



Ayurveda

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Ayurveda (Sanskrit: आयुर्वेद IAST *Āyurveda*, "life-knowledge"; English pronunciation /ˌaɪ.ərˈveɪdə/^[1]), or **Ayurveda medicine**, is a system of medicine with historical roots in the Indian subcontinent.^[2] Globalized and modernized practices derived from Ayurveda traditions are a type of complementary or alternative medicine.^{[3][4]} In the Western world, Ayurveda therapies and practices (which are manifold) have been integrated in general wellness applications and as well in some cases in medical use.^[5]

The main classical Ayurveda treatises begin with legendary accounts of the transmission of medical knowledge from the Gods to sages, and thence to human physicians.^[6] Thus, the Sushruta Samhita narrates how Dhanvantari, "greatest of the mighty celestial," incarnated himself as Divodāsa, a mythical king of Varanasi, who then taught medicine to a group of wise physicians, including Sushruta himself.^{[7][8]} Ayurveda therapies have varied and evolved over more than two millennia.^[2] Therapies are typically based on complex herbal compounds, while treatises introduced mineral and metal substances (perhaps under the influence of early Indian alchemy or *rasaśāstra*). Ancient Ayurveda treatises also taught surgical techniques, including rhinoplasty, perineal lithotomy, the suturing of wounds, and the extraction of foreign objects.^{[9][10]}

Although laboratory experiments suggest it is possible that some substances in Ayurveda might be developed into effective treatments, there is no evidence that any are effective as currently proffered.^[11] Ayurveda medicine is considered pseudoscientific.^[12] Other researchers consider it a protoscience, or trans-science system instead.^{[13][14]} Close to 21% of Ayurveda U.S. and Indian-manufactured patent medicines sold through the Internet were found to contain toxic levels of heavy metals, specifically lead, mercury, and arsenic.^[15] The public health implications of such metallic contaminants in India are unknown.^[15]

Some scholars assert that Ayurveda originated in prehistoric times,^[16] and that some of the concepts of Ayurveda have existed from the time of the Indus Valley Civilization or even earlier.^[17] Ayurveda developed significantly during the Vedic period and later some of the non-Vedic systems such as Buddhism and Jainism also developed medical concepts and practices that appear in the classical Ayurveda treatises.^{[17][18]} Humoral balance is emphasized, and the suppressing of natural urges is considered unhealthy and claimed to lead to illness.^[19] Ayurveda names three elemental substances, the *doshas* (called Vata, Pitta and Kapha), and states that a balance of the doshas results in health, while imbalance results in disease. Ayurveda has eight canonical components, which are derived from classical Sanskrit literature. Some of the oldest known Ayurvedic texts include the *Suśrutha Saṃhitā* and *Charaka Saṃhitā*, which are written in Sanskrit. Ayurveda practitioners had developed various medicinal preparations and surgical procedures by the medieval period.^[20]



Contents

- 1 Eight components
- 2 Principles and terminology
- 3 Practice
 - 3.1 Diagnosis
 - 3.2 Treatment and prevention
 - 3.3 Substances used
 - 3.4 Panchakarma
- 4 Current status
 - 4.1 India
 - 4.2 Other countries in the Indian subcontinent
 - 4.3 Outside the Indian subcontinent
- 5 Classification and efficacy
 - 5.1 Research
 - 5.1.1 Use of toxic metals
- 6 History
 - 6.1 Main texts
 - 6.2 Illnesses portrayed
 - 6.3 Further development and spread
- 7 See also
- 8 References
- 9 Further reading
- 10 External links

Eight components

The earliest classical Sanskrit works on Ayurveda describe medical science as being divided into eight components (Skt. *aṅga*).^{[21][22]} This characterization of the physicians' art as the teaching found in "the medicine that has eight components" (Skt. *cikitsāyām aṣṭāṅgāyām चिकित्सायामष्टाङ्गायाम्*) is first found in the Sanskrit epic, the *Mahābhārata*.^[23] The components are:^{[24], [25]}

- *Kāyacikitsā*: general medicine, medicine of the body
- *Kaumāra-bhr̥tya*: the treatment of children, paediatrics
- *Śalyatantra*: surgical techniques and the extraction of foreign objects
- *Śālākyaatantra*: treatment of ailments affecting ears, eyes, nose, mouth, etc. ("ENT")
- *Bhūtavidyā*: pacification of possessing spirits, and the people whose minds are affected by such possession
- *Agadatantra*: toxicology
- *Rasāyanatantra*: rejuvenation and tonics for increasing lifespan, intellect and strength
- *Vājīkaraṇatantra*: aphrodisiacs and treatments for increasing the volume and viability of semen and sexual pleasure.

