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Sushruta, Charaka and Patanjali of Ancient India who have Shaped the Medical Science in the World: An Analytical Study

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Abstract

The ancient sages provided extensive information about the causes of ailments and even detailed the possibility of hereditary transmission channels and methods for curing them. Ayurveda is a natural medicine system that was developed in India over 5,000 years ago and uses herbs and other materials to treat health issues. Examining the contributions of ancient Indian medical scientists Sushruta, Charaka, and Patanjali is the study's main goal. ***Method:*** The study is descriptive in nature and is mostly based on information gathered from books and other secondary sources like journals, Hindu scriptures, and online search engines like e-libraries, e-books, e-articles, and different website-based information, reference materials, wikipedia, Buddhist writings, medical related ancient books, stories of Greek travelers to India, ancient scriptures, etc. ***Results:*** Indian medical knowledge travelled over the world and was retained in certain regions where it was used in a modified form while maintaining its originality. In ***conclusion,*** Sushruta, Charaka, and Patanjali had a major influence on India's medical systems in antiquity. Their important findings and innovative theories still have an impact on how we advance medical procedures.

Keywords: Greek travelers, Buddhist writings, Ayurveda, Natural medicine, Herbs, Scriptures.

I. INTRODUCTION

The Atharvaveda, previously an oral tradition of medical knowledge passed down from generation to generation from antiquity, contains a large number of earliest medical writings. The Atharvaveda has sections on topics including longevity, sickness treatment, germs' eradication, poison removal methods, wise eating practices, and good living. The hidden lesson in this narrative is the value of proper hygiene, a sensible diet, physical and mental health, etc. It is amazing that the ancient sages discussed intricate knowledge for the causes of diseases and also mentioned the potential for genetic transmission routes. The Vedas, the oldest collection of classic literatures are remained in existence, are the ancient' source of Indian medicinal science known as Ayurveda. The four Vedas, holy texts of knowledge written most probably between 1500 and 800 B.C., are the earliest sources from which we are getting the idea of Indian philosophy and medicine [Web 2]. The Atharva Veda's Upa-veda is concerned to Ayurveda. There are numerous allusions to different aspects of medicine in all four Vedas, according to an examination of the Vedic text. Gods regarded as celestial healers at that period included Rudra, Agni, Varuna, Indra, and Maruthi [1, 5 & 6].

Andhra University Vice-chancellor, Prof. G Nageshwar Rao, asserted during his talk at the 106th Indian Science Congress, 2019—which was hosted at Lovely Professional University, Jalandhar—that although western ideas centred on the development of man, our science went beyond that. "Our sages and saints thought beyond. That is why they proposed Dashavatar, which is a better theory than the theory of evolution proposed by Charles Darwin." In his presentation, he also mentioned that Guided missiles were known to India thousands of years ago and that the technology of stem cells and test tubes led to the creation of the Kauravas. "Everybody wonders and nobody believes how did Gandhari give birth to 100 children (Kauravas). People

ask is it humanly possible that a lady can give birth to 100 children in her lifetime? People believed that Kauravas were fictitious character. But now we believe it when we have test tube babies. And again Mahabharata says the same thing that 100 eggs are put into 100 earthen pots. It is like a test tube baby, stem cell research." "Stem cell research was done in this country thousands and thousands of years ago. Even today many people do not understand what stem cell is, but thousands of years ago we had this technology. Because of this technology 100 Kauravas were born to one mother few thousand years ago," he added [Web.1].

For many of us understand that Ayurveda is limited to herbal remedies and warm oil massages, but it is not true. The Ayurveda's application is everywhere. Many times where modern medicine fails to cure a complicated disease, the Ayurveda starts action and cure fully from the root. The Ayurveda has an astoundingly detailed scope of treatment for total health including from paediatrics to geriatrics for rejuvenation, surgery, and even sexual health. Ayurveda is Ashtanga science. Ashta means 8, anga means branches. Ashtanga Science is therefore a synthesis of eight Ayurvedic disciplines. As a result, there are eight branches of Ayurveda, which are combined in Figure 1 [Web.17].

