

Role of Traditional Medicine in Primary Health Care:

An Overview of Perspectives and Challenges

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Introduction

In this first decade of the 21st century, immense advances in human well-being coexist with extreme deprivation in many parts of the world¹. Inequities in availability, accessibility and affordability of health care have increased, between as well as within populations the world over. Access to appropriate healthcare is increasingly being acknowledged as a human right through international instruments such as the United Nations Human Rights Commission, Millennium Development Goals (MDGs) and the World Health Organization (WHO).

In the recent past there has been a growing interest in Traditional medicine/Complementary and Alternative Medicine (TCAM) and their relevance to public health both in developed and developing countries. Diversity, flexibility, easy accessibility, broad continuing acceptance in developing countries and increasing popularity in developed countries, relative low cost, low levels of technological input, relative low side effects and growing economic importance are some of the positive features of traditional medicine (WHO 2002). In this context, there is a critical need to mainstream traditional medicine into public health care to achieve the objective of improved access to healthcare facilities. However, evidence suggests a disparity between personal choices the public make in terms of integration of different medical systems and the TCAM policy formulation and their implementation. According to WHO some of the major policy challenges include safety, efficacy, quality and rational use of traditional medicine.

In this background, the article is an overview of TCAM, its global presence, various policy measures for promotion, their role in primary health care and major contemporary challenges for integration of TCAM into public health.

1. An Overview of Traditional Systems of Medicine

According to World Health Organization (2002: 7), "Traditional medicine refers to health practices, approaches, knowledge and beliefs incorporating plant, animal and mineral based medicines, spiritual therapies, manual techniques and exercises, applied singularly or in combination to treat, diagnose and prevent illnesses or maintain well-being." Further the term 'complementary' and 'alternative' medicine (and sometimes also non-conventional or parallel) are used to refer to a broad set of healthcare practices that are not part of country's own tradition, or not integrated into the dominant healthcare system. Based on this broad definition it may be hard to find a region without some form of TCAM practice. As per the context in which it is practiced or the form of knowledge, often it is called in various ways such as traditional medicine, alternative medicine, complementary medicine, natural medicine, herbal medicine, phyto-

1) World Health Report 2006—<http://www.who.int/whr/2006/en/> accessed on 28th August 2009.

medicine, non-conventional medicine, indigenous medicine, folk medicine, ethno medicine etc. Chinese medicine, Ayurveda, Herbal medicine, Siddha, Unani, Kampo, Jamu, Thai, Homeopathy, Acupuncture, Chiropractic, Osteopathy, bone-setting, spiritual therapies, are some of the popular, established systems.

Several classifications have been attempted for defining and classifying traditional medicine. It is pointed that there is no homogenous body of medical thought and practice which can be put under one name (Van der geest 1997, Patwardhan 2005)²⁾. WHO strategy (2002: 8) also makes a similar remark that the term 'alternative' refer to large heterogeneous categories defined by what they are not than what they are.

Whereas there is wide diversity at a practical level, a basic philosophical underpinning of all such knowledge systems is their acceptance of a shared worldview which is an inherent relationship and sharing of key elements between the macro and microcosm—the outside universe and a living being. Few other common dimensions are ecological centeredness, focus on 'non-material' or 'non-physical' dimensions, and a comprehensive approach to health, keeping in mind physical, mental, social, emotional, spiritual, ecological factors in wellbeing. Citing the African traditional medicine situation, Van der Geest et al. (1997) points out some of the key unifying features of any traditional medical knowledge as, popular and public domain knowledge relating to self help; a social character; religious dimension; orientation to prevention; and comprehensive concepts of health and illness than in the Western tradition. Further, one can see broad similarities at the theoretical level of traditional medicines such as their focus on functional aspects of health and diseases; systemic understanding of health and disease; multi causality approach; a circular method of cause-effect reasoning; subjective, qualitative, individualized and personalized management; preventive focus; attribution of importance to physician's wisdom; etc. Knowledge generation is mostly through subtle observations and experiences within the context i.e. an individual or the nature (Unnikrishnan 2009). Some of these defining features have key policy implications today.

1.1 Forms of Traditional Medical Knowledge

In countries such as India, China and many other parts of Asia one can observe traditional medical knowledge in various forms such as codified medical systems, folk systems, allied disciplines and new systems of knowledge.

1.1.1 Codified Medical Systems

These are also known as great traditions. Ayurveda, Siddha and Unani medical systems in Indian subcontinent or Traditional Chinese medicine and Acupuncture in China, have evolved in a historical period spanning over 3–4 millennia with their own unique worldviews, conceptual, theoretical frameworks and elaborate codified literature. For example the oldest medical text of Ayurveda, Caraka samhita is estimated to be written and redacted through various versions from 1,500 BC–200 AD. Such codified medical traditions have unique understanding of physiology, pathogenesis, pharmacology and pharmaceuticals, which is different from Western biomedicine³⁾. These medical systems have been professionalized since last millennia and have been integrated into the national health programs. For instance in India, there is a Central Council for Indian Medicine and there are national institutes for each of the six systems of medicine. The education system is well developed with over 300 university level programs across the country. Around 600,000

2) According to Patwardhan (2005), "historically, terms alternative, complementary or traditional medicine all referred to a genre of health care practices or services that got bound together as a class through the logic of *reductio-ad-absurdum*, defined by a criteria of 'absence from the mainframe of' what has come to be known as modern medicine."