Principles and terminology

The central theoretical ideas of Ayurveda developed in the mid-first millennium BCE, and show parallels with Sāṅkhya and Vaiśeṣika philosophies and with Buddhism and Jainism.^{[27][28]} Balance is emphasized, and suppressing natural urges is considered unhealthy and claimed to lead to illness.^[19] For example, to suppress sneezing is said to potentially give rise to shoulder pain.^[29] However, people are also cautioned to stay within the limits of reasonable balance and measure when following nature's urges.^[19] For example, emphasis is placed on moderation of food intake,^[30] sleep, and sexual intercourse.^[19]

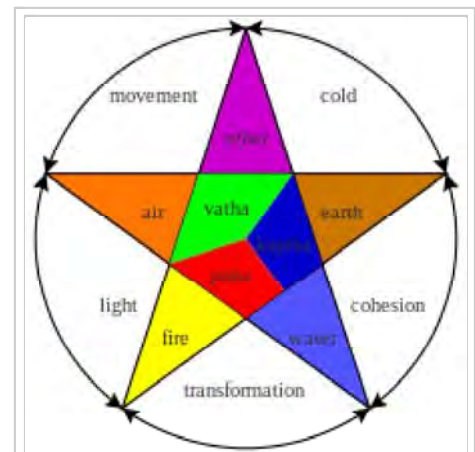
Ayurveda names seven basic tissues (dhatu), which are plasma (*rasa*), blood (*rakta*), muscles (*māmsa*), fat (*meda*), bone (*asthi*), marrow (*majja*), and semen (*shukra*). Like the medicine of classical antiquity, Ayurveda has historically divided bodily substances into five classical elements (Sanskrit [*maha*] *panchabhuta*, viz. earth, water, fire, air and ether.^[31] There are also twenty *gunas* (qualities or characteristics) which are considered to be inherent in all substances. These are organized in ten pairs of antonyms: heavy/light, cold/hot, unctuous/dry, dull/sharp, stable/mobile, soft/hard, non-slimy/slimy, smooth/coarse, minute/gross, and viscous/liquid.^[32]

Ayurveda also names three elemental substances, the *doshas* (called Vata, Pitta and Kapha), and states that a balance of the doshas results in health, while imbalance results in disease. One Ayurvedic view is that the doshas are balanced when they are equal to each other, while another view is that each human possesses a unique combination of the doshas which define this person's temperament and characteristics. In either case, it says that each person should modulate their behavior or environment to increase or decrease the doshas and maintain their natural state.

In medieval taxonomies of the Sanskrit knowledge systems, Ayurveda is assigned a place as a subsidiary Veda (upaveda).^[33] Some medicinal plant names from the *Atharvaveda* and other Vedas can be found in subsequent Ayurveda literature.^[34] The earliest recorded theoretical statements about the canonical models of disease in Ayurveda occur in the earliest Buddhist Canon.^[35]



Several philosophers in India combined religion and traditional medicine—notable examples being that of Hinduism and Ayurveda. Shown in the image is the philosopher Nagarjuna—known chiefly for his doctrine of the *Madhyamaka* (middle path)—who wrote medical works *The Hundred Prescriptions* and *The Precious Collection*, among others.^[26]



