




Promoting health economic evaluation studies in the AYUSH system of medicine: the need of the hour

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Perspective

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Abstract

The double burden of communicable and noncommunicable diseases is a major threat to the Indian public health system. AYUSH, an acronym for Ayurveda, Yoga and Naturopathy, Unani, Siddha, Sowa-Rigpa, and Homeopathy, represents the Indian system of medicine recognized by the Government of India. Mainstreaming of AYUSH is one of the key strategies of the Indian government for tackling increasing disease burden through initiatives such as AYUSH wellness centers, telemedicine, and quality control measures for medications in the AYUSH system of medicine. Such investment of resources in health systems may require economic evaluations. However, such evaluations are lacking in the AYUSH system, except for a few in homeopathy and yoga. In the absence of evidence from economic evaluations, researchers and decision makers are guided mostly by clinical efficacy while formulating healthcare strategies. In view of the increasing use of AYUSH across the country, economic evaluations of the AYUSH system are the need of the hour to aid healthcare decision making.

Globally, the coexistence of communicable diseases and noncommunicable diseases (NCDs), the double burden of disease, significantly impacts populations. Published reports indicate a 41 percent decrease in communicable diseases and neonatal disorders and a 40 percent increase in NCDs globally from the year 1990 (1). India's burden of NCDs is escalating, and NCDs are the primary threat to the Indian public health system, contributing nearly two-thirds (60%) of deaths in India (2). An economic loss of \$237 billion from premature deaths was estimated from India's NCDs during 2006–15. In addition, poor health affects the country's economic growth, and India stands to incur a cost of \$4.58 trillion between 2012 and 2030 because of NCDs and mental health conditions (3). Government health expenditure in India is one of the lowest with ~1.15 percent of the Gross Domestic Product (GDP) as against the recommended 2.5 percent of the GDP to achieve health outcomes under Sustainable Development Goals (SDGs) by 2025. Furthermore, annually about 8 percent of the Indian population falls into impoverishment or below the poverty line because of the high out-of-pocket health expenditures (4). Thus, the burden of diseases and their economic impact makes it imperative for public health leaders and healthcare providers in India to deliberate on newer strategies for ensuring effective and efficient resource allocation.

There is a tremendous increase in the use of herbal medicinal products and supplements globally. It is reported that about 80 percent of people worldwide are relying on herbal medicine for their primary health care (5). Traditional medicine relies less on technologies and intensive infrastructure and more on knowledge, experience, and human capital for the management of diseases (6). India is the land of several indigenous systems of medicine and these systems are collectively called the AYUSH system of medicine. In India, this AYUSH system (an acronym for Ayurveda, Yoga and Naturopathy, Unani, Siddha, Sowa-Rigpa, and Homeopathy) offers a wide range of preventive and curative treatments for acute as well as chronic illnesses. A few Indian reports make a mention of the holistic approach, cost-effectiveness, cultural friendliness, and almost sideeffect-free nature of this system as crucial factors for its global acceptance (7). In India, Ayurveda, along with the other components of the AYUSH system of medicine, is gaining popularity. Recent advancements in *Panchakarma* (a set of five external therapeutic procedures used to restore balance to the body) and yoga are attracting a substantial section of the population toward AYUSH.

India launched the National AYUSH Mission (NAM) in September 2014 and recognized the need to standardize and validate AYUSH medicines and establish a robust and effective quality control mechanism for drugs (8). India's national financial planning documents (2012–17) recommend the availability of AYUSH services, capacity building, and promoting quality research to validate the efficacy and safety of AYUSH remedies and the propagation