3) In Ayurveda there are different specialty areas such as *kaya cikitsa* (general medicine), *bala cikitsa* (paediatrics), *graha cikitsa* (psychiatry), *urdhvanga cikitsa* (ENT and eye), *salya cikitsa* (surgery), *damstra cikitsa* (toxicology), *jara cikitsa* (rejuvenation) and *vajikarana cikitsa* (sexual and reproductive health) each with unique taxonomy of health and disease.

licensed practitioners are registered under the Indian Medicine Practitioners Act and there are over 9,000 licensed TCAM industries in the country⁴⁾. There is a central research authority with research and development programs on several aspects and the education and practice are regulated under the Indian Medicine Central Council Act 1970.

1.1.2 Folk Medicine

The folk knowledge traditions which are mostly orally transmitted, are more diverse, ecosystem and ethnic community specific with household level health practices (home remedies for primary health care, food recipes, rituals, customs), specialized healing traditions like bone setting, poison healers, birth attendants, veterinary healers, general healers etc. These are generated over centuries by communities and use components of ecosystems (plants, animal and mineral/metal derivatives) that are primarily locally available, easily accessible and often cost effective. It varies hugely owing to social, ecological and historical circumstances. Hence, countries with similar ecosystems are often found to nurture similar health practices indicating the strong linkages between environment and health. These are also known as indigenous medicine, ethno medicine, bush medicine, little traditions etc. In most countries where traditional medicine is not formalized, it largely remains in the non-codified folk knowledge form. Diversity, collective ownership guided by customary laws, adaptability to changing contexts and oral transmission are some of the prominent characteristics of this knowledge. Unlike common understanding, it is highly dynamic thus contemporary and not pertaining to a period in time. While knowledge generation and transmission might vary with cultures, there are several similarities in the value systems and modes of transmission of knowledge among communities. Often it is not recognized as 'valid knowledge' by scientists as it is combined with beliefs and values.

1.1.3 Allied Forms of Health Knowledge

There are allied forms of health knowledge such as yoga, tai-chi, qigong, kalari, judo-seifuku, various forms of meditations, breathing techniques, massage techniques, among many others which are related to wellbeing. Though these are not purely medical systems they have been adapted as health applications and contribute to health sector immensely.

1.1.4 New Forms of Alternative Health Knowledge

There is also new knowledge generated in the west and other developed countries with a mix of ancient and contemporary scientific knowledge such as phyto-medicine, health supplements and macrobiotics among many others which are of relatively recent origin. There are other therapies such as reiki or shiatsu (the term and form as it is practiced today) which are of 20th century origin. Often some of these are also a blend of one or more of older medical knowledge systems. Some consider homeopathy and chiropractic systems not as traditional medical systems as they were developed in Europe post 18th century after the introduction of modern medicine (WHO 2002). Many other new forms of TCAM therapies can be grouped under this category. Since some of the new forms of alternative health knowledge are often guided by modern knowledge issues related to their acceptance may be different.

1.2 Classification and Their Policy Significance

Such categorizations are useful as analytical frameworks to understand the historical path, popularity or acceptance and various policy initiatives of TCAM in both developed and developing countries. This also helps to analyze trends such as standardization, institutionalization and globalization of TCAM. While codified medical traditions have been formalized to a great extent in Asia and command good attention in respective national policies, folk or oral knowledge or the allied disciplines do not receive much attention and often face a contemptuous treatment from the codified systems. Similarly new forms of knowledge though may be recognized and regulated in the country of its

4) AYUSH department, Government of India—<http://indianmedicine.nic.in/> accessed on 28th August 2009.

origin, continues to be unrecognized elsewhere. Codified forms of knowledge like acupuncture, ayurveda, and Chinese medicine, popularized in developed countries today seem to be commanding better attention due to their popularity and integration in health system in places of its origin. The recent term 'alternative' generally used in developed countries indicates a practice which does not fall under the realm of conventional medicine and the word 'complementary' refers to a medical practice which is used along with conventional medicine but has not been integrated into the formal health system. In such a perspective what is considered complementary or alternative in one country may be a mainstream practice in another.

Several countries are developing TCAM policies by introducing regulation, education, public financing and research funding (WHO 2002). National Centre for Complementary and Alternative Medicine (NCCAM) under the National Institute of Health in the United States of America classifies TCAM therapies based on the clinical approach into five broad groups such as whole medical systems (Chinese medicine, Ayurveda); mind-body medicine; biologically based practices (herbs, food, vitamins); manipulative and body based practices (chiropractic, osteopathy) and energy medicine (bio field therapies). Similarly the House of Lords subcommittee in the United Kingdom has classified therapies into three such as professionally organized alternative therapies; complementary therapies; and alternative therapies. It has recommended self regulation as a key approach for TCAM. European Union has also taken active measures to encourage use of TCAM. Similarly a Whitehouse commission on alternative medicine is created to set legislative and administrative recommendations to maximize benefits of TCAM.

