

HORMONIZATION OF TRADITIONAL MEDICINE WITH MODERN MEDICINE

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ABSTRACT: To evaluate the contemporary role of traditional medicine in maintaining health, to develop a scientific approach to policy-making in traditional medicine, and, ultimately, to assess how traditional medicine can be harmonized with modern medicine. There is dire need for identifying research requirements in traditional medicine on the past research, barriers to the acceptance of traditional medicine, research methodology and evidence-based medicine. In the course of these discussions, we concluded that there were challenges to the harmonization of traditional and modern medicine. Better access to information, facilitating appropriate clinical trials, improving rigour in clinical trials, improving education and collaboration of practitioners and researchers, and respecting traditional practices in research were all identified as important steps towards achieving harmonization. We should be believed that evidence-based research could be an essential step towards the harmonization. Findings of well-designed and well-performed research should be disseminated as widely as possible. This should include the preparation and dissemination in English and native languages of rigorous systematic reviews based on the research literature from various countries. Research that establishes the value of traditional medicine in promoting health and wellness beyond treating diseases should be encouraged. Clinical trials of widely used and established traditional remedies should be encouraged and undertaken prior to obtaining the results of extensive 'pre-clinical' basic research. This is done by support training in research methodologies by encourage in conducting of high quality research.

INTRODUCTION

Traditional medicine is the ancient and culture-bound medical practice which existed in human societies before the application of modern science to health. The practice of traditional medicine varies widely, in keeping with the societal and cultural heritage of different countries. Every human community responds to the challenge of maintaining health and treating diseases by developing a medical system. Thus, traditional medicine has been practised to some degree in all cultures. Integrated Medicine couples the latest scientific advances with the most profound insights of ancient healing systems, giving you the best ways to preserve health, increase longevity and speed recovery from illness. Integrated Medicine embraces the best of conventional and alternative approaches, but is more than just a mixture of therapeutic techniques. To integrate is to make whole, and the distinctive feature of Integrated Medicine is its application of science to prevent or treat disease by healing the person who is sick, rather than just treating the disease. Integrated Medicine perceives illness biographically and at the same time uses the powerful data-base of modern biological and behavioral science to help describe the varied disharmonies which undermine the health of each individual. These disturbances originate, almost entirely, with dietary, environmental or social conditions. Integrated Medicine exists to empower people to improve their health by improving their four pillars of healing: interpersonal relationships, diet and lifestyle, environment, and the innate system of detoxification and repair.

Objectives

1. Understand how Traditional Medicine relates to Modern Medicine.
2. Prepare to practice Integrative Medicine in the future.
3. Practicing medicine in a way that selectively incorporates elements of complementary and alternative medicine into comprehensive treatment plans alongside solidly orthodox methods of diagnosis and treatment.

Alternative Medicine

Alternative medicine is defined as any medical practice that does not conform to the standards of medical community and its conventional practice of medicine. Complementary medicine refers to a group of therapeutic and diagnostic disciplines that exist largely outside the institutions where conventional health care is taught and provided. Complementary Alternative Medicine (CAM) is a broad domain of healing resources that encompasses all health systems, modalities and practices and their accompanying theories and beliefs, other than those intrinsic to the politically dominant health system of a particular society or culture in a given historical period. According to the American Hospital Association, the percentage of U.S. hospitals that offer complementary therapies has more than doubled in less than a decade, from 8.6% in 1998 to almost 20% in 2004. Another 24% of hospitals said they planned to add complementary therapies in the future. Patients usually pay out of pocket, although some services -- such as nutritional counseling, chiropractic treatments, and biofeedback -- are more likely to be reimbursed by insurance.

Herbal medicine

The World Health Organization (WHO) has recently defined traditional medicine (including herbal drugs) as comprising therapeutic practices that have been in existence, often for hundreds of years, before the development and spread of modern medicine and are still in use today⁴. Or say, traditional medicine is the synthesis of therapeutic experience of generations of practicing physicians of indigenous systems of medicine. The traditional preparations comprise medicinal plants, minerals, organic matter, etc. Herbal drugs constitute only those traditional medicines which primarily use medicinal plant preparations for therapy. The earliest recorded evidence of their use in Indian, Chinese, Egyptian, Greek, Roman and Syrian texts dates back to about 5000 years. The classical Indian texts include *Rigveda*, *Athurveda*, *Charak Samhita* and *Sushruta Samhita*. The herbal medicines/traditional medicaments have, therefore, been derived from rich traditions of ancient civilizations and scientific heritage.

