ARTICLES

Public health perspectives in cross-system practice: past, present and future

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Abstract

Cross-system practice is widely prevalent in Indian settings. The recent policy decisions of the Government of India and the legalisation of cross-system practice in various states have brought this issue into the limelight once again. We aim to critically evaluate this issue from the philosophical, academic, and public health perspectives, as well as with reference to training. On the one hand, students of traditional Indian medicine are being introduced to allopathy without philosophical backing, practice based on the aetiological model and training in modern pharmacology. In addition, pharmaceutical industries are wooing AYUSH practitioners and their prescription patterns have already been "allopathised". As for the allopathic system, it is witnessing enormous scientific advances and growing increasingly complicated. The medicines are risky and also associated with many life-threatening side-effects. Meanwhile, the government is grappling with the humungous problem of ensuring health services for all. The government's intention is to expand the reach of health services by allowing cross-system practice, but the issue has much wider ramifications. The authors believe that before cross-system practice is allowed, there is a need for a comprehensive and deeper understanding of all the benefits and pitfalls of such as system. A few of these are discussed in this article. Specifically, we delve into the philosophical issues, syllabus and training, advances in medical technology, and larger public health perspectives. We end by suggesting a few steps that may help to improve public health in the country.

Introduction

There are substantial challenges in the way of the provision of healthcare to India's citizens (1). The shortage of doctors is one problem and the reluctance of doctors to work in rural areas is another. This unequal urban–rural distribution has resulted in a scarcity of human health resources (2,3). Further, healthcare facilities in the rural areas are in a pathetic state owing to poor infrastructure, non-availability of medicines and equipment, and lack of basic amenities (1,4,5). The Government of India has called for urgent measures to address the issue of universal coverage of health, with a view to developing a framework for the provision of easily accessible and affordable healthcare to all (6). There have been recent policy changes and discussions on integrating AYUSH and homeopathy into the mainstream under the National Rural Health Mission (7,8); allowing Indian traditional medicine practitioners to perform medical termination of pregnancy under the new Medical Termination of Pregnancy (Amendment) draft bill (9); and initiating new short-term courses, such as the three-year Rural Medical Assistants course (8,10,11). These measures have to be discussed and analysed in a more systematic way before they can be implemented in the long term.

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Extent of cross-system practice

Various studies have found that cross-system practice is rampant (12–14). Some studies have reported that allopathic practitioners prescribe traditional Indian medicine (14). Similarly, traditional Indian medicine practitioners prescribe allopathic medicines (12). The prevalence of cross-system practice ranges from 12% (14) to 98% (12). A comparative study reported that 12% of the drugs prescribed by allopathic practitioners were Ayurvedic drugs, while 48% of those prescribed by Ayurvedic practitioners were allopathic drugs (13). Another study from Maharashtra reported that the percentage of irrational fixed dose combinations of allopathic drugs prescribed was significantly higher among Ayurvedic doctors (15). Ayurvedic doctors seemed to prescribe more irrationally than allopathic doctors (15). Such irrational cross-system prescriptions can be dangerous to the patient and society in the long run (15–17).

Regulations

The Indian Medical Council Act, 1956 (18) and Indian Medical Council (Professional Conduct, Etiquette and Ethics) Regulations, 2002 (19) discourage allopathic doctors from prescribing traditional medicine. The Supreme Court has made it clear in various judgments that "a person who does not have knowledge of a particular system of medicine but practises in that system is a quack. Where a person is guilty of negligence *per se*, no further proof is needed." (20,21) However, considering the federal structure of the Indian constitution and the fact that health is a state subject, the apex court has also laid down that ayurveda, siddha, unani and homoeopathy practitioners can prescribe allopathic medicines only in those states where

they are authorised to do so by a general or special order made by the state government concerned (22–24).

Methodology

The authors adopted the doctrinal method of research. They made an electronic search for articles published in Pubmed, regardless of date. Terms such as cross-system practice, complementary alternative medicine, traditional medicine and medical negligence were combined using a Boolean operator (AND). The cross-references of the major articles and reviews were reviewed further, when considered relevant.

In order to gather information on "academics" and "syllabus and training issues", both online and manual searches were carried out. Various search engines, such as Google, Bing and Yahoo, were used for the online searches. We also went through the annual reports of the health and family welfare department, gazette notifications, press releases and relevant news items in various newspapers. We found a wide assortment of published articles, policy-related documents and government notifications. To make for a meaningful discussion, only the relevant articles and documents were selected for the review.