Another approach called "integrated medicine", refers to certain evidence based management which use best of both conventional medicine⁵⁾ as well as alternative medicine in conjunction and is often considered best strategy for promotion of TCAM⁶⁾. It calls for openness to understanding the benefits and limitations of allopathic medicine and realization that science alone will not effectively deal with all the complex needs of patients (Snyderman and Weil, 2002).

1.3 TCAM Practitioners

Today practitioners of TCAM can be classified as practitioners such as folk healers with no formal institutional training as in many developing countries; TCAM practitioners trained through short term courses as in Europe, USA and many other countries; TCAM practitioners with university level formal education equivalent to allopathy as in South Asia traditions of Ayurveda, Siddha, Unani medicine; and allopaths practicing TCAM as in Japan and China.

1.4 Patterns of Usage of TCAM and Their Reasons

Around 80% of the population continues to use traditional medicine in Africa, Asia and Latin America and many governments in these regions have incorporated traditional medicine practices to help meet their primary health care needs. In industrialized countries, almost half the population now regularly use some form of TCAM (United States, 42%; Australia, 48%; France, 49%; Canada, 70%), and considerable use exists in many developing countries (China, 40%; India, 70%; Chile, 71%; Colombia, 40%; up to 80% in African countries) (Bodeker and Kronenberg 2002, WHO 2002).

5) The terms Conventional medicine, Allopathy, Western bio-medicine are used in this article to mean modern, western medical system.

6) See Snyderman and Weil, 2002, Some of the important principles of integrative medicine are a good physician-patient relationship with physician's role as a healer, preventive maintenance of health by attention to all relative components of lifestyle, diet, exercise, stress management and emotional well being, natural and minimally invasive management methods.

Table 1 Usage of TCAM in Developing and Developed Countries

Developing Country	Usage of CAM
Uganda	60%
Tanzania	60 %
Rwanda	70%
India	70%
Benin	80%
Ethiopia	90%

Developed Country	Usage of CAM
Belgium	31%
USA	42%
Australia	48%
France	49%
Canada	70%

Source: WHO Traditional Medicine Strategy 2002–2005, World Health Organization, Geneva

High per capita distribution of TCAM practitioners in developing countries is an important reason for the widespread use of TCAM. WHO report cites example of Uganda, Tanzania and Zambia where the ratio between populations to healer is 1:200 to 1:400 while the ratio of allopathic practitioners to population is 1:20,000. In India, according to government sources, for the 65% of population traditional medicine is the only available source of healthcare (WHO 2002: 13). It is also an affordable source of health in many countries. Another reason is that it is firmly embedded in the belief systems and can be termed 'culturally compatible.' In developed countries higher income and higher education are guiding factors of patient preference for traditional medicine. Due to difficulties in accessing modern health care, ethnic minorities in developed societies who are disadvantaged both economically and socially, use TCAM as a first health care choice, making it non complementary (Bodeker et al. 2007).

Increase of chronic diseases, awareness about limitation of modern medicine, proven efficacy of TCAM systems in selected conditions, emerging interest in holistic preventive health, integrated approach to medical education and increasing awareness among physicians are some of the reasons for renewed interest in traditional medicine⁷⁾. Higher quality of care by TCAM practitioners has also been reported as an important reason for increasing health seeking and consumer satisfaction of TCAM.

Within developing countries one can see a divergence of reasons in rural and urban trends in the health seeking behaviour. While accessibility, availability, cost are important aspects in rural areas, limitations of conventional medicine, concerns about chemical drugs, questionable assumptions of allopathic medicine, greater public access to information, changing values and reduced tolerance for paternalism, fitness and ecological consciousness etc., are reasons for accessing TCAM (WHO 2002: 14) in urban areas as in developed countries. Thus in emerging economies like China and India where there is a huge gap between the urban centres and rural areas proactive policies on TCAM will have an impact across population.

7) Few other reasons cited are emerging trends of post modernity, renewed interest in diversity of choices and ecological concerns, increased access of native systems by ethnic minorities in developed countries, emerging system biology approaches, customized care, body-mind medicine and economic factors.

1.5 Public Financing

According to the WHO global atlas, of the 213 member states only 27% have any form of public financing of TCAM. A majority of this relates to service provision rather than research. In selected countries such as Cuba, Russian federation, the United Kingdom and Vietnam have adopted a 'national health service' model in which those eligible do not pay and it is covered by the government. Many other countries including USA, EU, Japan, Republic of Korea, Australia and New Zealand have a partial coverage for selected therapies or drugs. Some other countries such as China, Denmark have combined systems (Bodeker et al. 2007: 41). In many developing countries, local healers subsidize the costs for patients who cannot pay and goes unaccounted for in official statistics. Out of the pocket CAM expenditure is significant and is rapidly growing. For instance, the estimated figures are: Malaysia—US \$500 million, USA —2,700 million (1997), Australia—80 million, Canada—2,400 million and United Kingdom—2,300 million (WHO 2002). Comparative studies of cost-effectiveness of allopathy and TCAM would enable informed decisions on public financing of medical practices.

