

Mainstreaming integrative medicine into modern healthcare

The National Ayush Mission of the Government of India promotes the implementation of integrative medicine through various state and union territory governments in which Ayurveda, Yoga, Unani, Siddha and Homeopathic systems of medicine are practiced in conjunction with allopathy (modern medicine). This gels with the philosophy that healthcare must be pluralistic, inclusive and adopt appropriate complementary approaches to restore equilibrium (healthy condition) in an individual (Sartorius, N., *Croat. Med. J.*, 2006, **47**(4), 662–664). While modern allopathy is essential in ‘critical and life-saving’ situations, it loses its sheen somewhat while dealing with chronic, long-standing and non-communicable diseases. When it comes to preventive and promotive health, in addition to vaccinations, allopathy also recommends diet, exercise and lifestyle. These recommendations include traditional and ancient practices such as Yoga, Tai Chi, mindfulness, to name a few. This, indeed, may be considered the main basis for integrative medicine. National Center for Complementary and Integrative Health, USA, emphasizes that Integrative medicine is a holistic approach to health and well-being, using a coordinated and conjoint but optimal use of allopathy and complementary medicines. Integrative medicine may be defined as a ‘single-window’ healthcare service which adopts an evidence-based blend of traditional and modern medicines, with optimal use as either a combination or as monotherapy.

A wide range of chronic conditions have the potential to be benefitted by integrative medicine. They include migraine and epilepsy in neurology; depression and schizophrenia in psychiatry; asthma and chronic obstructive pulmonary diseases in pulmonology; congestive cardiac failure and cardiomyopathy in cardiology; irritable bowel syndrome, celiac disease and liver failure in gastro-enterology; renal failure in nephrology; arthritis of various kinds in rheumatology; spondylosis, spinal degenerative conditions and other problems of bone and joint in orthopaedics; peripheral neuropathy and other complications of diabetes mellitus, systemic hypertension, and a variety of cancers. The list is indeed long and growing. In psychiatry and neuroscience, developmental disorders in childhood (autism, ADHD, intellectual disability, cerebral palsy) and degenerative disorders in adults and elders (Alzheimer’s, dementia, Parkinson’s and other movement disorders, cerebrovascular diseases) can be included. The commonality that underlies all these conditions is that they tend to contribute to lifelong morbidity

and disablement in many affected persons. According to Mukhopadhyay, S. *et al.* (*Integr. Med. Rep.*, 2022, **1**(1), 86–94; doi:10.1089/imr.2022.0054) in conditions as diverse as diabetes mellitus, hypertension, obesity (metabolic syndrome), migraine, low back pain, depression and schizophrenia, there is considerable evidence to suggest that lifestyle management has an important role. Comprehensive and integrated care, including but not restricted to Yoga, Tai Chi, Qigong, acupuncture and other mind-body practices, are recommended as add-on interventions in mainstream care and such approach is rapidly gaining application globally for persons with chronic diseases. Purohit, M. *et al.* (*PMR*, 2013, **5**(1); doi:10.1016/j.pmrj.2012.06.012) studied a large number of people with chronic neuropsychiatric symptoms in the USA to understand what proportion used complementary alternative medicine (CAM). They found 43.8% of US adults with at least one neuropsychiatric symptom used at least one CAM therapy. They found a multiplicity of symptoms appears to be one important predictor of integrative medicine being considered. Other important considerations are the duration and chronicity of the complaints and the recommendation of the conventional care provider to consider CAM. Twenty per cent of patients used CAM because standard treatments were either too expensive or ineffective, while 25% used CAM because it was recommended by a conventional health care provider. Adults with at least one neuropsychiatric symptom were more likely to disclose the use of CAM to a conventional healthcare provider (47.9%).

Integrative medical practice is criticized in some quarters. These criticisms arise from safety concerns, lack of well-designed efficacy studies, limited knowledge about drug interactions, less robust regulatory controls over products, perceived bias against CAM in mainstream medical journals, and conflict between research and clinical practice (Ernst, E., *Compliment. Ther. Med.*, 2000, **8**, 214–215; Hamid, Z., *The Hindu Opinion (and Parley Podcast)*, 19 May 2023; <https://www.thehindu.com/opinion/op-ed/can-an-integrated-system-of-medicine-work/article66866483.ece>). Research in complementary and alternative healthcare approaches has increased in recent years, and sufficient data that support the benefits of certain practices in some illnesses are being reported (Cramer, H., *Depress. Anx.*, 2013, **30**, 1068–1083; Calcagni, N., *PLoS ONE*, 2019, **14**, e0223564). In addition, work in the field of non-pharmacological care research for

conditions like cancer points out that these practices have become ‘essential and critical’ in providing optimal care and support to elders with this condition (Cho, W. C. S. (ed.), *Materia Medica*, Springer, 2021, p. 442). With the support for integrative medicine by the Government, the future growth of such research appears bright.