In this article, cross-system practice is defined as "a doctor of one system of medical practice prescribing medicines of another system, in which he has not been formally trained or which he has not studied" (16,17).

Philosophical orientation of various systems of medicine

Each system of medicine has a distinct philosophical orientation and approach towards treating patients (25). Allopathic medicine is constantly evolving and will continue to evolve until mankind continues to exist. This system of medicine is technologically assisted. Data is derived from experimental processes and the system is based on strong scientific evidence. All findings and conclusions are under constant scrutiny, are tested and re-tested, and are peer-reviewed. Allopathy centres primarily on the prevention and cure of disease. In allopathy, the concept of disease is based on the "causative theory", the causes including invading organisms, metabolic imbalances, tissue degeneration, excess growth of cells and auto-immunity (25).

Ayurveda, which originated in 5000 BC and is practised throughout India, is considered by its proponents as "a completely evolved science" (22). This being so, there is no scope for questioning and scientific scrutiny. Unfortunately, most of the work in ayurveda is based on subjective experiences, on what has been passed down verbally from saints or souls who have attained realisation, and on the writings of historical saints (26–28). Ayurveda holds that disease is an imbalance in nature and human beings are part and parcel of nature. The focus is more on self-healing. The basis of Ayurveda is the concept of "tridosha", ie vata, pitta and kapha—the three basic principles of energy or biological humour—which regulate our physiological and psychological functions (26,28). The concept of tridosha places health in the larger social, economic, environmental and psychological contexts (26,28). Ayurveda may be described as a spiritual, holistic, preventive, and self-healing model (26).

The homeopathic system of medicine is based on the principle of "*Similia similibus curentur*", which means "Like cures like" (29). Unani focuses on imbalances between the four humours of phlegm, blood, yellow bile and black bile (28). Siddha medicine means medicine that is perfect. The practitioners of this system aim to revitalise and rejuvenate dysfunctional organs to eliminate the disease, and to maintain the balance of *dosha, vaadham, pitham* and *kabam* (30). Siddha is the oldest traditional system of treatment, having its origins in the Dravidian culture in south India (30).

There is no doubt that the ayurvedic, siddha, unani, allopathic and homeopathic systems of medicine have their own history, methods, traditions, heritage, advantages and importance.

Keeping their basic philosophy and origin in mind, each system is governed by different legislations. If philosophically divergent practices that do not have a common ground are forced together, it can lead to chaos, unless the systems are ready to evolve and gain from each other's strengths (25). Allopathy is governed by the Indian Medical Council Act, 1956 (18), Ayush (ayurveda, unani and siddha) by the Indian Medicine Central Council Act, 1970 (31), and homeopathy by the Homeopathic Central Council Act, 1973 (32). Each system has several specialties and superspecialties, leading to very vast subjects, of great diversity and complexity.

Syllabus and training

The ayurveda syllabus has borrowed from contemporary allopathy, such as in the areas of anatomy, physiology, pathology, forensic psychiatry, and obstetrics and gynaecology. Ayurveda has also borrowed heavily from allopathy in matters such as the latest equipment, laboratories, technology, instruments, and methods and materials used in practice. Every time the ayurveda curriculum is modified, more and more additions are made to the allopathy portion of the subject, including practice, and unfortunately, AYUSH *per se* is getting gradually eroded. The last modification of the syllabus (33) and the gazette notification of 2012 (34) require six-month compulsory training of AYUSH interns with the national health programmes, which are based on western allopathic principles (34). Not a single medication under these programmes is based on AYUSH. However, the gazette notification is silent on the specifics of the training. The issue of whether AYUSH practitioners have the right to prescribe allopathic medicines has also been left unanswered. In addition, the notification does not have any guidelines on, nor does it outline the roles and responsibilities of practitioners across systems, which has created a great deal of confusion in the minds of the alternative medicine interns.