Traditional medicine

Traditional medicine is the knowledge, skills and practice of holistic health care, recognized and accepted for its role in the maintenance of health and the treatment of diseases. It is based on indigenous theories, beliefs and experiences that are handed down from generation to generation. It also refers to the knowledge, skills and practices based on the theories, beliefs and experiences indigenous to different cultures, used in the maintenance of health and in the prevention, diagnosis, improvement or treatment of physical and mental illness. Traditional medicine covers a wide variety of therapies and practices which vary from country to country and region to region. It is referred to as alternative or complementary medicine (CAM).

Traditional Medicine and Modern Medicine

Traditional and modern systems of medicine were developed by different philosophies in different cultural backgrounds. They look at health, diseases and causes of diseases in different ways. These differences bring different approaches to health and diseases. However, both systems deal with the same subject – human being. The old and modern arts of healing should exist together. In Traditional medicine, Medicine is defined as an area of human knowledge concerned with restoring health. It is, in the broadest sense of the term, the science and practice of the prevention and curing of human diseases, and other ailments of the human body or mind. However, it is often used only to refer to those matters dealt with by academically trained physicians and surgeons.

Integration of traditional medicine with modern medicine

The integration of traditional medicine with modern medicine may have three different meanings. First, it may mean incorporation of traditional medicine into the general health service system. The person recognizes the practice of traditional medicine and the use of traditional medicine is incorporated into the mainstream of health service system. In the Region, traditional medicine has been an integral part of formal health service system in several countries, albeit in different forms. Second, it may mean integration of the practice of traditional medicine with that of modern medicine. In fact, many medical Doctors who have adequate knowledge of traditional medicine have tried to incorporate remedies used by traditional medicine into their daily work. In some places, traditional and modern medicine is practised side by side. Studies have also shown that many patients use both traditional and modern medicine. Third, it may mean the integration of traditional and modern medicine as two branches of medical science. Although traditional and modern medicines have developed in different cultural contexts and are at different stages of scientific development, they have many similarities. Efforts have been made to synthesize the two branches, in order to form a new branch of medical science, incorporating elements of both. However, at this stage this would appear to be a difficult task. Integrative Medicine is a classic model of integrative care.

Table 1: Selected modern drugs that come from traditional medicine (4] Ghalib, H et al, 2007)

Drug Name	Uses	Derived from	Originally used in
Artemisinin	Used in malaria	Produced by the Chinese herb Qinghao or sweet wormwood	Traditional Chinese medicine for chills and fevers
Cromoglycate	Used in asthmatic conditions	Synthetic compound based on khellin, active ingredient of the khella plant	Traditional Middle Eastern remedies for asthma. Khellin has also traditionally been used in Egypt to treat kidney stones
Etoposide	Used as anti-cancer drug	Synthesized from podophyllotoxin, produced by the mandrake plant	Various remedies in Chinese, Japanese and Eastern folk medicine
Hirudin	Used as anticoagulant drug	Salivary glands in leeches, now produced by genetic engineering	Traditional remedies across the globe, from Shui Zhi medicine in China to 18th and 19th century medicine in Europe
Lovastatin	Used in hypercholesterolemia	Foods such as oyster mushrooms and red yeast rice. Used to synthesize other compounds such as mevastatin and pravastatin	Mushrooms are used to treat a wide range of illnesses in traditional medicine in China, Japan, Eastern Europe and Russia
Opiates	Used as analgesic drug	Unripe poppy seeds	Traditional Arab, Chinese, European, Indian and North African medicines as pain relief and to treat range of illnesses including diarrhoea, coughs and asthma
Quinine	Used in malaria	Bark of the cinchona tree	Traditional remedies to treat fevers and shivers in South America
Vinca alkaloids (vincristine, vinblastine)	Used as an anticancer drug	Rosy periwinkle	Various folk remedies across the world, including use as an anti-diabetic in Jamaica, to treat wasp stings in Indian traditional medicine, as eyewash in Cuba, as love potion in medieval Europe

It combines conventional Western medicine with alternative or complementary treatments, such as herbal medicine, acupuncture, massage, biofeedback, yoga, and stress reduction techniques all in the effort to treat the whole person. Complementary medicine is widely used in Pakistan.

