three pillars of life. They are supposed to be in harmony with each other.

However in human beings one of them is dominating which is termed as property of that person. Three dosha exist in human body in seven different forms called as saptadhatu. These are Rasa means lymph, Rakta means blood, Meda means adipose tissue made from fats, Mamsa means flesh, majja means nerve tissues, Shukra means reproductive tissues & Asthi means bones.

All these tissues are subject to wear and tear so that along with these the waste from digested food called as Mala, excretory material in solid form and mutra, excretory material in liquid form is generated. When tridosha, Saptadhatu & Mala are in balance with each other is referred as healthy condition whereas imbalance leads to pathological

condition. Aayurveda incorporates all forms of lifestyle in therapy. Therefore, yoga, aroma, medication, herbs, diet, astrology, color and surgery are used in comprehensive manner in treating patients.

The important contributions were made by Charak Sahita, Sushrut Sahita & Vagabhata. In ancient India the sources of drugs were plants, animals and mineral origin which were prepared by very few experienced persons. The knowledge of this medical system was kept as a secret within the family. No scientific methods were used for standardization of these drugs.

In Tamil Nadu during 1908, the hospital activity was undertaken for treatment of patients with various diseases. India, being rich in flora and fauna a wide variety of herbs were used to treat diseases like jaundice, hemorrhage, etc. In 1563 Portuguese practitioner Grassia-de-Orta reported use of Indian herbs for the first time. British traders brought the allopathic medicines to India in 15th century. In 1930, the first pharmaceutical company called as Bengal Chemicals and Pharmaceutical works was established in Calcutta. The history of Indian pharmaceutical market in 1970 was almost non-existent but today India is one of the leading countries for the pharmaceutical industries.

Let us try to understand pharmacopeia. The word pharmacopoeia originated from the Greek word pharmakon meaning drug & poein meaning make, meaning any recipe, formulation, preparation required to prepare drug. It's an official publication containing list of medicinal compounds with their effects and directions for their use.

In its modern technical sense it's a book containing or describing drug chemicals and medical preparations or a book containing directions for identification of compounds as medicines which is published by an authority of a Government or medical or pharmaceutical society serving as a standard.

Let us try to understand about monograph or what is called as drug monograph. A publication that specifies for a drug, the kind and amount of drug ingredients it may contain. The conditions and limitations for which it may be offered, directions for use, warnings and other information. The monograph may also contain important information about interaction with other drugs.

Let us try to understand how the Indian pharmacopia developed slowly. First official pharmacopoeia of India which was edited by Edward John Warring appeared in 1868.

Before independence British Pharmacopoeia itself was used in India. The colonial addendum of British Pharmacopoeia 1898 was published in 1900 appeared as Government of India edition in 1901. In 1946 a committee was constituted by Department of Health, Government of India, New Delhi under chairmanship of Sir. R.N. Chopra along with nine other members who prepared the Indian Pharmacopoeia list. In 1948 Government of India appointed an Indian pharmacopia committee having five years tenure for preparing Pharmacopoeia of India. Indian Pharmacopoeia Committee under chairmanship of Dr. B. N. Ghosh, Professor of Pharmacology, R.G. Kar Medical College, Calcutta Published first edition of Indian Pharmacopoeia in 1955.

Students if you want to know more about the above discussed topic, the references which are given at the bottom of this module can be used. R. Harkishan Singh, Pharmacopeias and formularies history of pharmacy in India and related aspects volume one, published by Vallabha Prakashan in 1994 and kokate C.K., Puroohit A.P. Gokhale S. B. under the name pharmacognosy with his 41<sup>st</sup> edition, Published by Nirali Prakashan in 2008.

Thank you very much.