Several AYUSH practitioners express the desire to practise allopathy, claiming that they have also been comprehensively

trained in the allopathic system of medicine. However, this is a myth. Besides topics related to the Indian medicine systems, the AYUSH curriculum includes only the basics of certain components of the allopathic system, such as anatomy, physiology, pathology, radiology and community medicine. The AYUSH syllabi themselves are so exhaustive that students barely have time to study modern medicine (35). The topic of modern pharmacology has been introduced for the second year of ayurveda, but only 30 marks have been allotted to this in the entire ayurveda syllabus (35). When attempting to evaluate the modified syllabus, one gets the feeling that the drafters were in a dilemma over whether to leave ayurveda untouched or whether to amalgamate it with allopathy. The drafters' half-hearted attempt to modify the curriculum reflects that on the one hand, they do not have complete faith in the traditional system, and on the other, they are reluctant to accept the modern model of diagnosis based on aetio-pathogenesis and modern pharmacology. This ambivalence with respect to "allopathised ayurveda" and the compulsory internship in allopathy for the national health programmes have put young ayurvedic doctors in a dilemma about whether to practise allopathy or ayurveda medicine. The exposure of AYUSH trainees to the allopathic system of medicine is far from adequate. To practise any system of medicine, one should have a reasonable degree of understanding of the subject matter, a sound theoretical grounding, an aetiology-oriented approach, modern clinical skills, empathetic responses, a good bedside manner, and a belief in the system (36). A recent study found that AYUSH medical officers were less competent than medical officers and rural medical assistants of the allopathic stream (8). On the whole, students of AYUSH are introduced to allopathy but not trained thoroughly in modern pharmacology. Hence, it makes better sense if a person trained in a particular system and specialising in a particular field practises the same system.

Another contentious issue raised by AYUSH practitioners is that in rural and remote areas, trained and experienced nurses, midwives or *dais* are allowed to conduct deliveries, but qualified doctors of the Indian systems of medicine (AYUSH) are not allowed to do so. This, however, is not true. AYUSH practitioners are completely free to practise their system of medicine and conduct deliveries. Their service is laudable, but legally, no system of medicine deems a nurse, midwife or *dai* to be a professional or registered medical practitioner. On the contrary, the Board of Indian Medicine (AYUSH) has launched a series of litigations against non-registered professionals for practising Indian systems of medicine (52), and not allowing the non-professionals to practise traditional Indian systems of medicine.

A person who has studied a particular system of medicine cannot possibly claim to have a deep and complete knowledge of the drugs used in other systems. For example, an ailment such as typhoid can be treated not only by allopaths, but also by the practitioners of the alternative systems of medicines, according to their own formulae and pharmacopoeia. An AYUSH doctor may also administer an allopathic drug. It is well known that a major pitfall of allopathic medicines is the occurrence of drug-related side-effects. In case a serious adverse reaction occurs, the AYUSH doctor may not be able to handle the situation appropriately. If certain allopathic medicines (such as anti-epileptics, anti-psychotics, anti-hypertensives and anti-diabetics) are stopped suddenly, in the absence of proper supervision by allopathic doctors, there may be dire consequences, including stroke, cardiac failure and death.

Rapid advances in medical technology

In this era of specialisation and super-specialisation, graduates in allopathic medicine should know their strengths and limitations. Research in allopathic medicine has grown exponentially over the last few decades. PubMed comprises more than 23 million citations for biomedical literature from MEDLINE, life science journals online books, and more than 500,000 articles are added every year (37). It is becoming increasingly difficult for any allopathic practitioner to keep pace with the expansion in knowledge. Allopathic graduates who have specialised in a particular area do not venture into the domain of other specialties. For example, a dermatologist will never attempt a Caesarean section because each field is too vast and advanced for one to be able to cross over into the other. As it is, it is difficult enough to keep abreast of the developments in one's own specialisation. For this reason, the Medical Council of India has introduced a new clause in its ethics code about continuing medical education (CME), whereby all allopathic practitioners must undergo compulsory CME. A minimum of 150 credit hours is required every five years for the renewal of medical registration (38).

Another issue that needs to be kept in mind before allowing cross-system practice is the increasing numbers of drugs being released into the market every year. Many allopathic doctors are not aware of the latest procedures of administration of several drugs, their indications and contraindications, and their effects and side-effects. Even well-trained specialists and superspecialists have erred, in spite of many years of experience, and many patients have died.