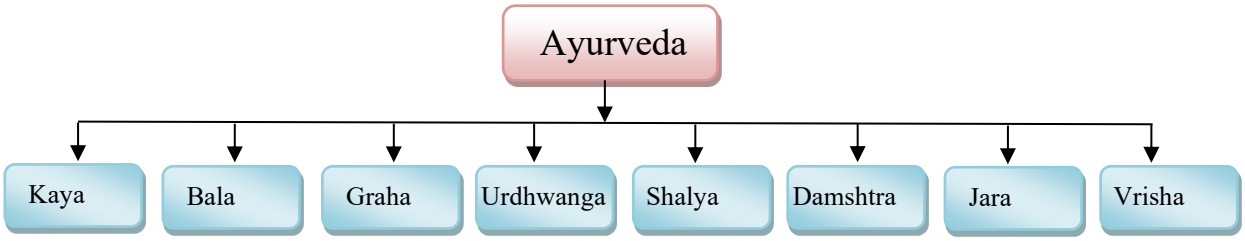

Figure 1: Different Types of Ayurveda

Kaya Chikitsa: general medicine-based treatment (ii) Graha Chikitsa - treatment of idiopathic diseases (diseases whose causes cannot be precisely tracked; infectious diseases are considered under this branch; bacteria, viruses, etc. can be clubbed under the term graham); (iv) Urdhwanga Chikitsa - treatment of ear, nose, throat, and head related diseases; (iii) Bala Chikitsa - treatment of child and woman care (paediatrics); (v) Shalya Chikitsa: surgical treatment, (vi) Damshtra Chikitsa, which offers forensic medicine and toxicology services, (vii) Jara Chikitsa: Geriatric care, rejuvenation, and immunology and (viii) Vrisha Chikitsa– treatment of aphrodisiacs. Ayurveda, a health care system of India, has been developed step by step by many ayurvedic vaidyas (physicians). Sushruta, Charaka and Patanjali are three famous ayurvedic physicians among them. We discuss here in brief about them. The study seeks to explore the contributions of Sushruta, Charaka and Patanjali of Ancient India in Medical Science.

II. METHODS

By its very nature, the study is descriptive in nature and is primarily based on secondary source data. Books are the primary source of information for secondary sources like journals, Hindu scriptures, etc. and e-libraries, e-books, e-articles, and different website-based information, reference materials, wikipedia, etc. A few recurring motifs from these readings have been revealed, and they are discussed in the following sections.

Analysis: The various reading materials have been gathered from various sources, examined, and logically organised under the relevant headings to support the necessary presentation and, ultimately, conclusion.

III. RESULTS AND DISCUSSION

Sushruta (6th Century BCE)

Sixth century BCE was Sushruta's time in the Kingdom of Kashi. His book "Sushruta Samhita" served as a guide for doctors on how to cure patients holistically. In ancient India's history, he was a surgical pioneer. It is still astounding how much he contributed to the world of medicine. His Sushruta Samhita provides a basic overview of surgical techniques, including those in orthopaedics, obstetrics, gynaecology, plastic surgery, and ophthalmic surgery. Sushruta's exceptional knowledge of medical science was demonstrated by his use of anaesthesia, surgical equipment, and surgical ethics. In ancient India, he was referred to as a physician and is now recognised as the "Father of Indian Medicine," the "Father of Surgery," and the "Father of Plastic Surgery" due to his invention of surgical techniques. At the Ganges Riverbank University of Benares (or Kasi, or Varanasi), he received his education. His contributions to surgical knowledge, techniques, and instruments are still well-known today. In the Kashi Kingdom, Sushruta lived in the sixth century BCE. Sushruta's mastery of medical science was evident in his use of anaesthetics, sophisticated surgical instruments, and surgical ethics. An ancient Indian physician is called the "Father of Indian Medicine," the "Father of Surgery," and the "Father of Plastic Surgery" for inventing and perfecting surgical methods. The book Sushruta Samitha contains some of his research. His contributions to medicine are documented in the Sushruta Samhita, which is regarded as the world's oldest text on plastic surgery and one of the Great Trilogy of Ayurvedic treatment (the other two being the Astanga Hridaya and the Charaka Samhita, which came before it). He was a trailblazer in the advancement of medicine in ancient India. His teachings in anatomy, pathophysiology, and therapeutic techniques were

unparalleled in their lucidity, considering his historical standing [Web. 3 &4].