Integrative medicine focuses on promoting 'wellness' in the patient and provider and integrates conventional and complementary treatments. Medical schools in developed countries are offering courses in integrative medicine.

In Pakistan, integrative medicine (IM) is taught at Universities level. Interest of students in integrative medicine has shown that students are in favor of the introduction of complementary medicine study modules in the curriculum. Nearly a quarter of all modern medicines are derived from natural products, many of which were first used in traditional remedies (see Table 1).

Modern Medicine

Medicine is an area of human knowledge concerned with restoring health. It is, in the broadest sense of the term, the science and practice of the prevention and curing of human diseases, and other ailments of the human body or mind. However, it is often used only to refer to those matters dealt with by academically trained physicians and surgeons.

Complementary Medicine and integration

Complementary medicine refers to use of CAM together with conventional medicine, such as using acupuncture in addition to usual care to help lessen pain. Most use of CAM by Americans is complementary. Alternative medicine refers to use of CAM in place of conventional medicine. Integrative medicine (also called integrated medicine) refers to a practice that combines both conventional and CAM treatments for which there is evidence of safety and effectiveness. Integrated Medicine couples the latest scientific advances with the most profound insights of ancient healing systems, giving you the best ways to preserve health, increase longevity and speed recovery from illness. Integrated Medicine embraces the best of conventional and alternative approaches, but is more than just a mixture of therapeutic techniques. To integrate is to make whole, and the distinctive feature of Integrated Medicine is its application of science to prevent or treat disease by healing the person who is sick, rather than just treating the disease. Integrated Medicine perceives illness biographically and at the same time uses the powerful data-base of modern biological and behavioral science to help describe the varied disharmonies which undermine the health of each individual. These disturbances originate, almost entirely, with dietary, environmental or social conditions. Integrated Medicine exists to empower people to improve their health by improving their four pillars of healing: interpersonal relationships, diet and lifestyle, environment, and the innate system of detoxification and repair.

Modernising tradition

But making traditional medicine truly mainstream — incorporating its knowledge into modern healthcare and ensuring it meets modern safety and efficacy standards — is no easy task and is far from complete.

And there is rising concern among conservationists that a growing traditional medicine market threatens biodiversity through overharvesting of medicinal plants or increased use of body parts from endangered animals, such as tigers, rhinos and elephants.

Beyond the sustainability of natural resources, marrying traditional and modern medicine faces numerous challenges that stem from key differences in how each is practiced, evaluated and managed (see Table 2).

Table 2: Key differences between traditional and modern medicine

	Traditional medicine	Modern medicine
Knowledge protection	Open access	Closed, patent-protected
Formulation	Ad hoc during consultation with the patient	Pre-determined, and once tested in clinical trials cannot be changed unless re-tested
Regulation	Virtually none, though some countries are trying to introduce rules and standardisation	Extremely tight, to the point that bringing drugs to market now costs billions of dollars
Testing	No formal testing as knowledge of the effectiveness is handed down through generations	Rigorous trials that happen in different phases, first testing for safety, then efficacy
Dosage	Unfixed: the amount of medicine given might be roughly similar, but the active ingredient (which is what dosage really is) can vary hugely	Fixed doses that tend to vary only slightly with age or weight, or disease severity
Consultation	Lengthy, and the patient is asked about a wider range of questions than just their symptoms	Consultations in both primary and secondary care tend to be brief and focused, especially as national health systems come under strain
Training	Both systems of medicine require lengthy training over many years but with traditional medicine, knowledge is often passed one-to-one through families, and practitioners are often born into a family of healers	Often vocational: health professionals go through formal training in schools and universities

Complementary and Alternative Medicine Practices

CAM also encompasses movement therapies—a broad range of Eastern and Western movement-based approaches used to promote physical, mental, emotional, and spiritual wellbeing. Examples include Feldenkrais method, Alexander technique, Pilates, and Trager psychophysical integration. According to the 2007 NHIS, 1.5 percent of adults and 0.4 percent of children used movement therapies. Practices of traditional healers can also be considered a form of CAM. Traditional healers use methods based on indigenous theories, beliefs, and experiences handed down from generation to generation. A familiar example in the United States is the Native American healer/medicine man. The 2007 NHIS found that 0.4 percent of adults and 1.1 percent of children had used a traditional healer (usage varied for the seven specific types of healers identified in the survey).