of AYUSH for global acceptance as a system of medicine. The NAM has launched many initiatives such as AYUSH wellness centers, telemedicine, sports medicine, and quality control in the AYUSH system of medicine. There are schemes from the Indian state governments, such as the “Amma Magapperu Sanjeevi” scheme, a bouquet of eleven types of herbal medicines from the Siddha medical system, to improve the overall health of pregnant women in the state of Tamil Nadu in South India (9). The National Rural Health Mission (NRHM) is India’s umbrella agency for all health-related programs. Mainstreaming of AYUSH is one of the key strategies under the NRHM. The NRHM, now referred to as the National Health Mission (NHM) by combining the rural and urban health sectors, envisages that all primary- and secondary-level healthcare centers provide AYUSH facilities under one roof (10). AYUSH, and what are similarly called complementary and alternative medicine/traditional medicine (CAM/TM) therapies globally, fundamentally offer inexpensive and noninvasive remedies to prevent disease caused by unhealthy lifestyles and focus on the human being as a whole, all of which may improve one’s health beyond the targeted disease or condition. However, CAM/TM is considered an “add-on” expense because of the concomitant nature of treatments in this branch of medicine along with other routine medications (11).

Economic evaluation merges the information on costs to the existing information on safety and effectiveness in terms of clinical and economic outcomes. As healthcare costs increase, these economic evaluations become increasingly important to the formulation of disease management strategies. In this context, the economic data on AYUSH systems could assist in formulating strategies to lower the overall global healthcare costs. Some of the early literature commented about the cost-effectiveness of some CAM/AYUSH interventions (12). Theoretically, treatments in CAM seem to be a potential alternative in terms of cost-effectiveness, as they reduce the costs of high technology such as laboratory investigations and medical instrumentation. However, evidence is needed to substantiate such theoretical claims in the Indian setting. The quality economic evaluations of CAM have increased globally, and more CAM therapies have been shown to be of good value (13). A cost study of AYUSH medicines has found that an improved provisioning of free AYUSH medicines can reduce the average out-of-pocket expenditure. Several studies do claim that AYUSH interventions have the potential to treat and manage NCDs of epidemic proportions such as cancer and its side effects, diabetes mellitus, cardiovascular diseases, and hypertension (14–17).

Economic evaluations of CAM/AYUSH therapies are needed to contribute to the evidence base on which policy makers, public health specialists, healthcare payers, as well as patients base their healthcare decisions in resource-scarce settings. A systematic review has found 338 studies on complementary and integrative medicines (CIMs) and it also shows an increasing trend of economic evaluation studies (11). Studies indicate potential cost-effectiveness and even cost savings across a number of CAM therapies. Within the AYUSH system of medicine, there are fifteen economic evaluation studies on homeopathy (18), and a promising number of quality studies in yoga have been published (19;20). However, there are no economic evaluation studies on ayurveda, siddha, and unani in the literature.

Many Asian countries partially or fully cover their traditional and complementary medicine (TCM) cost in their insurance policies. These countries provide the impetus to conduct cost-

effective analyses for TCM that have proven safety and efficacy. However, a study highlights that the lack of a system to evaluate the efficacy and effectiveness of the TCM concepts is a key issue (21). There are many initiatives by the Government of India to promote and enhance evidence-based medicines and reduce the cost of health care. As per the recommendation of the working group of the country’s planning commission, Health Technology Assessment in India (HTAI) was established with the aim of maximizing health care for the population, reducing out-of-pocket expenditure, and reducing inequity (22). The Ayushman Bharat, a flagship insurance scheme launched by the Government of India, emphasizes enhancing evidence-based health care and cost control for bringing about improved health outcomes, including AYUSH treatment packages (23). Research examining the safety and efficacy of AYUSH is rapidly growing in India, and there appears to be a potential role for AYUSH in a number of treatment areas. As out-of-pocket expenditure in health care is increasing every year in India, it has become imperative for healthcare researchers and decision makers to formulate new evidence-based healthcare strategies. This has become the need of the hour. The idea that any economic impact that may be caused by AYUSH must be construed as a large utilization of the AYUSH system of medicine is rapidly growing in India. Undoubtedly, economic evaluation methods form an important part of healthcare decision making. We recommend that public health researchers and health economists work on economic studies in this field of medicine to generate evidence to guide evidence-based policy decisions. The Indian government’s budgetary allocation to the AYUSH system of medicine is increasing annually but without any economic evaluation of the same. The generation of evidence from this field will contribute toward improving efficient resource allocation, encouraging efficient and effective interventions of AYUSH health care. Such effort in the AYUSH sector would play a key role in achieving the goal of a healthy “New India” as envisaged by the Indian government (24).

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