Main Contributions

(1) He talked about the numerous reconstructive techniques used for the various body types. The well-known treatise Sushruta Samhita contains a compilation of his writings. Along with 121 surgical equipment, 300 surgical operations, and 60 different types of upkarana (instruments) for treating wounds, he also classified human surgeries into eight categories. Sushruta made significant contributions to surgery. He used a dead body as a study tool for human anatomy. Over 1120 illnesses are recorded in Sushruta Samhita including 26 different types of fevers, 8 different types of jaundice, and 20 different types of urinary problems. Over 760 different plants are described. Every portion, including the roots, bark, juice, resin, and flowers, was used for medicine. Even today, a common household cures some diseases through homemade medicine or use raw herbs, which include ginger, cardamom, cinnamon, sesame, and pepper [7 & 8].

(2) **Surgical Teaching:** For surgical training of his students, the process of choosing and keeping a dead body for the sake of its in-depth study has also been mentioned in the Sushruta Samhita. In general, the body of an elderly man or someone who passed away from a serious illness was not taken into consideration for studies. The body had to be meticulously cleansed before being stored in tree bark. It was then carefully hidden in an area in the river and maintained in a cage. The river's movement softened it there. It was taken out of the river after seven days. A brush consisting of grass roots, hair, and bamboo was then used to clean it. Every internal or external body part was then readily visible after this was completed. The fields of Rhinoplasty (Plastic Surgery) and Ophthalmic Surgery (cataract removal) were those in which Sushruta made the most significant contributions.

(3) Cutting one's nose and/or ears was a typical punishment in those days. The recovery of these or other limbs was a wonderful blessing done by him. These procedures were precisely described step-by-step in the Sushruta Samhita. Surprisingly, Sushruta's procedures resembled those used by contemporary physicians performing plastic surgery. The Sushruta Samhita also listed 101 surgical equipment and their descriptions. A few major procedures conducted were the removal of the fetus from the womb, the repair of the damaged rectum, the removal of a bladder stone, etc. [Web. 5, 6 & 7].

Maharishi Charaka (2nd Century BCE):

The estimated period of Charaka's prosperity is from the second century BCE and the second century CE. It is believed that the Charaka Samhita evolved around the first century CE. It was unknown with precision when Maharishi Charaka was born and died. The history of Indian medicine is lengthy. Its oldest ideas are found in the ancient manuscripts known as the Vedas, especially the metrical portions of the Atharvaveda, which may have been composed in the second millennium BCE. The medical treatises Charaka Samhita and Sushruta Samhita, ascribed to Maharishi Charaka and Sushruta, respectively, signalled the beginning of Indian medicine's golden age, which spanned from 600 BCE to around 1000 CE. These classics set the groundwork for all subsequent research on Indian medicine. Maharishi Charaka wrote a book titled "Charaka Samhita" about herbal medicine. King Kanishka's personal physician was Charaka. Therefore, the Charaka period can be dated to the second century BCE. He worked at Kanishka's palace as the Raj Vaidya, or Royal Physician. His most notable contribution to medicine was the Charaka Samhita, in which he gave detailed descriptions of various ailments along with methods for identifying their causes and recommended courses of therapy. He was credited with being the first to talk about digestion, metabolism, and the immune system. He knew the basics of genetics as well. Maharishi Charaka used the traditional Indian medical system known as Ayurveda. Between the second century BCE and the second century CE, Charaka is thought to have prospered. The oldest and most trustworthy medical text is the Charaka Samhita, which describes the traditional Indian medical science known as Ayurveda. He listed over 200 animal species and about 340 plant species in his work "Charaka Samhita." Along with details on illnesses and their therapies, it offers helpful information on India's geographic, sociological, and economic circumstances. The renowned Indian physician Maharishi Charaka is considered the "Father of Medicine." His creation, the Charaka Samhita, is an extensive encyclopaedia of medical knowledge that addresses topics including anatomy, physiology, and disease treatment. Charaka imparted to the world his vast awareness of the benefits of preventive medicine and holistic therapeutic approaches. He is recognised as the originator of the medical sciences of ancient India.

The early Indian medical field is credited to Charak. His Charak Samhita is a noteworthy medical text. It includes descriptions of numerous disorders as well as instructions on how to determine their causes and cure them. He was considered as the first to discuss immunity, metabolism, and digestion as being crucial to health and medical science. Instead of just treating the symptoms of illness, he placed more emphasis on eradicating the root of the problem. Charak was also familiar with the basics of genetics. It is amazing that India had such sophisticated medical knowledge many years ago.