Some CAM practices involve manipulation of various energy fields to affect health. Such fields may be characterized as veritable (measurable) or putative (yet to be measured). Practices based on veritable forms of energy include those involving electromagnetic fields (e.g., magnet therapy and light therapy). Practices based on putative energy fields (also called biofields) generally reflect the concept that human beings are infused with subtle forms of energy; qi gong, Reiki, and healing touch are examples of such practices. The 2007 NHIS found relatively low use of putative energy therapies. Only 0.5 percent of adults and 0.2 percent of children had used energy healing/Reiki (the survey defined energy healing as the channeling of healing energy through the hands of a practitioner into the client's body). Finally, whole medical systems, which are complete systems of theory and practice that have evolved over time in different cultures and apart from conventional or Western medicine, may be considered CAM. Examples of ancient whole medical systems include Ayurvedic medicine and traditional Chinese medicine. More modern systems that have developed in the past few centuries include homeopathy and naturopathy.

The 2007 NHIS asked about the use of Ayurveda, homeopathy, and naturopathy. Although relatively few respondents said they had used Ayurveda or naturopathy, homeopathy ranked 10th in usage among adults (1.8 percent) and 5th among children (1.3 percent).

New techniques for old treatments

New scientific techniques are also being applied to traditional medicine in the search for modern drugs. These innovative approaches are developing at breakneck speed.

Table3: How to create modern drugs from traditional compounds (Patwardhan, B et al, 2009).

Technique	Process
Reverse pharmacology	Researchers start with the end product, a clinically useful compound for example, and work backwards to find out what it contains and how it functions. This can offer clues about how particular medicines work, and where they act in the body.
High-throughput screening	This advanced screening relies on high-speed data processing and sensitive detectors to conduct millions of biochemical, genetic or pharmacological tests in a few minutes. The process can quickly identify active compounds that affect particular biological pathways.
Ethnopharmacology	The systematic study of how specific ethnic groups use medicinal plants.
Systems biology	This holistic approach aims to understanding the way different chemicals and metabolic processes interact within the body. Since traditional medicines often have numerous active ingredients, it could be used to measure the whole body's response to the mixture of compounds.

The need for harmonization of traditional and modern medicine

Increased cross-cultural communication has resulted in the exposure of many indigenous forms of traditional medicine to new, more modern, medical environments. Various responses may and have occurred to the presence of differing approaches to health care. These range from complete rejection of TM by modern medical practitioners and of modern medicine by TM practitioners, to a parallel existence with little communication over patient care, or to ultimately forced understanding, subsuming and integration of one model by the other. None of these approaches is ideal precisely because none confers adequate respect on the practices of the other. This results in a weak utilization and exploration of the benefits presented by each model. Harmonization of traditional and modern medicine emphasizes the importance of respectful co-existence. Within the model of harmonization, there is the requirement to develop and hold a good understanding of the other approaches to health care. Modern medicine practitioners and researchers are required to achieve adequate education and awareness of the practice, principles and context of traditional medicine. Similarly, TM practitioners need to be significantly more aware of the nature of practice and strengths of modern medical approaches. The purpose of this broader education base is not simply to yield a better understanding of differing practices, but primarily to promote the best care for patients by intelligently selecting the most facilitating route to health and wellness. Surveys and other sources of evidence indicate that traditional medical practices are frequently utilized in the management of chronic diseases (Bensoussan, A., 1996).

Estimated Use of CAM and TM by Patients and Practitioners Worldwide (WHO 2002)

Region or country	Extent of use
Africa	Used by 80 percent of the population for primary health care
Australia	Used by 49 percent of adults
China	Accounts for 30 to 50 percent of total health care Fully integrated into the health system 95 percent of Chinese hospitals have TM units
India	Widely used 2,860 hospitals provide TM
Indonesia	Used by 40 percent of the entire population Used by 70 percent of the rural population
Japan	72 percent of physicians practice TM
Thailand	TM integrated into 1,120 health centers
Vietnam	Fully integrated into the health care system 30 percent of the population is treated with TM
Western countries	CAM and TM not strongly integrated into the health care system
France	At least 75 percent of the population has used CAM at least once
Germany	77 percent of pain clinics provide acupuncture United

Conclusion

Traditional medicines may provide important clues to combining modern drugs. For drug discovery, historical experience is always significant. Formerly, Nobel laureate Sir James Black stated that the most fruitful basis for the discovery of a new drug is to start with an old drug. Thus, it seems that to create a brighter future of drug discovery, we'd better go back to history.

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