1.6 Policy Measures

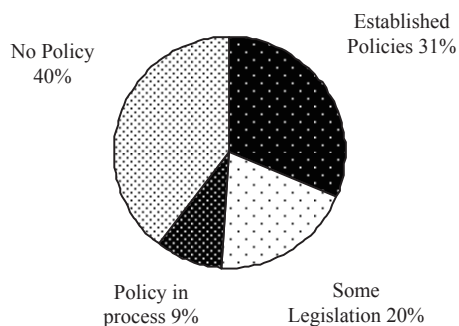
The WHO's traditional medicine strategy of 2002–2005 highlights some urgent needs such as national policy and regulation for safety, efficacy and quality, access and rational use of traditional medicines. Only 66 countries out of 213 WHO member states have traditional medicine policies, while around 43 states have some kind of legislation and 20 member states are in the process of establishing some regulatory policies (Bodeker et al. 2007). Key elements suggested in a national policy are definition of TCAM, definition of governments' role in developing TCAM, provision of safety and quality assurance for therapies and products, legislation relating to TCAM providers, provision of education and training, promotion of proper/rational use, provision of capacity building for human resources including allocation of financial resources, provision of coverage by public health insurance and consideration of intellectual property right issues. However, for most countries, data related to pattern, modalities and outcomes of traditional medicine usage are not recorded⁸⁾. In many developed countries though there are strict regulations for usage of traditional medicine, there is a growing trend of traditional medicine use in the guise of 'health supplements' and spas. Increased adoption of national policies would facilitate creation of internationally accepted norms and standards for research into safety and efficacy of TCAM, rational use, sustainable usage of natural resources and protection and equitable use of knowledge of traditional medicine.

Countries such as India and China have purposively sought to develop the traditional medicine sector in order to strengthen their traditional medical heritage and at the same time also enable cost-efficacy in health care delivery to their people. It is also a response to capitalize on the economic opportunity arising from an increasing global demand for herbal products (Bodeker and Budford 2007). However in India, until recently, the fact and vast presence of folk medical stream was unrecognized in official policy indicating an alienation from ground realities⁹⁾.

Currently in many countries there exists a contradiction between personal choices and public policies with respect to health care involving traditional medicines. While on the one hand the public at large actively integrate various health systems for a variety of reasons such as access, cost, efficacy, convenience, ethical and moral reasons, the policy and institutional mechanisms are slow to address various issues related to such integration. Van der Geest et al. (1990)

8) This refers to who seeks traditional health service, how is it sought and delivered, type of transactions, costs involved in transactions and the effects of using traditional medicines and services.

9) In the National Policy on Indian Systems of Medicine & Homoeopathy of 2002, folk healing or local health traditions was recognized for the first time—http://www.whoindia.org/LinkFiles/AYUSH_NPolicy-ISM&H-Homeopathy.pdf.

Figure 1 Status of TCAM Policies in WHO Member Countries

Data source: Bodeker et al. 2007

suggest that research into opinions and practices concerning traditional medicine and health care at different levels of social integration will doubtlessly lead to more policy relevant conclusions.

1.7 Economic Importance

World market of herbal medicine based on traditional medicine is estimated at US \$60 billion (WHO 2002) and it is steadily growing. The global wellness spa industry which is vastly based on TCAM is valued at \$255 billion annually (Cohen and Bodeker 2008). Many of the major modern drugs such as quinine, salicylic acid, artemisinin have been discovered from folk knowledge¹⁰. According to NAPRALERT database of the University of Illinois, Chicago¹¹, 74% of the 119 pure compound based modern drugs derived from plants have been based on leads provided by traditional medical knowledge and the modern applications are similar to the traditional ones (Farnsworth 1988: 95). As the economic importance of traditional knowledge and medicinal plants based products and services are growing they provide employment opportunities to various sections of people. At the same time it raises concerns about availability of medicinal plants, increasing costs of herbal products in domestic market especially for marginalized population and a dilution of classical practices.

2. Traditional Medicine in Various World Regions

Although alternative forms of health care are prevalent in all regions of the world, there is only scant statistical data of their presence. Recently published WHO global atlas of traditional, complementary and alternative medicine is the first attempt to compile comprehensive information on traditional medicine globally in terms of policy, regulation, financing, education, research, practice and use (Bodeker et al. 2005). The publication explicitly states that it depended on secondary sources for the compilation due to lack of primary data in most member states.

According to a regional overview in the WHO *African region* (AFR) only 50% of the population has access to essential health care while 80% continue to rely on African traditional medicines (ATRM) including herbal medicine,

10) See also <http://www.ncbi.nlm.nih.gov/pubmed/1490916> (The Quinine connection), <http://www.ncbi.nlm.nih.gov/pubmed/18175528> (From the willow to aspirin), <http://www.ncbi.nlm.nih.gov/pubmed/18699744> (Artemisinin).