Concerns about safety and "commodification" of medicines

A majority of India's population of 1.1 billion seeks treatment from ayurvedic practitioners (39). Contrary to common belief, even the traditional ayurvedic medicines, which have been used for thousands of years, have the potential to cause adverse effects and interactions with other medications (39–42). In fact, many standard textbooks of ayurveda mention that ayurvedic drugs can be toxic if used improperly (26,42–45). A combination of allopathic and traditional medicines can be highly dangerous. There are no systematic studies documenting the effects of such drug interactions. Further, the safety of traditional medications has come into question in view of the changing ecological environment, use of pesticides to grow herbs and plants, manufacture of over-the-counter (OTC) formulations without much training, irrational combinations, mixing of allopathic medications

in ayurvedic preparations, and sale of spurious traditional medications in the market. In addition, the "commodification" of traditional drugs and related health products (46) is cause for serious concern. Aggressive sales by the pharmaceutical companies, promotion through newspaper advertisements and television commercials, and OTC availability have led to wide consumption of these drugs by patients, who do not even know the side-effects and drug interactions. This has created chaos (45,46) and consumers are slowly losing faith in traditional medicine (47).

International pharmaceutical companies are playing a major role in promoting cross-system prescriptions. It is claimed that medical representatives of these companies are aggressively marketing modern medicines to AYUSH practitioners and influencing their prescription patterns so as to make huge profits.

In the absence of good quality control in alternative medicine systems, the safety of the public becomes a serious concern (48–50). The World Health Organization has emphasised the need for safety, efficacy and quality in the development of these systems as this will help not only to preserve the traditional heritage, but also rationalise the use of natural products in healthcare (49,50). Hence, there is an urgent need for regulatory changes and proper implementation (48,50).

The larger interest: public health perspective

Non-licensed practitioners

Not surprisingly, non-licensed practitioners form a good proportion of the rural workforce: national surveys indicate that up to 63% of clinicians practising in rural India are traditional and faith healers (3){Rao, 2011 #34}. Non-licensed clinicians (NPCs) are increasingly being viewed as a cost-effective means of the delivery of primary health services (11,51). Under the Deshiya Chikitsa Act 1953 (provision 1936, sub-section 1K), practitioners such as hereditary practitioners, faith healers, *hakims*, family hereditary *vaidyas* and *haadvaidyas* were entitled to be registered as medical practitioners. Unfortunately, the "experience-based registration of traditional Indian medicine" under Section B of the Act was formally discontinued by the AYUSH council in 1976 and this effectively debarred those without a medical degree from a recognised institution from practising traditional medicine (11).

There have been many instances of the Board of Indian Medicine (AYUSH) launching litigations against traditional healers and faith healers because they are not registered and do not have university degrees (52). Practitioners of traditional systems of medicine have been practising for many centuries and have been, and continue to be, the dominant providers of medical services to the public at large in the remote areas of rural India. The requirement of educational qualifications for registration is definitely destroying the traditional practitioner, in turn affecting the health of the rural poor (8).

Unfortunately, professional bodies (both the Medical Council of India and Indian Medical Association) have an uneasy relationship with non-licensed clinicians. They refuse to accept the idea of these non-registered practitioners being brought into the mainstream of healthcare in the remote rural areas. Despite the shortage of human resources, non-licensed clinicians, *haadvaidyas*, family hereditary *vaidyas* and other locally available human resources have not been adequately mobilised and integrated into the system in the larger public interest (10).

Rural Medical Assistants

Rural Medical Assistants undergo only three and a half years of training followed by a year of internship. In 2001, the state of Chhattisgarh started its own version of a three-year community health programme to address the shortage of medical practitioners in its villages. This course was named the 'Diploma in Holistic Medicine and Paramedicine course/ "Diploma in Modern and Holistic Medicine' course. Only rural candidates who have passed out of school were eligible for this three-year diploma course. However, the Indian Medical Association (IMA), criticised the course stating that it is a compressed version of the MBBS and would dispatch unprepared doctors to villages, putting the health of their inhabitants at risk(10). Moreover, the Chattisgarh Government had to withdraw this course just after three years due to the various problems that arose from it. Compulsory one year rural internship across the medical system can be considered. However, they should be practising their respective system of medicine. Fresh graduates and Rural Medical Assistants possibly perform well using telemedicine technology.