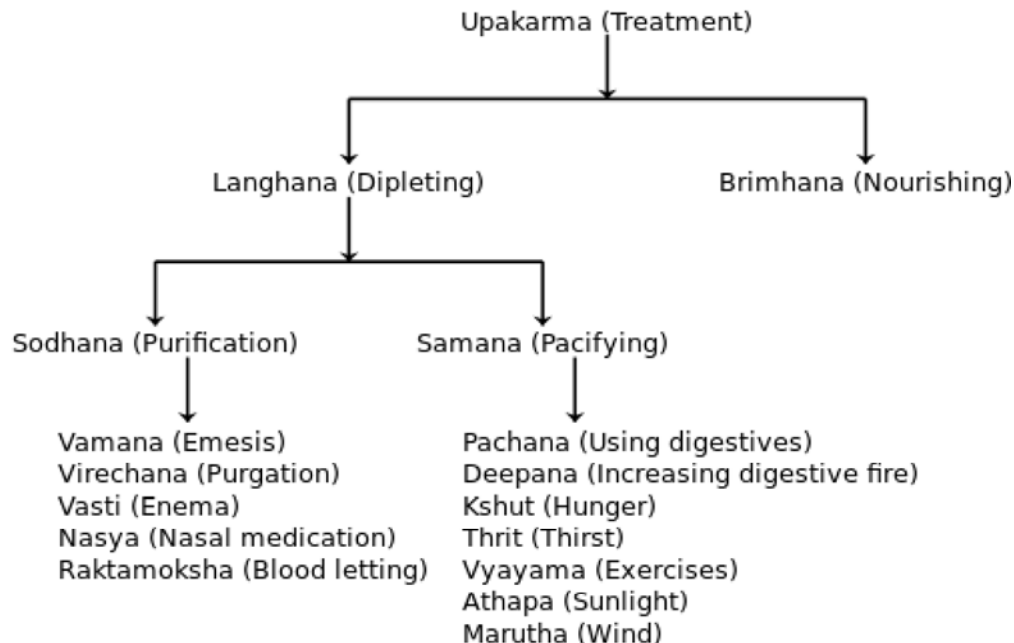
The three doshas and the five elements from which they are composed.

Practice

Ayurvedic doctors regard physical existence, mental existence, and personality as a unit, with each element being able to influence the others. This is a holistic approach used during diagnosis and therapy, and is a fundamental aspect of Ayurveda. Another part of Ayurvedic treatment says that there are channels (*srotas*) which transport fluids, and that the channels can be opened up by massage treatment using oils and Swedana (fomentation). Unhealthy channels are thought to cause disease.^[36]

Diagnosis

Ayurveda has eight ways to diagnose illness, called Nadi (pulse), Mootra (urine), Mala (stool), Jihva (tongue), Shabda (speech), Sparsha (touch), Druk (vision), and Aakruti (appearance).^[37] Ayurvedic practitioners approach diagnosis by using the five senses.^[38] For example, hearing is used to observe the condition of breathing and speech.^[31] The study of the lethal points or *marman marma* is of special importance.^[32]



Treatment and prevention

Two of the eight branches of classical Ayurveda deal with surgery (*Śalya-cikitsā* and *Śālākya-tantra*), but contemporary Ayurveda tends to stress attaining vitality by building a healthy metabolic system and maintaining good digestion and excretion.^[32] Ayurveda also focuses on exercise, yoga, and meditation.^[39] One type of prescription is a Sattvic diet.

Ayurveda follows the concept of Dinacharya, which says that natural cycles (waking, sleeping, working, meditation etc.) are important for health. Hygiene, including regular bathing, cleaning of teeth, skin care, and eye washing, is also a central practice.^[31]

Substances used

Plant-based treatments in Ayurveda may be derived from roots, leaves, fruits, bark, or seeds such as cardamom and cinnamon. In the 19th century, William Dymock and co-authors summarized hundreds of plant-derived medicines along with the uses, microscopic structure, chemical composition, toxicology, prevalent myths and stories, and relation to commerce in British India.^[40] Animal products used in Ayurveda include milk, bones, and gallstones. In addition, fats are prescribed both for consumption and for external use. Consumption of minerals, including sulphur, arsenic, lead, copper sulfate and gold, are also prescribed.^[31] The addition of minerals to herbal medicine is called *rasa shastra*.