11) Natural Product Alert Database—<http://www.napralert.org/>.

spiritual therapies and manual therapies. Traditional medicine is largely transmitted as oral knowledge and around 4,000 species are used in ATRM which is predominantly (90%) plant based. Currently over half (56%) of the countries in the region have formulated traditional medicine policies and majority have established national departments in the health ministry and developed strategies for promotion. In 2001 a regional strategy for promoting ATRM was adopted following which at the World Health Assembly 2003 a resolution on ATRM was also passed. An ATRM day is observed for advocacy on August 31st each year among member countries and African summit of heads of state in 2001 declared 2001–2010 as ATRM decade. These initiatives have been supported by WHO and African summit of heads of state, especially for research and integration in the management of HIV/AIDS, tuberculosis, malaria and other infectious diseases. Self regulatory bodies such as healers associations have been established in many countries (Kasilo et al. 2005).

In the *Americas*, among the 35 WHO member states (AMR) which has a high percentage of indigenous population and 60% of world's biodiversity, there is high use of traditional medicine through folk healers such as herbalists, masseurs, bonesetters and spiritual therapists by these indigenous populations in Latin America. On the other hand TCAM use is also increasing steadily in the form of herbal therapy, acupuncture, chiropractic, homeopathy, massage and spiritual therapies. Many countries have established departments in health ministries, research institutes for traditional medicine and have adopted regulations for herbal products. However there is no insurance coverage for traditional medicine in most countries and university level education exists only in Cuba and USA. In Cuba TCAM has been integrated into the national health system. In the Americas, Pan American Health Organization (PAHO) has played a significant role in TCAM promotion (Gupta 2005).

In *South East Asian region* (SEAR), Ayurveda, Siddha, Unani, Homeopathy, yoga, naturopathy, Tibetan medicine, Jamu medicine, Thai medicine and Koryo medicine are the prominent medical systems apart from the rich folk medical practices. It is estimated that 70–80% of the population use TCAM. Compulsory registration of trained and untrained practitioners was introduced after establishing national policies in most countries. However a large percentage of traditional practitioners remain unregistered. Unlike other regions, most countries in SEAR have university level programs for TCAM apart from national legislation, departments and research institutes. Non-government, self regulatory mechanisms are relatively weak in the region. India, Myanmar, Nepal, Thailand and to some extent Sri Lanka have incorporated TCAM into the public health system. While Indonesia and Maldives have not yet adopted them in their health delivery systems, Bhutan, Democratic Republic of Korea and Nepal have initiated strategies for integration (Gaitonde and Kurup 2005). In many countries due to strong presence of codified knowledge systems, folk medicine does not receive adequate support though there is high usage by public.

In the *European region* (EUR), comprising of 51 member states, there is a major difference in the health indicators such as life expectancy, infant and maternal mortality and morbidity patterns between the Western and Eastern parts. In Western Europe revival of TCAM is due to the "green" life style interests and new images of doctor-patient relationships, while it is suggested that in the Eastern Europe renewed interests have emerged following easing of social restrictions with the fall of communism. In 1999, European parliament made four calls for initiatives on official recognition of various TCAM and setting up appropriate commissions; developing a framework for safety, efficacy and areas of applicability, and define and categorize different forms of TCAM; to analyze country legislations of TCAM; and development of basic scientific and clinical research in TCAM. Now throughout EUR there is a trend towards legalizing TCAM practitioners and introducing regulation and licensing systems and many countries have established national departments or bodies. United Kingdom is the only country with a dedicated public sector hospital for TCAM i.e. homeopathy. Self regulatory bodies exist in more than 50% of the countries. Thus wide variations exist in education and other aspects of TCAM in the EUR region (Ong et al. 2005).

In *Eastern Mediterranean region* (EMR), traditional medicine is divided among popular knowledge, healers/oral traditions, codified systems and TCAM therapies among the 22 member states. EMR has developed guidelines for registration of herbal products and technical guidelines for safety, efficacy and quality control of herbal medicines since 2003. Unani, Ayurveda, Homeopathy, Chinese medicine, chiropractic, osteopathy, naturopathy, spiritual therapy, reflexology, and aromatherapy are some of the prevalent practices apart from the folk medicines and other popular knowledge. Thus there is considerable diversity in types of systems used, reasons for public choice, extent of official acceptance and recognition (El-Gendy 2005).

In *Western Pacific region* (WPR), eighteen countries have developed national policies and two other countries are in the process of development. While in countries such as China and Vietnam, traditional medicine is covered under insurance, in countries such as Japan and Republic of Korea only some of the traditional medicine practices are covered. Many countries in the region do not have a public financing system for TCAM. Traditional medicine practitioners in the region can be classified into four groups i.e. those with training in allopathic medicine and with knowledge of traditional medicine, those who have formal training in TCAM with some understanding of allopathic medicine, those with only training in TCAM, and those with no formal training or qualifications such as birth attendants, folk healers. Many countries in the region have formal university education for TCAM. A regional strategy for promotion of TCAM has been developed (Roh 2005). In Japan, around 72% of the doctors use kampo medicines and it has been included in the curriculum of 88.8% medical schools (Imanishi et al. 1999: 1735).