Telemedicine and virtual learning platforms

Telemedicine has the potential to help make up for the lack of rural healthcare resources and reduce the ever-escalating cost of care (53,54). It should reach primary healthcare facilities, as well as rural health centres. Dedicated medical, paramedical and technical staff must be recruited. It should be ensured that emergency telemedicine services, similar to ambulance services, are available 24 hours a day through public–private partnerships (53). Establishing telemedicine units within the ICU, emergency and trauma care settings and operation theatres would save the crucial time. Telemedicine can be successfully utilised by all the national programmes for implementing, training medical staff, evaluating and analysing cost effectiveness (53).

National Rural Health Mission and AYUSH

The vision of the National Rural Health Mission is to extend the benefits of AYUSH to the public by integrating these systems into mainstream healthcare. Unfortunately, in the name of facilitating national healthcare programmes, state administrations are forcing AYUSH doctors to practise allopathy and not allowing them to freely practise AYUSH. In some states, AYUSH doctors are not even allotted consultation rooms and essential AYUSH medications are not supplied (55). A good deal of confusion reigns with respect to what the AYUSH doctor's role is. This confusion has been compounded

by the legalisation of cross-system practice, on the one hand, and the renewal of focus on bringing AYUSH treatments into the mainstream (56). This lack of clarity regarding the role of AYUSH personnel is cutting the very roots of the attempt to integrate AYUSH into primary healthcare (56).

Bridging the gap: approach to integrated medicine

If the government is serious about wanting to integrate traditional medicine with modern medicine, it has to do so in a phased manner, keeping in mind the issues of academics and the syllabus, training, research and the evidence-based perspective. It would be sound and practically useful to keep the philosophy of each system of medicine in mind. For the best results, the attempt to integrate the different systems of medicine should be undertaken in at least three phases, as described below.

Phase-1: Initially, following extensive debate, discussion and research, it is advisable to integrate ayurveda, unani and siddha into a single course, called the "integrated AYUSH course". If this proves successful, as determined by research, cost-effectiveness analysis, and the feedback of the consumers and service providers, one can move to the next step.

Phase-II: This consists of combining the "integrated AYUSH course" with homeopathy to form a new "integrated traditional medicine" course. Enabling legislation will need to be drafted and implemented.

Phase-III: Finally, on the basis of research, the evidence available, cost-effectiveness and cultural acceptability, "integrated traditional medicine" should be combined with allopathy.

Investing in health

Health is a state subject under the constitution of India. Unfortunately, many states are trying to opt out of investing in health by encouraging cross-system practice. Most states have completely failed to (i) invest in health, (ii) abolish medical education based on the capitation fee, (iii) enhance the rural population's access to quality healthcare, (iv) use innovative technologies, such as telemedicine, in a comprehensive manner, (v) improve the basic health infrastructure in rural areas, (vi) check corruption in the health sector, (vii) stop the supply of substandard equipment and substandard medications, (viii) procure AYUSH medicine, (ix) invest in medical research, and (x) make rural postings attractive to medical doctors. The half-hearted attempts of the governments and their poor evidence-based decision-making are giving wrong signals about the viability of cross system practice to the public at large.

Conclusion

Cross-system practice encourages practitioners of the traditional medicine systems to practise allopathy and results in the neglect of these systems, besides making them seem unattractive. It will also endanger public health due to the indiscriminate use of allopathic medications and eventually destroy the Indian systems of medicine. The pharmaceutical companies are luring AYUSH practitioners, whose prescription patterns have already become "allopathised". Legalising cross-system practice is akin to giving a few money-making traditional practitioners a backdoor entry into the practice of allopathy, in the name of traditional medicine, thus tarnishing the image of the Indian systems of medicine. It is time to act and save the traditional systems of medicine. There is an urgent need to keep each system of medicine separate and encourage a healthy competition between these systems. The government should make sincere efforts to provide each system of medicine a fertile soil to grow in.

In conclusion, there is no doubt about the utility of the Indian systems of medicine; and the integration of AYUSH into the mainstream of healthcare delivery is most welcome. However, the trend of encouraging cross-practice is not beneficial to any system. The need of the hour is to provide traditional medicine with an equal opportunity by mainstreaming all the systems under one roof, with complete abolition of cross-system practice. In addition, in the era of consumerism and of professionalism, the need to ensure the safety of the public is greater than ever. To this end, special care must be taken to reverse a situation in which patients are often prescribed medications that seriously endanger their health. The role of the government is to make all systems of medicine more accessible to the public and to establish a system in which the individual has the freedom to choose the medical service he/she wants.

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