Ayurveda uses alcoholic beverages called *Madya*,^[41] which are said to adjust the doshas by increasing Pitta and reducing Vatta and Kapha.^[41] *Madya* are classified by the raw material and fermentation process, and the categories include: sugar-based, fruit-based, cereal-based, cereal-based with herbs, fermented with vinegar, and tonic wines. The intended outcomes can include causing purgation, improving digestion or taste, creating dryness, or loosening joints. Ayurvedic texts describe *Madya* as non-viscid and fast-acting, and say that it enters and cleans minute pores in the body.^[41]

Purified opium^[42] is used in eight Ayurvedic preparations^[43] and is said to balance the Vata and Kapha doshas and increase the Pitta dosha.^[42] It is prescribed for diarrhea and dysentery, for increasing the sexual and muscular ability, and for affecting the brain. The sedative and pain-relieving properties of opium are not considered in Ayurveda. The use of opium is not found in the ancient Ayurvedic texts, and is first mentioned in the *Sarngadhara Samhita* (1300-1400 CE), a book on pharmacy used in Rajasthan in Western India, as an ingredient of an aphrodisiac to delay male ejaculation.^[44] It is possible that opium was brought to India along with or before the Mohammedan conquest.^{[43][45]} The book *Yoga Ratnakara* (1700-1800 CE, unknown author), which is popular in Maharashtra, uses opium in a herbal-mineral composition prescribed for diarrhea.^[44] In the *Bhaisajya Ratnavali*, opium and camphor are used for acute gastroenteritis. In this drug, the respiratory depressant action of opium is counteracted by the respiratory stimulant property of Camphor.^[44] Later books have included the narcotic property for use as analgesic pain reliever.^[44]

Cannabis indica is also absent from the ancient Ayurveda books, and is first mentioned in the *Sarngadhara Samhita* as a treatment for diarrhea.^[44] In the *Bhaisajya Ratnavali* it is named as an ingredient in an aphrodisiac.^[44]

Ayurveda says that both oil and tar can be used to stop bleeding,^[31] and that traumatic bleeding can be stopped by four different methods: ligation of the blood vessel, cauterisation by heat, use of preparations to facilitate clotting, and use of preparations to constrict the blood vessels. Oils are also used in a



An Ayurvedic practitioner applying oils using head massage.

number of ways, including regular consumption, anointing, smearing, head massage, application to affected areas,^[46] and oil pulling. Liquids may also be poured on the patient's forehead, a technique called shirodhara.

Panchakarma

According to Ayurveda, the technique of panchakarma (Devanāgarī: पंचकर्म)) eliminates toxic elements from the body.^[48] Panchakarma includes Vamana, Virechana, Basti, Nasya and Raktamokshana. It is preceded by Poorvakarma as a preparatory step, and is followed by Paschatkarma and Peyadikarma.

Current status



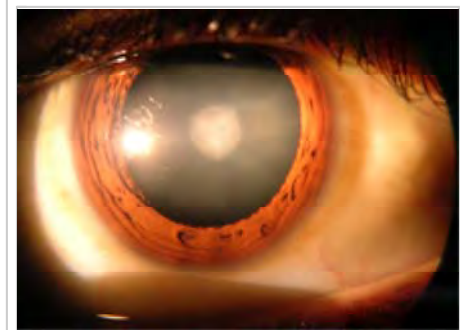
A typical Ayurvedic pharmacy, Rishikesh.

Based on the World Health Assembly resolution on traditional medicine (WHA62.13, compare as well the 2008 Beijing declaration on traditional medicine^[49]), the WHO has established a traditional medicine strategy, which involves,

among other complementary health systems, Ayurveda.^[50] The first previous global strategy was published in 2002 and dealt especially with herbal medicines. The current version (2014-

2023) is beginning to consider aspects of T&CM practices and practitioners and whether and how they should be integrated into overall health service delivery.^[50] It is as well part of the 2013 WHO, WIPO, WTO TRIPS study on health innovation and access to medicines.^[51]