In almost all regions there is a complete lack of utilization data and the available figures are rough estimates. Information about patient choice, socio-economic and demographic features of users, economics of utilization and safety reporting are also scanty. Even as some regions such as SEAR and WPR have well established university programs for TCAM, in other regions education is mostly informal. Similar divergence is observed in the regulatory mechanisms as well. Self regulation seems widely prevalent in AFR, AMR, EUR, though in other regions TCAM is government regulated. A pertinent question is how effective these self regulatory approaches are. In most regions, information about non-registered practitioners is completely absent. Being a key resource for primary health care in regions such as SEAR, EMR, AMR, this situation is a real paradox and calls for immediate attention. Another striking feature is that in some regions there is a tendency for creating uniformity among systems and standardization is attempted through what is often criticized as 'biomedicalization'. This is a major challenge in sustaining the diversity of TCAM. Finally in all regions it is evident that one cannot deny the role and patronage of civil society and community groups in promotion and integration of TCAM, an aspect which needs further detailed enquiry.

3. Multilateral Policies and Promotional Initiatives

Over the past three decades, WHO has produced several policy documents on TCAM relating to their promotion and development, regulation, guidelines and standards for safety, efficacy, good manufacturing, research, assessment, clinical trials, rational use, training of health practitioners, standardization of terminologies in specific disciplines such as acupuncture, relevance in HIV/AIDS, consumer information, good agricultural practices, safety monitoring, conservation of natural resources, intellectual property rights and so on. The first atlas of TCAM outlining the status of these policies in various member states was published by WHO Kobe centre in 2005. There are 19 WHO collaborating centres of traditional medicine working various research and development areas of which seven are located in China.

Apart from this, TCAM sector is receiving increasing policy support now from other multilateral organizations as well. In a United Nations Environment Program (UNEP) conceptual framework on poverty and ecosystem, ability to use traditional medicine is one of the 10 resources of wellbeing (Janska 2005: 4). The Convention on International Trade in Endangered Species of Flora and Fauna (CITES) under UNEP has promoted sustainable use of natural resources by

monitoring trade of endangered species of flora and fauna. The Food and Agriculture Organization (FAO) has developed many policy resources on non-timber forest produce including medicinal plants pertinent to policy, conservation and research. The UN conference on Trade and Development (UNCTAD) is involved in protection of traditional knowledge and also promoting trade and development opportunities for developing countries through traditional medicine. The UN Industrial Development Organization (UNIDO) has been recommending support for industrial use of medicinal plants, improved technologies for standardization, and supporting capacities of member countries. The World Intellectual Property Organization (WIPO) has supported initiatives for IPR protection of traditional medical knowledge. Other international organizations such as The Commonwealth Secretariat, European Union, World Bank and World Trade Organization also have programs on certain aspects of traditional medicine. Similarly nongovernmental bodies such as Cochrane Collaboration, Ford Foundation and World Wide Fund for Nature (WWF) have also been assisting various initiatives in TCAM (WHO 2002). In the United Nations Committee on Economic, Social and Cultural Rights resolution of 2000, article 34 on the right to the highest attainable standard of health, states' obligations to respect include, "obligation to refrain from prohibiting or impeding traditional preventive care, healing practices and medicines."

Besides, there are policies regarding indigenous people, traditional knowledge (TK), bio-diversity etc., which have synergy with TCAM policies. The United Nations Declaration on the Rights of Indigenous Peoples of 2007¹²⁾, article 24, is about right to use traditional medicines. The Convention on Biological Diversity (CBD) 1992¹³⁾, Indigenous and Tribal Peoples Convention (ILO) 1989¹⁴⁾, International Treaty on Plant Genetic Resources (FAO) 2001¹⁵⁾, UN Declaration on the Rights of Indigenous Peoples (UNPFII) 2006, the Convention for the Safeguarding of Intangible Cultural Heritage (UNESCO) 2003¹⁶⁾ are some of the major global instruments that address issues related to traditional knowledge. The Convention on Biological Diversity signed by 191 countries calls for the need to respect, preserve and maintain traditional cultures and encourage customary use of biological resources in line with principles of sustainable use and conservation; need to ensure equitable sharing of benefits among TK holders who have contributed to a research process; and the need to obtain prior informed consent of providing parties to access biological resources and related knowledge on mutually agreed terms between the parties. Similarly WIPO in conjunction with UNESCO has developed a *sui generis* model for intellectual property type protection of traditional cultural expressions.