Charaka Samhita was originally composed by Agnivesa in 1000 BCE and revised by Acharya Charaka in the 3rd or 2nd century CE. Some portions of Charaka Samhita were lost or left unfinished. Dridhabala in the 4th century CE redacted 41 chapters of Charaka Samhita, which were lost or left unfinished by Charaka. He

redacted seventeen chapters in Chikitsa Sthana, and the entire Kalpa Sthana (12 chapters) and Siddhi Sthana (12 chapters) of the treatise of Charaka Samhita. Dridhabala, son of Kapilabala was a native of Panchanadapura. Panchanadapura means the place where the five streams are conjoined. Now it is known as 'Panjnor' which is situated about seven miles to the north of Srinagar in Kashmir [7, 8 & 9].

Mountains are mentioned in Charaka Samhita

The mountains he mentions most in his book are the Himalayas. Near the Himalayas, the first sage conference on ailments and the benefits of studying Ayurveda was conducted. It was viewed as the ideal location to gather divine remedies and the home of medicinal plants. According to legend, Himalayan fruits like grapes and pomegranates are sweet, while those cultivated elsewhere are sour. Charaka addresses various mountain ranges and the purity of the water from the rivers' sources when discussing the characteristics of water from various sources. The rivers of the Himalayas are beneficial to health; the rivers of Malaya are comparable to the nectar of the gods. While the rivers that flow into the eastern sea are unpalatable, those that flow into the western sea are pure and healthy. Headache, heart problems, skin conditions, and Shleepada are caused by the river that originates in Vindhya, Sahya, and Pariyatra.

Health geography is the use of geographic information, perspectives, and methods to the study of health, disease, and healthcare. Health geography has been impacted by the (re)positioning of medical geography within the field of social geography because of the shift in healthcare from a medical model to a social model, which advocates for the redefinition of health and health care away from prevention and treatment of illness only to one of promoting well-being in general. Health geographers study the environment in all of its complexity to find connections between geographic locations and disease patterns. They are curious about the prevalence of different illnesses at different levels, ranging from the local to the global. In addition to other geographical sub-disciplines, this places health geography. Health geography is the study of health, illness, and medical care via the application of geographic knowledge, perspectives, and approaches. The shift from a medical to a social model of healthcare has resulted in a repositioning of medical geography within the field of social geography, which has affected the study of health geography. This shift promotes a different definition of health and health care that goes beyond the prevention and treatment of illness to one that also promotes well-being in general. In order to find links between illnesses and locations, health geographers study the natural world in all of its complexity. They are curious about the prevalence of different illnesses at different levels, ranging from the local to the global. This situates health geography within the broader geographic fields that study the relationships between humans and their surroundings. Health geographers utilise contemporary spatial analysis tools to track the spread of different diseases as people migrate and spread them among themselves and across wider areas. Health geographers consider that all kinds of places may present health risks, in addition to natural catastrophes, interpersonal violence, stress, and other potential dangers. Certain diseases, like rabies in Australia and New Zealand, don't exist there at all. Malaria can occur in tropical and subtropical regions [Web. 10] & [2].

Sushruta Samhita Vs. Charaka Samhita

Charaka Samhita counted 360 human body bones in 30 categories, compared to 300 bones in 23 categories in Sushruta Samhita. Although there were significant differences between the categories and the counted bones, Atreya's description of the human skeleton, as contained in the Bheda Samhita, agreed with Charaka, numbering 360 bones in 30 categories. Hoernle says that the reference to 360 bricks in a Vedic altar in the 10th part of the 5th chapter of the Satapatha Brahmana is related to human bones. Hoernle noted that Sushruta's account of bones, marrow, and fat—elements that Atreya and Charaka did not include in their descriptions of human skeletons—had a profound effect on Yajnavalkya, who knew about both Atreya and Charaka's and Sushruta's descriptions of human skeletons. Hoernle says that Sushruta introduced the differences from Atreya's method of presentation, yet he was aware of Atreya's classification of bones. Seeing the themes addressed in the old Sushruta Samhita book is informative. Sushruta's Sushruta Samhita, which has 120 chapters organised into five divisions, covers a wide variety of themes such as anatomy, physiology, pathology, pharmacology, diagnostic medicine, paediatrics, obstetrics, gynaecology, and geriatrics. Sushruta covered 1120 ailments and provided a detailed description of human anatomy. Along with 121 surgical implements, Sushruta also described surgical techniques such as rhinoplasty, cataract surgery, suturing, scraping, puncturing, bloodletting, probing, extraction, and incision and excision. Copper surgical implements from this early era have been found in Taxila [Web. 11 &12] & [4].