Contrary to canards, the Ministry of AYUSH regulates alternative medicines and their practitioners in India. Like allopathy students, Ayurveda, Yoga, Siddha, Unani and Homeopathy students also earn their basic medical degree after five and a half years of training, including one year of internship. The training includes subjects like anatomy and physiology with a special emphasis on understanding the human body in alternative medicine. There are also post-graduate MD and MS programmes. At the level of education, therefore, there is standardization. Many practitioners of alternative medicine systems employ therapists who deliver treatments to clients under the direction of the physician. There is scope for regulating the therapists.

A host of Government, private and non-profit sector AYUSH hospitals are providing integrative health care throughout the country. There have been attempts to bring ‘integrative medicine’ into the mainstream by the government and private sectors. While many of these ‘centres’ survive within multi-speciality hospitals, it is unclear how well they will integrate into modern medical facilities. Such integration should ideally involve active sharing and cross-transfer of patients between physicians across disciplines. While there are notable instances and examples of such integrated work as, for example, in the Buddhi Clinic in Chennai run by one of the authors (Krishnamoorthy), they remain few and far between. Mere co-localization of conventional health care services is not true integration, though it is the first step. Both healthcare providers must possess considerable knowledge of each other’s systems. Such knowledge helps individualize treatment approaches to a given patient seeking help. Mutual trust and respect among doctors from different streams without demanding hierarchy is the key to success for integration.

How should integrative medicine be taken forward in this era of evidence-based medicine? Uniform regulation for all medicaments (conventional) for safety is desirable. However, this comes with multiple challenges, not the least of which is the absence of uniform regulatory authorities globally. From an aspirational perspective, as medicaments are at the fountainhead of modern and traditional medical systems, we must work towards harmonized guidelines as a progressive scientific community. As pointed out earlier, evidence for traditional, non-pharmacological interventions is growing in a wide variety of chronic diseases. Structured incorporation of these techniques into modern clinical management as ‘integrative medicine’, based on available evidence, would be a welcome step. In our speciality of psychiatry and neuroscience, we can think of no better condition than Alzheimer’s disease as an example of a condition in which sufferers receive proven benefits from non-pharmacological therapies such as exercise, music and dance therapies, or

indeed various group activities having been tested to proven benefit. In modern neuropsychiatry, an emerging basket of non-pharmacological therapies is beginning to demonstrate potential towards providing symptom relief and perhaps even sustained improvements in disease outcomes. A range of invasive and non-invasive neuromodulation technologies are in various stages of development, and mainstreaming them globally offers non-pharmacological alternatives for many neuropsychiatric disorders. These newer technologies are beginning to provide an interesting modern counterpoint to more traditional ‘integrative health systems’. It also puts forward for us the tantalizing possibilities; if both tDCS and Tai Chi (Gu, R. *et al.*, *Front. Neurosci.*, 2022, **16**; <https://doi.org/10.3389/fnins.2022.811403>; Chen, J. *et al.*, *Brain Sci.*, 2022, **12**(5), 562; doi:10.3390/brainsci12050562) can have an impact on cognition for the elderly, would it be possible for both to be offered to a patient or indeed integrated as a paradigm? In another example, OM chanting produced limbic system deactivation, similar to that observed in vagus nerve stimulation (Kalyani, B. G. *et al.*, *Int. J. Yoga*, 2011, **4**(1), 3–6). Blending both for holistic well-being is, therefore, a possibility. The blend of modern science and ancient healthcare systems could become the future of healthcare!

In summary, it can be said that rather than throw the baby out with the bathwater (Hamid, Z., *The Hindu Opinion (and Parley Podcast)*, 19 May 2023; <https://www.thehindu.com/opinion/op-ed/can-an-integrated-system-of-medicine-work/article66866483.ece>), modern medicine specialists, especially those focused on chronic disease management and research, would do well to examine the wealth of wisdom and opportunity in the AYUSH and other traditional healthcare systems. Equally, the practitioners of traditional medicine would do well to embrace the need for rigour and quality standards that science and society have embraced. The future of integrative medicine could well be a fine blend of the modern and traditional, a seamless integration of many knowledge systems for the benefit of humankind.

ekam sastram adheeyaano na vidyaat sastranisichayam
tasmaat bahusrutah shastram vijaaniyaat chikisakah
sushruta samhita sutra sthaana 4/7.

(It is not possible to conclude based on a single stream of knowledge. Hence a healer should acquire knowledge from several other systems. – *Sushruta Samhita*)

Ennapadam S. Krishnamoorthy^{1,*}
B. N. Gangadhar²

¹Buddhi Clinic and Neurokrish Consulting,
Chennai 600 018, India

²Department of Integrative Medicine, NIMHANS,
Bengaluru 560 029, India;

Department of AYUSH, Government of India

*e-mail: founder@neurokrish.com