

FEATURE



TRADITIONAL MEDICINE

Is ayurveda the key to universal healthcare in India?

Is ayurvedic medicine a sustainable way to bring healthcare to all Indians, justifying investment in research to build an evidence base in the discipline? **Neena Bhandari** reports

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Many Indians, including Prime Minister Narendra Modi, think that integrating the ancient medical system of ayurveda with allopathic medicine is the key to providing universal healthcare, perhaps because practitioners of traditional medicine remain the primary healthcare providers for millions of people in South East Asia, especially in rural areas.

Ayurveda is one of the world's oldest medical systems. "Ayur" means "life" and "veda" means "knowledge" in Sanskrit. It is based on the concept that each person's body (prakriti) comprises three doshas or bodily humours (vata, pitta, and kapha) and that disease results from their imbalance. However, there is no conclusive scientific evidence to support the literal existence of doshas. Ayurvedic practitioners prescribe individualised preventive and curative interventions, such as herbal formulations, diet, massage, exercise, yoga, and lifestyle recommendations.¹

Medical pluralism has existed for generations in India. Allopathic medicine has made great strides in acute conditions, infection, and surgical interventions, but treatment options are limited for the growing epidemic of non-communicable and lifestyle related diseases. Some practitioners say that ayurveda can help.

The World Health Organization has launched its Traditional Medicine Strategy 2014-23.² It aims to support member states to develop policies and to strengthen the role of traditional medicine in keeping populations healthy.

Making traditional medicine mainstream

Since coming to power in May 2014 the Bharatiya Janata Party government led by Modi has focused on making traditional forms of medicine mainstream. The government has established the Ministry of Ayurveda, Yoga, Unani, Siddha, and Homeopathy (AYUSH) under the independent charge of minister of state Shripad Yesso Naik.

The National AYUSH Mission was launched in September 2014 to complement allopathic medicine, especially in remote rural areas with poor access to conventional health facilities. It focuses on building infrastructure such as hospitals and dispensaries; promoting AYUSH facilities at primary health centres,

community health centres, and district hospitals; and improving the quality of remedies.

Ayurveda is also gaining popularity in towns and cities, with many new ayurvedic therapy centres and clinics opening. Some people seek ayurvedic treatment as their first option, others use it as their last option or alongside allopathy, and for some people it is the only option.

"Unlike allopathic medicine, traditional medicine is less technology and infrastructure intensive and therefore relies on knowledge and human capital for its implementation," G Geetha Krishnan, head of the integrative medicine department at Medanta Medicity, a privately owned multispecialty medical institute in Gurgaon, Haryana, told *The BMJ*.

But does it work?

Some secondary and tertiary allopathic hospitals, such as Medanta Medicity, are setting up ayurvedic consultation centres. Medanta offers integrated care in areas including chronic pain management and stroke rehabilitation.

Medanta currently has two randomised controlled trials under way to test whether ayurveda has clinical benefit for the management of mucositis during radiation therapy for head and neck cancer and for the management of side effects and quality of life in patients with breast cancer undergoing chemoradiotherapy. Each trial has 60 patients and will be completed by the end of 2016.

Some ayurvedic practices may benefit patients. A 2011 double blind, randomised, placebo controlled pilot study of 43 patients found that an ayurvedic herbal compound was just as effective at treating rheumatoid arthritis symptoms as methotrexate but with fewer adverse events.^{5,6}

"The government needs to support research to consolidate the evidence from ayurveda, which has a large pharmacopoeia. Especially there is a need to evaluate existing clinical practices of promising ayurvedic formulations and enhancing their clinical potential," SR Narahari, chairman and director of the Institute of Applied Dermatology, Kasaragod, Kerala, told *The BMJ*. "Positive outcomes of combining biomedicine with

Fact box: Who practises ayurveda?

India has 399 400 registered practitioners of ayurveda. Registration requires completion of a five and a half year bachelor's degree in ayurvedic medicine and surgery, including a year's internship.³ The degree must be from a university approved by the Central Council of Indian Medicine, a statutory body constituted under the Indian Medicine Central Council Act 1970. Graduates can then do a three year postgraduate degree leading to a doctor of medicine (ayurveda) or a master of surgery (ayurveda) degree.⁴ Ayurvedic practitioners are registered with their respective state boards of Indian medicine. The Central Council of Indian Medicine also maintains a central register of practitioners.

complementary and alternative medical systems, such as ayurveda, in the morbidity control of lymphatic filariasis, a tropical disease affecting millions of poor in India, have been recognised even in the allopathic sector.”