Maharishi Patanjali (2nd BCE)

The era of Maharishi Patanjali, also known as Gonardiya or Gonikaputra, existed from the second to the fourth centuries BCE. The life story of Maharishi Patanjali is hardly known. There are many myths and contradictions in it. Regarding the birth of Maharishi Patanjali, there is no conclusive evidence. The differences in the approximate dates of Patanjali's birth and death are one hundred years. While some scholars argue that he lived between the fourth and seventh centuries BCE, the majority of scholars place his existence between the second and third centuries BCE. Maharishi Patanjali is believed to have lived in numerous places in India, as well as in Nepal, Kashmir, and Sri Lanka. The renowned sage Maharishi Patanjali

developed the yoga as a form of physical therapy to treat disease in ancient India. The most well-known Sanskrit work, the Yoga Sutras, is a classical yoga text that dates from 200 BCE to 200 CE and is attributed to the Indian sage Patanjali.

Yoga and Patanjali

Patanjali, a well-known spiritual teacher from antiquity, created the Yoga Sutras to purify the essence of the spiritual path. He described the steps that each soul must follow to return to the limitless spirit. Many rishis lived for thousands of years and were highly accomplished in yoga. They might live or die as they choose. Patanjali is one of these powerful Rishis, and according to the Puranas, their lives span many decades. The ancient sage Patanjali wrote the Yoga Sutras, a foundational book on the philosophy and practice of yoga. Patanjali's logical explanations of the eight limbs of yoga, together with his prescriptions for mental and spiritual progress, had a profound impact on the global understanding and practice of yoga. The word yoga is derived from the Sanskrit word Yoktra. It is an Ayurveda-related branch. As the author of 195 Yoga Sutras, he is known as the "Father of Yoga." His meticulous presentation of yoga as a great science was a pioneering achievement. In Patanjali's Yoga Sutras, Aum is used to symbolise God. According to him, Aum is a cosmic sound. A-U-M is used by Pranaayaama. Swallowing in the naval context is indicated by "A," thoracic breathing by "U," and upper body breathing by "M." In its role as a Beejaakshara, it is pronounced as OM (the beginning of all sounds). He was a writer who wrote on the Ayurvedic system of ancient Indian medicine. In addition, he studied medicine.

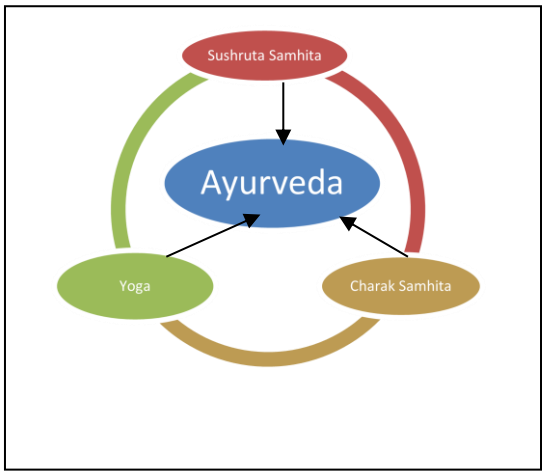

Figure 2: Chronological Development of Ayurveda

As shown by Patanjali's Yoga Sutras (fountainhead), which place an emphasis on moral behavior, good deed, asana (yoga posture), pranayama (breath control), and meditation in order to achieve physical and mental well-being as well as Samadhi (intense concentration used to reach higher states of consciousness). Medical knowledge coexisted peacefully with philosophical ideas. The Atharvaveda, which considers illness to be either the outcome of an unwholesome lifestyle or the fruit of deeds committed (Karmaphala), is where Ayurveda's roots may be found [6]. Ayurveda's yoga branch was developed in ancient India as a drugless means of treating both physical and mental illnesses. The word "yoga" comes from the Sanskrit literary word Yoktra."Joining the mind to the inner self after detaching it from the outer subject of senses" is its literal meaning. Its roots are in the Vedas, just like all other sciences. It also defines Chitta, which is the process by which an individual's consciousness dissolves their thoughts, feelings, and desires and achieves a state of balance. Yoga is a physical and mental exercise. It unleashes the power that elevates and cleanses awareness so that it might experience heavenly realization. Yoga combines mental and physical practice. Hathyoga is the name for physical yoga. In general, it tries to cure an illness and get the body back to normal. Mental yoga is rajayoga. Its objective is to achieve physical, mental, emotional, and spiritual equilibrium in order to realize oneself and be freed from captivity. Yoga was transmitted orally from one sage to another. Patanjali deserves praise for organizing this important science. In addition to the Yoga Sutras, Patanjali also contributed to Panini's grammar, known as the Mahabhasaya, and produced a book on medicine [Web. 11-16].