There are several non-government organizations, civil society groups and other self regulated associations advocating TCAM. Some of the local approaches to preserve and promote traditional medicine include documentation, building of databases, assessment through community based approaches, self help approaches through home/community herbal gardens, community health workers training on various aspects, organizing and training local healers, interventions and research initiatives on specific conditions (such as malaria, HIV, anaemia), orientation of conventional health professionals on TCAM, consumer watch, livelihood promotion through economic activities, conservation and sustainable use of resources, multi stakeholder participation and evolving guidelines on benefit sharing and knowledge protection.

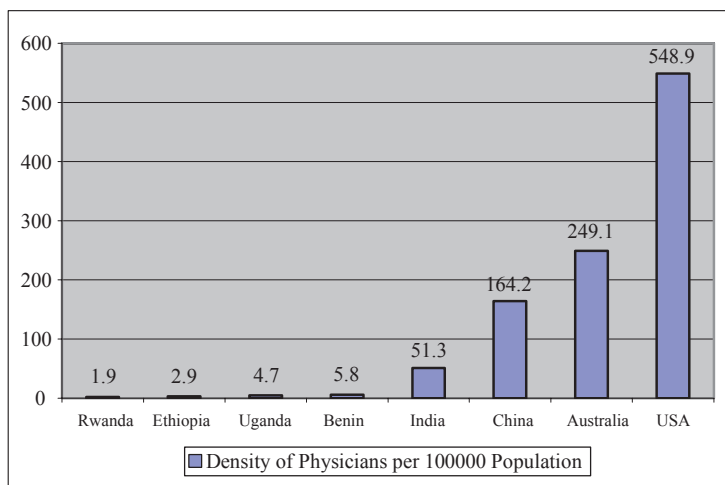
12) <http://www.un.org/esa/socdev/unpfii/en/drip.html>—Article 24—Indigenous peoples have the right to their traditional medicines and to maintain their health practices, including the conservation of their vital medicinal plants, animals and minerals. Indigenous individuals also have the right to access, without any discrimination, to all social and health services.

13) Convention on Biological Diversity (CBD)—see article 8J—<http://www.cbd.int/traditional/>.

14) Indigenous and Tribal Peoples Convention (ILO)—see article 25—<http://www.ilo.org>.

15) International Treaty on Plant Genetic Resources (FAO)—see article 9—<ftp://ftp.fao.org/ag/cgrfa/it/ITPGRRe.pdf>.

16) United Nations Educational, Scientific and Cultural Organization (UNESCO)—see <http://unesdoc.unesco.org/images/0013/001325/132540e.pdf>.

Figure 2 Density of Modern Medicine Physicians per 100,000 persons in various countries

Data source: Patwardhan 2005

4. Role of Traditional Medicine in Public Health

4.1 Inadequacies in Health System

According to the World Health Organization, one third of the global population has no regular access to essential modern medicines, and in parts of Africa, Asia and Latin America, about half of the population faces shortage of minimum healthcare. Studies on public health in the developing world repeatedly point to inadequacies in health care financing by the states which has led to a situation of highly limited material and human resources for healthcare services. Patwardhan (2005) cites the density of physicians of modern medicine per 100,000 persons in various countries as on year 2004 as: Rwanda 1.9, Ethiopia 2.9, Uganda 4.7, Benin 5.8, India 51.3 and China 164.2. This is in contrast to countries such as Australia and the USA where the figures are 249.1 and 548.9 respectively. This reveals the glaring inequities in health care delivery in developing countries. External resource oriented, foreign technology based and vertically designed healthcare programs have been a major stumbling block for not achieving desired health outcomes in many developing countries. WHO identifies that the main constraints are low literacy and income levels, socio-cultural beliefs and practices, and suboptimal utilization of health facilities.

Heavy burden of communicable diseases such as HIV, malaria and other parasitic diseases, pneumonia, diarrhea, tuberculosis, coupled with chronic diseases such as diabetes, ischemic heart diseases etc., (a situation often referred as double burden), persistently torment lives in these countries. High maternal and child mortality, rapid demographic changes and urbanization, under utilization of public healthcare, ineffective health support systems for poor population, increasing privatization of health facilities, migration of medical professionals, environmental changes and related epidemics are some other major public health concerns in such economies. High out of pocket spending on health in countries like India, which is around 78%, and lack of appropriate health insurance or social security are other concerns. Added to this, in the wake of globalization and WTO regime, there is a perceived challenge of increased inaccessibility and unavailability of healthcare to the economically disadvantaged people of such societies (Nambiar et al. 2007). To quote Nambiar et al. further, "a major challenge for health care planners is integrating health promotion and disease

prevention on the one hand, and treatment of acute illness and chronic care on the other. This has to be done at all levels of the health system with the aim of delivering quality services equitably and efficiently to the whole population.”

While the United Nations’ Millennium Development Goals (MDGs), WHO strategies and United Nations Human Rights office (UNHCHR) call for immediate actions to address access to health care, it vastly continues to remain a challenge at global and national levels. This is because ‘access’ involves physical, social, political and economic dimensions. Some of the key resolutions of the World Health Assembly 2005 were directed to addressing crisis of human resources, assuring health of poorest people, health of women and children, healthy aging, addressing microbial resistance and cancer prevention and control (Janska 2005).