As well the WTO^[52] mentions Ayurveda in its intellectual property strategy. Traditional medicine, including Ayurveda, contributes significantly to the health status of many communities, and is increasingly used within certain communities in developed countries. Along that, traditional medicine has a long history of use in health maintenance and in disease prevention and treatment, particularly for chronic diseases. Suitable recognition of traditional medicine is an important element of national health policies and has as well important basis for new products with significant export potential.^[52] WTO, WIPO and WHO ask for respect for both the economic value and the social and cultural significance of traditional knowledge and supports documentation of traditional medical knowledge and enhanced regulation of quality, safety and efficacy of such products. The WHO paper asks to integrate traditional and complementary medicine services, where appropriate, into health care service delivery and self-health care and to promote an improved universal health coverage by doing so.^[50]



Cataract in human eye – magnified view seen on examination with a slit lamp. Cataract surgery is mentioned in the *Sushruta Samhita*, as a procedure to be performed with a *jabamukhi salaka*, a curved needle used to loosen the obstructing phlegm and push it out of the field of vision. The eye would later be soaked with warm butter and then bandaged.^[47]

India

According to some sources, up to 80 percent of people in India use some form of traditional medicine, a category which includes Ayurveda.^{[53][54]}

In 1970, the Indian Medical Central Council Act which aimed to standardise qualifications for Ayurveda practitioners and provide accredited institutions for its study and research was passed by the Parliament of India.^[55] In 1971, the Central Council of Indian Medicine (CCIM) was established under the Department of Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homoeopathy (AYUSH), Ministry of Health and Family Welfare, to monitor higher education in Ayurveda in India.^[56] The Indian government supports research and teaching in Ayurveda through many channels at both the national and state levels, and helps institutionalise traditional medicine so that it can be studied in major towns and cities.^[57] The state-sponsored Central Council for Research in Ayurvedic Sciences (CCRAS) is designed to do research on Ayurveda.^[58] Many clinics in urban and rural areas are run by professionals who qualify from these institutes.^[55] As of 2013, India has over 180 training centers offer degrees in traditional Ayurvedic medicine.^{[39][59]}

To fight biopiracy and unethical patents, in 2001 the government of India set up the Traditional Knowledge Digital Library as a repository for formulations of various systems of Indian medicine, such as Ayurveda, Unani and Siddha.^{[60][61]} The formulations come from over 100 traditional Ayurveda books.^[62] An Indian Academy of Sciences document quoting a 2003-04 report informs that India had 4,32,625 (equivalent to 432,625 in Western numbering) registered medical practitioners, 13,925 dispensaries, 2,253 hospitals and a bed strength of 43,803. 209 under-graduate teaching institutions and 16 post-graduate institutions.^[63] Insurance companies cover expenses for Ayurvedic treatments in case of conditions such as spinal cord disorders, bone disorder, arthritis and cancer. Such claims comprise 5-10 percent of the country's health insurance claims.^[64]

Maharashtra Andhashraddha Nirmoolan Samiti, an organisation dedicated to fighting superstition in India, considers Ayurveda to be pseudoscience.^[65]

Other countries in the Indian subcontinent

About 75%-80% of the population of Nepal use Ayurveda,^{[66][67]} and it is the most practiced form of medicine in the country.^[68]

The Sri Lankan tradition of Ayurveda is similar to the Indian tradition. Practitioners of Ayurveda in Sri Lanka refer to Sanskrit texts which are common to both countries. However, they do differ in some aspects, particularly in the herbs used.

In 1980, the Sri Lankan government established a Ministry of Indigenous Medicine to revive and regulate Ayurveda.^[69] The Institute of Indigenous Medicine (affiliated to the University of Colombo) offers undergraduate, postgraduate, and MD degrees in Ayurveda Medicine and Surgery, and similar

degrees in unani medicine.^[70] In the public system, there are currently 62 Ayurvedic hospitals and 208 central dispensaries, which served about 3 million people (about 11% of Sri Lanka's population) in 2010. In total, there are about 20,000 registered practitioners of Ayurveda in the country.^{[71][72]}