IV. DEVELOPMENT OF AYURVEDA

The Ayurvedic Science, what is now at present, is the fruit of chronological development from Vedic period by the contributions of so many ancient great Vaidyas (physicians), Rishis, Sages (Saints), and Acharyas (Professors). The Chronological Development of Ayurveda is depicted in Figure 2 indicating that how the Ayurvedic system of health care practices gets developed by Sushruta Samhita written by Sushruta, Charak Samhita by Charak and Yoga invented by Patanjali. The contributions of these three great physicians have shaped the Indian health care system. They could treat all types of diseases. In ancient India, the Atharvaveda had the earliest account of scrofula (the

bacterium that causes TB). The Sushruta Samhita, which was composed about 600 BCE, advocates treating Tuberculosis (TB) with breast milk, different foods, alcohol, and relaxation. The Yajurveda encourages those impacted to relocate to higher elevations. The first written manuscripts mentioning tuberculosis, reaching back to 3300 and 2300 years ago, were discovered in India [3]. In India, tuberculosis is a long-standing illness. There are references to consumption in Indian literature dating back to approximately 1500 BCE. The illness is linked to extreme exhaustion, anxiety, hunger, pregnancy, and chest wounds (https://tbfacts.org/tb-india-history/). When the people in the world did not hear the name of diseases, India already started the treatment of this disease. Again even today, we come to know about many unknown health ailment written in Hindu scriptures that the world is still unknown. So many books written by the sages, Acharya and Rishis are still valuable assets of India. Ancient India was a home of medical knowledge, which needs immediate attention. Patanjali's Yoga Sutras evolved in 2nd century BCE are being practiced throughout the world till today to maintain health, to lead disease and tension free life and life longevity. When the diseases not cured by modern medicines in the world are cured under the Indian ayurvedic medicines.

V. REASONS FOR DOWNFALL OF MEDICAL KNOWLEDGE

India was unquestionably the hub of knowledge in all aspects throughout ancient times. India might achieve the highest level of development in the world, but she could not because of the following reasons:

(1) Our country was captured, centres of knowledge such as universities destroyed by fire, looted and ruled without motive of knowledge development by the many Muslim invaders for 1045 years from 712 CE to 1757 CE.

(2) After that what remained in India a little more, again looted, captured and ruled by the British for 190 years from 1757 CE to 1947 CE. Both the Muslims and the British carried wealth, knowledge from India. They tried to destroy our culture. The British tried to convert us in such a way that we remain Indian physically but British mentally. They destroyed our *Gurukul* system of education.

(3) After independence the subsequent Governments of independent India except the NDA Governments did not try to recover the ancient knowledge of India.

(4) Many Muslim kings either demolished Hindu temples or turned them into mosques during their control. They so kept suppressing Hinduism. Since the majority of educational institutions were associated with temples, they suffered. The Kashi temple was demolished and replaced with the Gyanvapi Mosque in 1669 by Mughal Emperor Aurangzeb.

How to Recover the Ancient Knowledge

What we should do now immediately. We should do the following:

(1) A separate institution should be set up to search ancient knowledge in every state of India under the control of principal institution at Centre. As most of the scripts in our ancient texts, such as the Purana, Vedas, Upanishad, Ramayana, Mahabharata, and other epics, were written in Sanskrit, this institution's primary duty is to find, use, and conserve historic information with the assistance of Sanskrit language experts. The expert in the field would endeavour to elucidate the Sutra (Law) and its implementation. Our past has veiled our glory, which some creative ideas could reveal to reclaim our rightful place.

