



## Indian System of Medicine Offers Sustainable and Affordable Drug Development

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### Abstract

*Indian System of Medicine, particularly Ayurveda has enjoyed golden days from 800 B.C. to 1000 A.D., means total 1800 years. Modern Medicine also called as Allopathic Medicine has popular acceptance just for 100 years. Diseases can be treated effectively by different approaches. Allopathy is just one way of it and it has lot of scientific and economical limitations. Considering, Global Health Issue it is necessary to give impetus to alternative ways of treatment. Indian System of Medicine is the ocean of knowledge and can treat all the diseases successfully, if properly applied. Drug development that is developing new medicinal formulation is sustainable and affordable by holistic approach of Ayurveda for emerging health challenges.*

**Key Words:** Indian System of Medicine, Modern Medicine, Holistic Ayurvedic Approach.

### Introduction

Ayurveda and Siddha are the main components of Indian System of Medicine. Yoga is an integral part of Ayurveda. India was superpower in the field of healthcare for nearly 1800 years. Currently, Modern Medicine is the most acceptable approach for the treatment of diseases. But it has lot of limitations. It fails to address Global Health Issue. Scientific and economical dimensions are responsible for its failure. The systems of medicine are now being examined not as isolated scientific and technical development but they are being evaluated also through sociological perspectives. Holistic Approach of Ayurveda has no limitations in solving emerging health challenges. Only thing is we need to apply the knowledge of the Indian System of Medicine properly. India has such a rich heritage of medical knowledge that we just need to apply it in modern perspectives. Drug development that is development of new medicinal formulation is possible with holistic approach of Ayurveda.

### Health Care Heritage of India:

When we study the history of Indian System of medicine, we can agree that it is one of the great heritages India has. Our knowledge of Vedic medicine is mainly derived from two Vedas, the Rig-Veda and the Atharva-Veda. Ayurveda is the sub-branch of Atharva-Veda. Ayurveda is not only a medical science but it is a science of life.



First International Conference of Scientists was held at the foot of Himalaya. This conference selected three scientists namely Atreya, Kashyapa and Dhanvantari to learn the knowledge of Ayurveda. Atreya mainly studied the science of medicine, Kashyapa learned gynecology and pediatrics and Dhanvantri mastered the science of surgery. These three scientists and their disciples wrote number of different texts. Only three authentic works have stood the test of time and are available today and they are Charaka Samhita, Sushruta Samhita and Ashtanga Hridaya Samhita.<sup>1</sup>

Ayurveda believes body is important, but it is not the only thing that is important. Body is important because it is the seat for our mind, mind and body together becomes the seat for our consciousness. Ayurveda also believes that the power of knowledge, action and will must be in harmony. As per Charaka, Ayurveda has no starting, no ending. It is *sanatan* and *anaadhi*, which means the knowledge of Ayurveda will remain in the universe for all the time to come.

### **Encounter of Indian Medicine with Foreigners:**

It is well known that the ancient civilizations of Greek, Romans and Chinese had liberally borrowed from the ancient Indian medical wisdom and practice. Aristotle, the special tutor to Alexander the Great, prompted Alexander to invade India and that made the latter to make the famous expeditions and reach India in 327 B.C. But, even before this in 992 B.C. the chronicles of Solomon made reference about his ships visiting the western coasts of India to procure the costly spices and rare healing drugs.<sup>2</sup>

The period of rational medicine starts about 800 B.C. and from that time until about 1000 A.D. was the golden age of Indian Medicine. Charaka and Sushruta Samhitas reached as far as Manchuria through translations in Tibetan and other Asian languages. Arabic translations of Caraka and Susruta Samhitas in the 8<sup>th</sup> century A.D. influenced European Medicine during the Middle Ages.<sup>3</sup>

The golden age ended when waves of invaders inundated northern India between the 10<sup>th</sup> and 12<sup>th</sup> centuries. They slaughtered sages and monks, destroyed the universities and burned the libraries. Those who could escape fled to Nepal and Tibet, where Ayurveda had first penetrated in the 8<sup>th</sup> century AD. Some Indian Ayurvedic texts are thus preserved today only in Tibetan translation.<sup>4</sup>

The western or the so-called Allopathic system came into India with the British traders who later become the rulers. Under British rule this system got state patronage.<sup>5</sup> In the early phase of the East–West encounter during 1750–1820 when the conquest of India was not complete, British observers tended to look at Indian technological practices critically, accurately and often Ayurveda too was then viewed with tolerance, and the herbal extracts incorporated into the formulary without subscribing to the theoretical framework of Ayurveda. But the tone of British reports changed after India's complete subjugation and the “de-industrialisation” of Bengal. Macaulay regarded Indian literature as trash, and colonial officers generally looked with contempt on India's scientific, medical and cultural heritage. In promoting modern



medicine, the colonial rulers also took every possible step to discourage the development of Ayurveda which was regarded as unscientific and lacking in merit.<sup>6</sup>

We must not forget that during British Raj, hands of many Ayurvedic Medicine Practitioners, mainly of Marma Point Therapist, were chopped off.

