



Sir Ram Nath Chopra: A Profile



Ram Nath Chopra (1882-1973)

Ram Nath was born on August 17, 1882 at Gujranwala, Punjab. He had his early education at Jammu and Srinagar and collegiate studies at Government College, Lahore. He left for England in 1903 and enrolled himself in the Downing College, Cambridge. He qualified for Natural Sciences Tripos and admitted B.A. in 1905. He was privileged to work with famous Dr. Walter E. Dixon, a keen experimental pharmacologist. He also studied at Bartholomew's Hospital in London. He successfully competed for the Indian Medical Service (1908). He obtained Cambridge M.B. and M.D. and the London M.R.C.P.

R. N. Chopra worked in the medical service for over a decade before joining the newly created Calcutta School of Tropical Medicine in 1921, as the first professor of pharmacology. He was also appointed to the chair of pharmacology at the Calcutta Medical College. Thus Chopra started out as the first professor to give lectures in pharmacology. At the School he got to lecture and hold demonstrations for the postgraduate students and it was undergraduate teaching in the subject at the Medical College.

In a few years, the pharmacology laboratory at the School became as well equipped as some of the best pharmacological laboratories in the United Kingdom. The charge of the Out-patient Department in general tropical diseases and a number of beds in the Carmichael Hospital of Tropical

Diseases were of great help in keeping the Pharmacology Department in direct contact with clinical work.

Chopra was able to collect around him a team of gifted young researchers and trainees who came from different provinces to work under him. He started building the pharmacological study and research in right earnest. He projected a new face of the subject, changing it from traditional materia medica to modern pharmacology. The major strength of his work was experimental pharmacology.

The period Chopra spent at the Calcutta School of Tropical Medicine was the most significant span of his career. Varied kinds of studies were carried out falling under the broad head of general pharmacology and chemotherapy. The indigenous drugs constituted an important segment of his work plan. He also engaged in meaningful surveys on drug addiction. Drug analysis was the other activity that engaged his attention. During the period at the School, he headed the pharmaceutical history-making Drugs Enquiry Committee and also contributed to the development of pharmaceutical profession.

Professor Chopra was the first to establish a centre of study and research in pharmacology in India, at the Calcutta School of Tropical Medicine. The Department of Pharmacology earned prominence for the researches in various aspects of tropical medicine, therapeutics, chemotherapy, experimental pharmacology, toxicology, clinical evaluation of drugs, drug addiction, indigenous drugs, drug standardization and biological assays, pharmaceutical problems and problems pertaining to clinical medicine, and diagnostic services.

There is no doubt that Chopra parented pharmacology in India. Dr. B. Mukerji paid rich tributes to him in a write-up when Sir Chopra was leaving the Calcutta School after unmatched accomplishments. It was stated "Professor Chopra will be long remembered as the 'Father of Indian Pharmacology' and a founder of a school

of pharmacologists..... Chopra unconsciously served to build up a school of Indian pharmacology in the comparatively short space of 20 years from almost nothing but descriptive materia medica and non-scientific teaching of older days. If Chopra did not do anything else but this, his name would remain to posterity. As 'Father of Indian Pharmacology' in India, Chopra's position may be compared to those of Oswald Schmiedeberg of Germany and John Jacob Abel of America."

Coming to Chopra's pet discipline of systematic studies of indigenous drugs, it is well accepted that the credit for opening up this largely neglected field goes to him. It is his work that gave an impetus to research on Indian medicinal plants at different institutions. Investigations started in various universities and colleges in centres such as at Calcutta, Bombay, Dacca, Patna, Allahabad, Lahore, Madras, Trivandrum, etc.

At Calcutta, Chopra group carried out extensive studies on indigenous drugs. The enquiries employing modern methods of chemical, pharmacological, and therapeutic research showed that certain drugs deserved pharmacopoeial recognitions, and the examples cited included ispaghula, kurchi, rauwolfia, psoralea, cobra venom, etc. These and several other indigenous drugs became official in the Indian Pharmacopoeial List 1946 and Pharmacopoeia of India (1955).

Chopra and associates carried out a pioneering work on *Rauwolfia serpentina*, a plant that gained prominence two decades later as a source of reserpine. In 1933 it was reported that an alkaloid obtained from the plant on experimental studies in animals showed central depressant properties and lowered the blood pressure.

Professor Chopra stayed on at the Calcutta School of Tropical Medicine for two decades (1921-41), 7 years as Director of the School. After superannuation from the Calcutta School, he returned to his home State of Jammu and Kashmir, where he was called upon to take up duties of the Director of Medical Services and Research. He also headed the Drug Research Laboratory as the Director. He maintained his interest in the indigenous drugs and Indian medical systems.

It is interesting to note what was expressed in a review of second edition (1958) of the book on indigenous drugs about Chopra's researches on the subject: "To this work be brought to bear not only the talents of a scientist, but also the zeal of a missionary and crusader. He succeeded in infusing enthusiasm and a sense of devotion not only

into his colleagues and collaborators in the institutes whose destinies he has guided in the role of director, but also into scientists situated far away in different parts of the country. The pages of the present volume provide ample testimony to the phenomenal increase in the attention given to Indian indigenous drugs in the numerous laboratories scattered through the length and breadth of India, and it should surely be a matter of great satisfaction to Sir Ram Nath Chopra to witness all this growth." Elsewhere, it has been said that he "sowed the seeds of self-reliance and triggered the movement of scientific research on traditional 'Indian medicine'" (V. Ramalingaswami and G. V. Satyavati, 1982).