According to the Mahavamsa, an ancient chronicle of Sinhalese royalty from the sixth century C.E., King Pandukabhaya of Sri Lanka (reigned 437 BCE to 367 BCE) had lying-in-homes and Ayurvedic hospitals (Sivikasotthi-Sala) built in various parts of the country. This is the earliest documented evidence available of institutions dedicated specifically to the care of the sick anywhere in the world.^{[73][74]} Mihintale Hospital is the oldest in the world.^[75]



Tulsi-flower (holy basil), an Ayurvedic herb

Outside the Indian subcontinent

Ayurveda is a system of traditional medicine developed during antiquity and the medieval period, and as such is comparable to pre-modern Chinese and European systems of medicine. However, beginning in the 1960s, Ayurveda has been advertised as alternative medicine in the Western world. Due to different laws and medical regulations in the rest of the world, the unregulated practice and commercialisation of Ayurveda has raised ethical and legal issues. In some instances, Ayurvedic practices or terminology have also been adapted specifically for Western consumption, notably in the case of "Maharishi Ayurveda" in the 1980s. In some cases, this involved active fraud on the part of proponents of Ayurveda in an attempt to falsely represent the system as equal to the standards of modern medical research.

^{[76][77][78]}

Baba Hari Dass was an early proponent who helped bring Ayurveda to the US in the early 1970s. He taught classes derived from the *Suśrutha Saṃhitā* and the *Charaka Saṃhitha*, leading to the establishment of the Mount Madonna Institute, College of Ayurveda, Ayurveda World, and Ayurvedic pharmacy. He invited several notable Ayurvedic teachers, including Vasant Lad, Sarita Shrestha, and Ram Harsh Singh. The Ayurvedic practitioner Michael Tierra wrote that "[t]he history of Ayurveda in North America will always owe a debt to the selfless contributions of Baba Hari Dass."^[79]

In the United States, the practice of Ayurveda is not licensed or regulated by any state. Practitioners of Ayurveda can be licensed in other healthcare fields such as massage therapy or midwifery, and a few states have approved schools teaching Ayurveda.^[80]

Classification and efficacy

Although laboratory experiments suggest it is possible that some substances in Ayurveda might be developed into effective treatments, there is no evidence that any are effective in themselves.^[11] According to Cancer Research UK, no significant scientific evidence has shown effectiveness of

Ayurvedic medicine for the treatment of any disease, although massage and relaxation are often beneficial for some cancer patients and there are indications from animal studies that some herbal products used in Ayurveda might be explored further.^[59]

Today, ayurvedic medicine is considered pseudoscientific on account of its confusion between reality and metaphysical concepts.^[12] Other researchers debate whether it should be considered a proto-science, an unscientific, or trans-science system instead.^{[13][14][81]}

A review of the use of Ayurveda for cardiovascular disease concluded that the evidence is not convincing for the use of any Ayurvedic herbal treatment for heart disease or hypertension, but that many herbs used by Ayurvedic practitioners could be appropriate for further research.^[82]

Research

In India, research in Ayurveda is undertaken by the Central Council for Research in Ayurveda and Siddha (CCRAS), through a national network of research institutes.^[83]

In Nepal, the National Ayurvedic Training and Research Centre (NATRC) researches medicinal herbs in the country.^[84]

Research into ayurveda has been characterized as pseudoscience. Both the lack of scientific soundness in the theoretical foundations of ayurveda and the quality of research have been criticized.^{[81][85][86][87]}

Use of toxic metals

Rasa shastra, the practice of adding metals, minerals or gems to herbal preparations, may include toxic heavy metals such as lead, mercury and arsenic.^[15] The public health implications of metals in rasa shastra in India is unknown.^[15] Adverse reactions to herbs are described in traditional Ayurvedic texts, but practitioners are reluctant to admit that herbs could be toxic and that reliable information on herbal toxicity is not readily available. There is a communication gap between practitioners of modern medicine and Ayurveda.^[88]