### **Allopathic Medicine Success:**

Modern medicine has been extraordinarily developed with the amalgamation of technology in the field of diagnostic, prognostic, and curative procedures. Newer technologies are being introduced each day for finer and precise understanding of human being and diseases. Molecular genetics, radio-diagnostics, and invasive cardiology are few examples that show the power of human brain to probe physiology and investigate pathology.<sup>7</sup>

### **Allopathic Medicine Problem:**

The cream layer of students all over the world opts for the study of medical sciences. Still millions of people are dying by different diseases in every country. What is the reason? If we go through syllabus of the great universities teaching medical sciences we can immediately come to know that it is biased syllabus. They are not thought anything about prevention of disease. They don't have the concept of proper nutrition and overall health. 'A Pill For Every Ill' is the approach that is followed. It is in favor Pharmaceutical Industry. These multinationals in the field of pharmaceutical industry are powerful enough to align syllabus in their benefits. These industries can affect even WHO's decisions and US Food and Drug Association's rules. Their financing of Research Projects is not philanthropy. It is part of nexus cycle they are playing.

We may think why people go for allopathic treatment. Simple thing is people are educated in such a way that they don't know reality of this sector. Even medical practitioners are not. They don't know real history of modern medicine. Many people who suffer openly agree that modern medicine profession is corrupt as any third world nation. The agencies which are designed to protect humanity are protecting interest of pharmaceutical industries.

The commoditization of reproductive bodies trade and the reduction of the nurturing affective labor of reproduction to exchange value is observed. Even reproductive body parts, ova, sperm, and embryos are stratified—marketed according to place of origin, the characteristics of their donors, and gender.<sup>8</sup>

Many practitioners of Modern Medicine opt for homoeopathic or ayurvedic medicine for them and family. It indicates that they are aware of its dangerous side effects of allopathic drugs. And some of the diseases can not be cured by Modern medicine.

As per the great Vagabhata, therapeutics which settles one disease but triggers another is a flawed practice of medicine; proper treatment settles the primary disease but give rise to no other. In allopathic way of treatment sometimes medicine given is more harmful than disease. If we study the treatment of



cancer by modern medicine we can conclude that cancer treatment causing cancer. Many patients die during and after treatment of cancer since the basic holistic principles are not followed.

We must learn from our experience of the green revolution in India. No doubt production is increased by the excessive use of fertilizers, insecticides and pesticides. But now cancer becomes so prevalent among the people of Punjab and Haryana that some trains are commonly called as cancer trains because of number of peoples travelling for cancer treatments. Now, people are preferring food grains from organic farming. Similarly, in modern medicine treatment foreign artificial chemicals are given to the patients. Sometimes doctors know possible side effects, sometimes not.

### **Sustainability and Affordability:**

It is a well-recognised fact that many modern medicines, largely discovered and developed by the pharmaceutical industry are in general unaffordable to the majority of patients in economically backward, developing countries. Since they constitute around 75 per cent of the world's population, it is a matter of great concern for the future of healthcare itself, if for the majority of world's population, access to medicines, which are patent protected, is denied.<sup>9</sup> Rising healthcare costs have made drug pricing a controversial issue worldwide. 'How much is too much' is a question that is consistently asked in this context. While there are several factors contributing to rising drug prices, strong intellectual property (IP) laws and the efforts of private sector to monetize such IP are widely blamed for such outcome.<sup>10</sup>

As per tradition, Ayurveda practitioner believed that wealth earned from medical science is always contaminated, as it comes from the suffering of others. Hence it must be practiced with compassion, humility and without greed. Nowadays, Allopathy is nothing but a business model of Modern Healthcare Sector. Now it is treated as Healthcare Industry. Money, advertisement and propaganda draw common people first towards Allopathy. Ayurveda can give sustainable healthcare solution to the world. Because one day greed based model of healthcare definitely will fail like most of the western models.