A non-randomised interventional study on community level morbidity control of lymphoedema in two districts of southern India where lymphatic filariasis is endemic showed that self care and treatments that integrate ayurveda are possible in village settings.⁷ A total of 730 of 1008 patients completed three and half months' follow-up and showed a statistically significant reduction in the volume of their lower limbs (up to the mid thigh). Cellulitis episodes reduced from 40% to 12.8%.

Challenges in building an evidence base

Patients and clinicians have a growing interest in knowing the efficacy and safety of traditional therapies. But, as Linda A Lee, director at Johns Hopkins Integrative Medicine and Digestive Center in Lutherville, Maryland, United States, told *The BMJ*, “Study of these types of therapies is challenging using the paradigm of the double blind randomised placebo controlled trial, which is what is used to evaluate the efficacy of pharmacological agents.

“For many types of traditional therapies, it remains to be established what is the best placebo. For therapies such as massage and acupuncture, for example, it is not always possible to blind practitioners and patients to the therapies. In contrast to pharmacological studies, there is often a lack of sufficient industry or national support to conduct large clinical trials.”

Anil Kumar Ganeriwala, joint secretary of the Ministry of AYUSH, told *The BMJ*, “AYUSH Research Councils, which have 81 research centres across the country, are collaborating with other institutes on clinical trials of the safety and efficacy of drugs so as to meet the US and European Union regulations.” Private research centres are also researching ayurveda.

Critics argue that some ayurvedic remedies have no proved curative properties but may work as placebos. Ram Vishwakarma, director of the Indian Institute of Integrative Medicine in Jammu, warned, “There is no shortcut in bringing the treatment modalities of ayurveda to patients without addressing evidence based preclinical and clinical studies, safety, quality control, and GMPs [good manufacturing practices].”

He told *The BMJ*, “New drug discovery from medicinal plants has a rich history from aspirin to quinine to artemisinin. Therefore there is a great need for continuous research and development on ayurveda and its plants and concepts.”

Ayurvedic therapies can pose safety risks if taken unsupervised and used incorrectly, especially drugs that have metallic ingredients or herbal products that are contaminated, not of standard quality, or admixed with synthetic drugs. “Due to lack of awareness and lack of scientific data, potential interactions affecting bioavailability of drugs taken concomitantly may cause concerns.” DBA Narayana, member of the Indian Pharmacopoeia Commission's scientific committee and chairman of its herbs and herbal products committee, told *The BMJ*.

Serious conditions

Johns Hopkins Medicine, an integrated global health enterprise with its own medical school and hospitals, has a caution on its website: “While Ayurveda can have positive effects when used as a complementary therapy in combination with standard, conventional medical care, it should not replace standard, conventional medical care, especially when treating serious conditions.”⁸

Lee said, “Studies in the US suggest that most people who are interested in using traditional therapies wish to do so in conjunction with, rather than in lieu of, their conventional therapy. Patients choose to use these therapies for myriad and sometimes complex reasons. For example, some cancer patients wish to use these traditional therapies not to treat their cancer directly but to manage symptoms or common side effects, such as fatigue, insomnia, nausea, neuropathy, or digestive symptoms.”

In India the private sector provides 80% of outpatient care and 60% of inpatient care, resulting in huge out-of-pocket expenses.⁹ Traditional treatments are generally not covered by private health insurance, except for some social insurance programmes and the Central Government Health Scheme.

“For a common cold or temporary stomach upset, ayurvedic medicines may cost about Rs50-100. For a major ailment requiring continuous medication for a couple of months, it may cost about Rs500 a month. Three week long inpatient therapy for a debilitating disease may cost about Rs75 000-150 000,” said TS Muraleedharan, chief of technical services at the charitable institution Arya Vaidya Sala in Kottakal, Kerala.

Self help health management

Darshan Shankar, vice chancellor of the Transdisciplinary University (Institute of Transdisciplinary Health Sciences and Technology) in Bangalore, suggests setting up a fourth tier of self help health management that is not institutionally driven like primary, secondary, and tertiary healthcare but where the providers are millions of households. “The traditional Indian medicine system has many simple and cost effective solutions for common ailments, prevention, and wellness,” he told *The BMJ*.