Some traditional Indian herbal medicinal products contain harmful levels of heavy metals, including lead.^[89] A 1990 study on Ayurvedic medicines in India found that 41% of the products tested contained arsenic, and that 64% contained lead and mercury.^[53] A 2004 study found toxic levels of heavy metals in 20% of Ayurvedic preparations made in South Asia and sold in the Boston area, and concluded that Ayurvedic products posed serious health risks and should be tested for heavy-metal contamination.^[90] A 2008 study of more than 230 products found that approximately 20% of remedies (and 40% of *rasa shastra* medicines) purchased over the Internet from U.S. and Indian suppliers contained lead, mercury or arsenic.^{[15][91][92]}

Heavy metals are thought of as active ingredients by advocates of Indian herbal medicinal products.^[89] Ayurvedic proponents believe that the toxicity of these materials is reduced through purification processes such as *samskaras* or *shodhanas* (for metals). These are similar to the Chinese *pao zhi*,

although the Ayurvedic techniques are more complex and may involve prayers as well as physical pharmacy techniques. However, these products have nonetheless caused severe lead poisoning and other toxic effects.^[91] Between 1978 and 2008, "more than 80 cases of lead poisoning associated with Ayurvedic medicine use [were] reported worldwide".^[93] In 2012, the U.S. Centers for Disease Control and Prevention (CDC) linked Ayurvedic drugs to lead poisoning, based on cases where toxic materials were found in the blood of pregnant women who had taken Ayurvedic drugs.^[94]

In India, the government ruled that Ayurvedic products must be labelled with their metallic content.^[95] However, in *Current Science*, a publication of the Indian Academy of Sciences, M. S. Valiathan said that "the absence of post-market surveillance and the paucity of test laboratory facilities [in India] make the quality control of Ayurvedic medicines exceedingly difficult at this time".^[95] In the United States, most Ayurvedic products are marketed without having been reviewed or approved by the FDA. Since 2007, the FDA has placed an import alert on some Ayurvedic products in order to prevent them from entering the United States.^[96]

History

The origins of Ayurveda have been traced back to around 5,000 BCE,^{[97][98][99]} when they originated as an oral tradition. Some of the concepts of Ayurveda have been discovered since the times of Indus Valley Civilization.^{[99][100]} The first recorded forms of Ayurveda as medical texts evolved from the Vedas.^{[97][98]} Ayurveda is a discipline of the *upaveda* or "auxiliary knowledge" in Vedic tradition. The origins of Ayurveda are also found in *Atharvaveda*,^{[101][102]} which contains 114 hymns and incantations described as magical cures for disease. There are various legendary accounts of the origin of Ayurveda, e.g. that it was received by Dhanvantari (or Divodasa) from Brahma.^{[8][31][103]} Tradition also holds that the writings of Ayurveda were influenced by a lost text by the sage Agnivesa.^[104]

Ayurveda is one of the few systems of medicine developed in ancient times that is still widely practiced in modern times.^[3] As such, it is open to the criticism that its conceptual basis is obsolete and that its contemporary practitioners have not taken account of the developments of Modern Establishment Medicine.^{[105][106]} Responses to this situation led to an impassioned debate in India during the early decades of the twentieth century, between proponents of unchanging tradition (*śuddha* "pure" ayurveda) and those who thought ayurveda should modernise and syncretize (*aśuddha* "impure, tainted" ayurveda).^{[107][108][109]} The political debate about the place of ayurveda in contemporary India has continued to the present (2015), both in the public arena and in government.^[110] Debate about the place of Ayurvedic medicine in the contemporary internationalized world also continues today (2015).^{[111][112]}

Main texts

There are three principal early texts on Ayurveda include the Charaka Samhita, the Sushruta Samhita and the Bhela Samhita. The Sushruta Samhita is based on an original from the 6th century BCE,^{[113][114]} and was updated by the Buddhist scholar Nagarjuna in the 2nd century CE.^[115] The Charaka Samhita,

written by Charaka, and the Bhela Samhita, attributed to Atreya Punarvasu, are also dated to the 6th century BCE.^{[116][117][118]} The Charaka Samhita was also updated by Dridhabala during the early centuries of the Common Era.^[119]