### **Drug Development Approach:**

Modern medicine is based on the isolation or synthesis and characterization of potentially active compound. Then different properties of this isolated compound are studied. This new drug is first tested in animals. If animal studies reveal adequate efficacy and reasonable safety, then it is subjected to further testing in human beings.<sup>11,12</sup>

With increasing globalization many multinational companies are trying to conduct clinical trials in developing countries like India to reduce their cost related inputs.

As per Ayurveda, all the constituents of the extract collectively lead to cure the disease in and not particular single component.



### **Worldwide Recognition to Alternative and Complementary Medicine:**

The World Health Organisation (WHO) had decided the the goal of 'Health for All' by the year 2000. But it is still a distant dream. The goal can be achieved only if a holistic approach to healthcare is promoted.<sup>13</sup> WHO recommends the herbal/traditional remedies in national healthcare programmes in view of their low cost and better safety profiles along with people's faith in such remedies. In India, scientists prefer to put the herbal materia medica of Ayurveda on a modern scientific footing to ensure standard quality of drugs.<sup>14</sup> Department of Indian Systems of Medicine and Homoeopathy (ISM&H) was created in March,1995 and re-named as Department of Ayurveda, Yoga & Naturopathy, Unani, Siddha and Homoeopathy (AYUSH) in November, 2003 with a view to providing focused attention to development of Education & Research in Ayurveda, Yoga & Naturopathy, Unani, Siddha and Homoeopathy systems. The Department continued to lay emphasis on upgradation of AYUSH educational standards, quality control and standardization of drugs, improving the availability of medicinal plant material, research and development and awareness generation about the efficacy of the systems domestically and internationally.

### **Integrative and Holistic Approach Needed:**

India has one of the richest biodiversities also an equally rich knowledge of how to use this biodiversity for serving and promoting human health. This makes India very unique. Allopathic way of treatment is not the only way to treat the disease. There are alternative ways too. Alternative Medicine involve AYUSH. Approach of treatment of many diseases sometimes is totally different. Dalai Lama once said that the allopathic medicine and ancient ayurvedic medicine together can give immense benefit to humanity.

### **Innovative Open Source Drug Discovery (OSDD) Initiative:**

No new drugs have been discovered for TB over several decades, as TB is perceived as a disease of the poor and there is no return of investment for pharmaceutical companies to invest in it. This calls for alternative innovative strategies for development of new drugs for neglected diseases like TB outside of the pharmaceutical industry.<sup>15</sup> Open Source Drug Discovery (OSDD) initiative has its roots in philosophy of Open Source and free data sharing. This concept is facing resistance from multinationals. It is criticized for lot of things. But OSDD proved to be successful concept.<sup>16</sup>

Here academicians in the field of Chemistry can contribute in OSDD to greater extent. For this they need to sacrifice their hunger of publications in high impact factor journals.

### **Indian System of Medicine-Recent Developments:**

Yoga, an integral part of Ayurveda, has been seen to be useful to patients with heart disease and hypertension. Yoga reduces anxiety, promotes well-being, and improves quality of life. Its safety profile is excellent. Its use as a complementary therapeutic regimen under medical supervision is appropriate and could be worth considering.<sup>17</sup> Our beloved PM Narendra Modi on the occasion of 6<sup>th</sup> World Ayurveda



Congress and Arogya Expo, New Delhi, has appealed Ayurveda Practitioners to have faith in the holistic medicine, Ayurveda. He asked the academicians, researchers to publish research articles in good international journals. For this 10 to 20% space must be reserved for research articles in Ayurveda, he has mentioned. So that world may come across Ayurveda knowledge in addition to that of modern medicine. Yoga has created its space in the western world. Similarly, it is possible for Ayurveda too.<sup>18</sup>

On the same occasion Union Health Minister Dr. Harsh Vardhan announced that the Government will set up an exclusive drug control department to facilitate Research and development, monitor quality control and standardise the manufacturing of medicinal products of Ayurveda and other traditional Indian treatment systems.<sup>19</sup>

### Conclusion:

Nowadays, world is increasingly accepting a role of social sciences like history in the domain of health and medical care management. The systems of medicine are now being examined not as isolated scientific and technical development but they are being evaluated also through sociological perspectives. If we study history of medicinal sector we will find that Indian System of Medicine was deliberately discouraged and crushed using all the ways by the British. Nation is calling us to do our research work in the field of Indian System of medicine. It is a noble cause. It is in the interest of India and humanity as a whole. It is an opportunity, do not miss it. The Western world is looking to the East to find solutions for emerging health challenges. Contribution of people working in the subject chemistry can take our Indian System of Medicine to new heights. So, we must take the vow to use our intelligence for rejuvenation of our Indian System of Medicine.

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