Health activists argue that a more patient centred approach to healthcare is needed if universal healthcare in India is to become a reality. “Allopathic treatments have provided longevity, and ayurveda can add quality to this prolonged life. The government needs to implement a policy framework whereby integration of traditional medicine systems with allopathy is validated,” Shailaja Chandra, former AYUSH secretary in the health ministry, told *The BMJ*.

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Case study: How a patient integrated ayurveda with allopathy

Ramu Ramakrishnan, a 65 year old aeronautical engineer based in Bangalore, has had rheumatoid arthritis, interstitial lung disease, and cholesterol crystal embolism (also known as "trash foot"). He has used a combination of allopathic and ayurvedic treatments.

"In 2001 I was struck with an accelerated and severe attack of rheumatoid arthritis, which left me crippled within days. I was prescribed large doses of aspirin by my general practitioner, but I began passing blood in the stool.

"I was referred to a rheumatologist, but he could offer little relief. So I decided to consult a traditional ayurvedic physician in Kerala. I meticulously followed his prescription, which included internal medicines from herbal extracts, oil for external application, and a vegetarian diet avoiding several vegetables, including eggplant and potatoes. After 45 days I was almost back to normal. I was prescribed some more drugs for the next 24 months. The arthritis hasn't posed any problems since.

"In 2003 I was diagnosed with interstitial lung disease or fibrosis of the lungs. By the time it was discovered I had lost around 75% of my lungs. I was recommended high doses of prednisolone, a corticosteroid, and told that I had a chance of surviving for about six months.

"With no hope in allopathy I turned to ayurvedic treatment. The ayurvedic doctor prescribed medicines for nine days. My body responded positively. I have been under his treatment now for nearly 12 years. The treatment did not require hospitalisation; it was internal medicines and external application. I have been having annual diagnostic scans and tests, which have shown that the fibrosis has gone completely dormant and there is no pulmonary hypertension.

"Recently, my index toe was amputated to eliminate trash foot. I again turned to ayurveda for treatment. The dry gangrene had already segregated in the three toes, which were originally scheduled for amputation. My vascular surgeon told me that these areas would heal in three months. I am taking several drugs recommended by the vascular surgeon along with medicines from my ayurvedic doctor, who has asked me to continue allopathic drugs until the problem is completely resolved.

"Ayurvedic treatment is effective only if the patient follows the procedure and adheres to the prescription extremely carefully. Integrating allopathic treatment with ayurvedic medicine has substantially improved my quality of my life."

Ramakrishnan has health insurance that covers allopathic treatment but not ayurvedic treatment. His average annual cost of ayurvedic treatment has been about Rs25 000. Amputation of his toe, further tests, and hospital admission at one of Bangalore's premier hospitals cost him nearly Rs350 000.

- University of Maryland Medical Center. Ayurveda. <http://umm.edu/health/medical/altmed/treatment/ayurveda>.
- World Health Organization. WHO traditional medicine strategy: 2014-23. Dec 2013. www.who.int/medicines/publications/traditional/trm_strategy14_23/en/.
- Central Council of Indian Medicine. Indian Medicine Central Council (minimum standards of education in Indian medicine) (amendment). 2012. http://ccimindia.org/cc_act_ug_regulations_2012.html.
- Central Council of Indian Medicine. Notification. 16 Mar 2012. <http://ccimindia.org/ayurveda-pg-reg.html>.
- Furst DE, Venkatraman MM, McGann M, et al. Double-blind, randomized, controlled, pilot study comparing classic ayurvedic medicine, methotrexate, and their combination in rheumatoid arthritis. *J Clin Rheumatol* 2011;17:185-92.
- Chopra A, Saluja M, Tillu G, et al. Ayurvedic medicine offers a good alternative to glucosamine and celecoxib in the treatment of symptomatic knee osteoarthritis: a randomized, double-blind, controlled equivalence drug trial. *Rheumatology (Oxford)* 2013;52:1408-17.
- Narahari SR, Bose KS, Aggithaya MG, et al. Community level morbidity control of lymphoedema using self care and integrative treatment in two lymphatic filariasis endemic districts of South India: a non randomized interventional study. *Trans R Soc Trop Med Hyg* 2013;107:566-77.
- Johns Hopkins Medicine. Ayurveda. www.hopkinsmedicine.org/healthlibrary/conditions/complementary_and_alternative_medicine/ayurveda_85,P00173/.
- Ministry of Health and Family Welfare. National health policy draft 2015. Dec 2014. www.thehinducentre.com/multimedia/archive/02263/Draft_National_Hea_2263179a.pdf.

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