(2) Ancient texts on Ayurveda have made significant contributions to the fields of surgery and medicine. Many Acharyas, physicians, sages of ancient India discussed all branches of medical science including even neonatology (infant care, breastfeeding, child protection, neonatal nurseries, etc). In addition to the existing studies, many hidden facts require additional investigation. We are astonished to know that a lot of scientific medical knowledge got the origin in ancient India thousands years ago as seen in Ayurveda, Yoga, etc. How much developed our ancient India was! Ancient knowledge should be included as a part of education in authentic way not like history of India from school to university so that the student can know the real picture of ancient India. There are so many clues of new inventions mentioned in our Hindu scriptures. Many of these are proved true and some inventions have been possible on the basis of directions cited there such as Albert Einstein's Time Dilation Theory. It is mentioned in Bhagavad Gita. Many weapons applied in the battle of Mahabharata are still remained to be invented like Agni weapon (Atom bomb) with it counteracting water weapon, etc. Stopping time, forwarding and back warding of time, etc are still remain untouched. Students should be encouraged to research in ancient knowledge. Scientists are encouraged to invent on the basis of ancient knowledge already mentioned in Bhagavad Gita.

VI. TRANSMISSION OF MEDICAL KNOWLEDGE FROM INDIA

We may find some evidences of ancient Greek travelers like Pythagoras and Democritus who travelled to India seeking wisdom, stayed in India travelling different places until they became enriched with knowledge and returned with full of Indian knowledge.

Afterwards Indian knowledge including medicine had an impact on their communities. The Indian Ayurvedic dosha model are comparable in other places. Given the active presence of Buddhist missionaries in the area, as well as the enormous Selucid Kingdom stretching from India to Turkey, it is not unexpected that knowledge from India spread to these locations. The Roman commerce, as described in William H Schoff's Periplus of the Erythraean Sea, included Indian medicines, plants, and spices in its network. In reality, Pedanius Dioscorides, "the father of pharmacognosy," was a Greek physician, pharmacologist, botanist, and author of De Materia Medica—a 5-volume Greek encyclopaedia of herbal medicine and associated medicinal substances, that largely included Indian plants [5&6].

Since the beginning of the Islamic era in 712 CE in India, several Indian medical writings have been translated into Persian and Arabic and introduced into several places from Sindh to Southern Spain. Through translation schools in Sicily of Italy, and Toledo of Spain, where Arabic texts were translated into Latin between the tenth and thirteenth centuries, this medical knowledge eventually made its way to Western Europe via Arabian countries with those India had a sound trade relation from the very beginning. After that time, European colonialists received direct information from India; this permitted medieval Europe to increase its reliance on Indian medical knowledge [Web.3] Indian Medical Knowledge had been transmitted from India through Greek and other travelers, Buddhist missionaries, traders, European colonialists and translated into many languages directly or indirectly from one language to other languages. Thus, Indian medical knowledge expanded across the world, and Indian medical ideas have been preserved and used as they were in the past, or in modified forms, but have retained their uniqueness in some parts of the world.

VII. CONCLUSION

The history of health-care systems in ancient India reveals significant contributions over time by a number of physicians and surgeons (Vaidyas). These exceptional ancient Indian medical professionals left a lasting impression on a variety of scientific domains. Their ground-breaking discoveries, theories, and deep insights continue to define our knowledge of medicine today. We owe these visionaries a debt of gratitude for pushing the boundaries of knowledge and establishing the framework for future scientific discoveries about medical treatments. Their intellectual power should serve as an inspiration to us as we strive to build on their exceptional achievements. It is a fact that historical lessons have not been valued globally, and new models are being examined without knowing the wisdom and scientific advancements of our forefathers. Each individual's prior learning should be taken into consideration while creating future competency framework models. Therefore, from the history of Indian health care systems, we have to know that how much richness of medical knowledge the ancient India had and the contributions of several physicians and surgeons were followed throughout the world till today. They have contributed a lot in the area of fundamental doctrines, description of medicines, surgical practices and description of systematic required knowledge. Thus, they were really a great legendary and visionary of Ayurveda. We should admit their contributions and respect them heart and soul.

N.B.: Time period of the above Vaidyas are not known exactly, mentioned on the basis of different literatures, which are controversial or subject to error.

Abbreviations: BCE: Before the Common Era**,** CE: Common Era, TB: Tuberculosis, NDA: National Democratic Alliance

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