The books by Chopra and associates entitled "Indigenous Drugs of India," "Glossary of Medicinal Plants of India," and "Poisonous Plants of India" became the most enduring and popular encyclopedia of Indian medicinal plants.

Colonel Chopra's contributions toward promotion of Indian systems of medicine were also significant. The recommendations of the Committee on Indigenous Systems of Medicine at which he presided brought focus on the Indian systems and the process for their consolidation started. The recommendation for integration of Indian and Western Systems still remains a far cry. A beginning was made for preparing the Ayurvedic and Unani pharmacopoeias through the respective committees chaired by him.

When in 1930 the Government of India constituted the Drugs Enquiry Committee, it was fortunate that a person of Colonel Chopra's vision was chosen to chair it. The recommendations of the committee greatly helped in several of the much needed pharmaceutical developments in the country. The Drugs Act 1940 was enacted, which later changed to Drugs and Cosmetics Act 1940 in 1962. The scope of the statute was further widened through the 1964 amendment; the provisions were expanded to bring Ayurvedic (including Siddha) and Unani drugs under its purview. The Indian Pharmacopoeial List of 1946 was published as an Indian supplement to the British Pharmacopoeia 1932. The Pharmacopoeia of India publications started with the 1955 edition. The Pharmacy Act 1948 was legislated for control of pharmacy. All these and formation of ancillary bodies directly resulted largely from the recommendations of the Chopra Committee. It is no overstatement to say that in the 20th century pharmaceutical annals of India, the establishment of the Drugs Enquiry Committee proved to be the most significant event.

In several other ways also Colonel Chopra influenced the

development of pharmaceutical areas as the industry and the education. He was directly involved in the shaping of the pharmaceutical profession. He showed a spirit of friendly good-fellowship with lowly compounders. His advice helped the All Bengal Compounders' Association to change into Bengal Pharmaceutical Association. He made himself available to preside over these bodies and direct the course of professional activities.

It has been appropriately noted that, "With remarkable foresight, Chopra saw the vision of India's pharmacy development of today at time when most members of the medical profession remained in utter ignorance of the aim, scope, and the province of the modern pharmacy. In fact he had to face considerable opposition from certain sections of the medical and chemical professions when he launched his pharmacy reform movement in the 1930s. However, the forces of progress for a good cause could not be halted by critics with a negative attitude of mind. To Chopra must go the credit for blazing a new trail in putting modern pharmacy on the scientific map of India. The tremendous development of ethical drug manufacture and the very healthy growth of pharmaceutical profession in India owes not a little to the forward-looking pioneering faith and dream of Chopra in the virility and potentiality of Indian Pharmacy. He lived long enough to see his dream well fulfilled' (B. Mukerji, 1973)."

Sir Ram Nath Chopra passed away on June 13, 1973 at his own home at Srinagar, Kashmir. With this, a doyen of science and medicine was gone. Professor Chopra raised himself almost to the status of an "institution rather than an individual," a glorious career seldom to be achieved by most medical scientists in India (B. Mukerji, 1973). Chopra was equally well known for his humility, courtesy, and kindness. Those who came in contact with him could never forget his magnetic and simple personality, his high idealism, his unbounded enthusiasm, unflinching devotion to laboratory and clinical work, and above all his remarkable capacity to bring about a "team spirit."

Ram Nath Chopra's capabilities, contributions, and standing were deservedly recognized. He received many prestigious honours.

When Dr. R. N. Chopra joined as a Professor at the Calcutta School of Tropical Medicine in 1921, he held the rank of a Major in the IMS. He got to be Lieutenant-Colonel in 1927. It was his work on the Drugs Enquiry Committee and fine services to the School that brought to Colonel Chopra

recognition in the New Year Honours list of January 1934 by the award of C.I.E. In 1935, he was made Honorary Physician to His Majesty the King with the Brevet rank of Colonel. He was elected a Fellow of the Asiatic Society of Bengal in 1933 and in 1939 he became Vice-President of the Society; he also received Barclay medal of the Society. He was elected President of the National Institute of Sciences of which he had been a Foundation Fellow.

From the School and the University of Calcutta, Colonel Chopra was awarded the Minto Medal, Mouatt Medal, Coatos Medal, etc. He was awarded the Sc.D. degree of Cambridge University for his contributions to the science of medicine. The Royal College of Physicians of London elected him as a Fellow.

Brevet Colonel Chopra was elected to Honorary Memberships of the American Society for Pharmacology and Experimental Therapeutics and the Pharmaceutical Society of Great Britain and as a corresponding member of the Belgian Society of Tropical Medicine.

Brevet Colonel R. N. Chopra was conferred the Knighthood in the 1941 New Year Honours list.

Colonel Chopra became the general president of the Indian Science Congress (1948) having earlier been twice sectional President in Physiology and Medical Sciences of the Congress.

The Indian Pharmaceutical Association elected Sir Chopra as an honorary member and conferred on him the Dr. E. R. Squibb award for his outstanding contributions.

[Chapter 1 in the author's book *History of Pharmacy in India and Related Aspects, Volume 7: Builders and Awareness Creators of Modern Pharmacy 4: Sir Ram Nath Chopra – Work, Vision and Legacy*, Vallabh Prakashan, Delhi, *in press*. This publication of historical importance is mainly a compilation, reproducing as in original the addresses delivered and selected writings by Sir Chopra and articles by his disciple Dr. Bishnupada Mukerji on his preceptor's role as crusader of pharmacology and promoter of pharmacy; a consolidated list of Sir Chopra's publications is also appended.]

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