The Bower Manuscript is also of special interest to historians due to its inclusion of excerpts from the Bheda Samhita^[120] and its description of concepts in Central Asian Buddhism. In 1987, A. F. R. Hoernle identified the scribe of the medical portions of the manuscript to be a native of India using a northern variant of the Gupta script, who had migrated and become a Buddhist monk in a monastery in Kucha. The Chinese pilgrim Fa Hsien (c. 337–422 AD) wrote about the healthcare system of the Gupta empire (320–550) and described the institutional approach of Indian medicine. This is also visible in the works of Charaka, who describes about hospital and how it should be equipped.^[121]



Charaka

Other early texts are the Agnivesha Samhita, Kasyapa Samhita and Harita Samhita. The original edition of the Agnivesha Samhita, by Agnivesa, is dated to 1500 BCE,^[122] and it was later modified by Charaka.^[123] Kasyapa Samhita includes the treatise of Jivaka Kumar Bhaccha^[124] and is dated to the 6th century BCE.^{[125][126]} While Harita Samhita is dated to an earlier period, it is attributed to Harita, who was a disciple of Punarvasu Atreya.^[127] Some later texts are *Astanga nighantu* (8th Century) by Vagbhata, *Paryaya ratnamala* (9th century) by Madhava, *Siddhasara nighantu* (9th century) by Ravi Gupta, *Dravyavali* (10th Century), and *Dravyaguna sangraha* (11th century) by Cakrapanidatta, among others.^[128]

Illnesses portrayed

Underwood and Rhodes state that the early forms of traditional Indian medicine identified fever, cough, consumption, diarrhea, dropsy, abscesses, seizures, tumours, and leprosy,^[31] and that treatments included plastic surgery, couching (a form of cataract surgery), puncturing to release fluids in the abdomen, extraction of foreign bodies, treatment of anal fistulas, treating fractures, amputations, cesarean sections,^[129] and stitching of wounds.^[31] The use of herbs and surgical instruments became widespread.^[31] During this period, treatments were also prescribed for complex ailments, including angina pectoris, diabetes, hypertension, and stones.^{[130][131]}

Further development and spread

Ayurveda flourished throughout the Indian Middle Ages. Dalhana (fl. 1200), Sarngadhara (fl. 1300) and Bhavamisra (fl. 1500) compiled works on Indian medicine.^[132] The medical works of both Sushruta and Charaka were also translated into the Chinese language in the 5th century,^[133] and during the 8th century, they were translated into the Arabic and Persian language.^[134] The 9th-century Persian physician Muhammad ibn Zakariya al-Razi was familiar with the text.^{[135][136]} The Arabic works derived

from the Ayurvedic texts eventually also reached Europe by the 12th century.^{[137][138]} In Renaissance Italy, the Branca family of Sicily and Gaspare Tagliacozzi (Bologna) were influenced by the Arabic reception of the Sushruta's surgical techniques.^[138]

British physicians traveled to India to observe rhinoplasty being performed using native methods, and reports on Indian rhinoplasty were published in the *Gentleman's Magazine* in 1794.^[139] Instruments described in the *Sushruta Samhita* were further modified in Europe.^[140] Joseph Constantine Carpue studied plastic surgery methods in India for 20 years and, in 1815, was able to perform the first major rhinoplasty surgery in the western world, using the "Indian" method of nose reconstruction.^[141] In 1840 Brett published an article about this technique.^[142]


During the period of colonial British rule of India, the practice of Ayurveda was neglected by the British Indian Government, in favor of modern medicine. After Indian independence, there was more focus on Ayurveda and other traditional medical systems. Ayurveda became a part of the Indian National health care system, with state hospitals for Ayurveda established across the country. However, the treatments of traditional medicines were not always integrated with others.^[143]

See also

- Ayurvedic Acupressure
- Bachelor of Ayurveda, Medicine and Surgery
- Bhaiṣajyaguru
- Clinical trials on Ayurvedic drugs
- Dhātu (Ayurveda)
- Georgian folk medicine
- History of alternative medicine
- List of ineffective cancer treatments
- Siddha medicine
- Siddhi
- Traditional Chinese medicine
- Traditional Tibetan medicine
- Ramuan
- Homeopathy
- Acupuncture

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External links

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- National Library of Ayurveda Medicine (http://nlam.in/search_module.php)

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