4.2 Relevance of TCAM

In many regions of the world where modern healthcare is not readily available or affordable, public continue to rely on traditional medicines which are based on locally available natural resources and cultural knowledge. In a public health context, availability, accessibility, affordability, utility, quality, efficiency and equity have relevance in respective order in promotion of traditional medicine¹⁷⁾. While much of the attention in TCAM sector has been given to address clinical, regulatory and supply oriented issues, there is a general neglect of wider public health dimensions (Bodeker and Kronenberg, 2002). Quantitative research to ascertain levels of existing access (both financial and geographic) and qualitative research to clarify constraints to extending such access are important (WHO 2002). The focus should be for those diseases which represent greatest burden for poor populations.

According to Kleinman (2002) health seeking arenas can be classified into three: home level, informal and professional sector. Of this, home level covers 75% and in every 1,000 illness episodes 750 never get outside of family sector and are managed through household means. Rest 25% is divided among professional sector such as hospital, clinics of biomedicine or western medicine, Chinese medicine, Ayurvedic medicine etc., and the non-professionalized, folk sector such as local healers, lay therapists with no institutional support¹⁸⁾. Such a classification brings about a picture of the potential interventions of TCAM.

4.3 Health in Own Hands—Importance of Self Help and Home Level Care

Large scale community interventions like home herbal gardens in India have demonstrated that many simple primary health care problems like fever, upper respiratory tract infections, gastro-intestinal problems such diarrhea, dysentery, worm infestations, hepatitis, anaemia, arthritic conditions, and certain gynecological conditions can be managed at household level through simple herbal home remedies and early identification and interventions. Reproductive health and nutrition forms two important aspects of household care. Considerable health cost saving has been found through this program apart from health and nutrition benefits (Hariramamurthi et al. 2007). A similar approach of an efficient household care is the Toyama herbal medicine distributors who traveled across Japan for distributing essential medicines which remains an exemplary model of public health system in rural areas (JOICFP 1983). These and several such models attest to the potential of community interventions through TCAM for simple ailments.

17) Jaime Galvez Tan, paper presented at the Health and Sustainability Workshop, *Universiti Sains Malaysia*, Kotabharu, Malaysia, May 2008, unpublished.

18) Arthur Kleinman, National Institute of Health lecture, 2002—<http://videocast.nih.gov/Summary.asp?File=10463> accessed on 28th August 2009.

4.4 Role of TCAM in Communicable Diseases

In communicable diseases such as malaria, HIV, traditional medicine has proved its significance. Global incidence of malaria is around 300 million per year leading to mortality as high as 1.124 million and around 40% affected population have no access to effective modern drugs (Wilcox and Bodeker 2007). Two of the major drugs used in malaria management such as quinine and artemisinin are derived from traditional medical knowledge in Peru and China respectively. Traditional medicine is an important source for several such potential drugs for contemporary applications in various infectious diseases. A recent survey showed that 78% of patients living with HIV/AIDS in the USA use CAM medicines (WHO 2002: 14) and similar patterns have been reported in many other developed and developing countries. A number of systematic studies on efficacy are slowly emerging suggesting antiretroviral, immunomodulatory and opportunistic infection reducing effects of traditional management methods (Liu 2007).

4.5 Role in Chronic Diseases

Longer life expectancy in developed countries as well as newly emerging economies have brought increased risks of chronic, debilitating diseases such as cardiovascular diseases, musculo-skeletal disorders, cancer, diabetes and mental disorders. It is an accepted fact that TCAM is playing an important role in care of such chronic diseases. Systematic studies and wide dissemination of potentials of traditional medicine are required for further popularization of such methods.

4.6 Relevance of Local Healers as Health Care Providers

Folk healers continue to play a key public health role contributing to availability of human resources in countries where the population to physician ratio is high (see Figure 2). Apart from general healers, traditional orthopedic practitioners, birth attendants, poison healers, spiritual therapists, mental health providers, healers specialized in eye, pediatric conditions, skin diseases etc., are some of the specialty areas. Estimations suggest that around 60% of child deliveries in the world are managed by traditional birth attendants. Though many official policies do not recognize them, more countries are realizing the community health education role that healers can perform.

5. History and Current Status of Health Sector Integration

Various perspectives exist regarding integration of traditional medicine with conventional health sector. From a *utilitarian* point of view it is thought that knowledge of TCAM can be validated and absorbed for enhancing contemporary medical knowledge. There are several examples of drugs like Artemisia for malaria, salicylic acid for fever and so on of such integration. A *syncretic* perspective believes in merging together aspects of both systems to form a new system. *Complementarity*, a popular approach today, is a situation where TCAM plays a supportive role in the health system as it happens to be in many developed countries. A *co-evolution* perspective thinks that different forms of knowledge evolve simultaneously, in the first place on the basis of their own dynamics and partly as a response to their interaction/dialogue with other forms of knowing. A *trans-cultural and transdisciplinary synergy* approach advocates that sciences acknowledge that they represent one type of knowledge among others and that knowledge is always culturally embedded and forming part of historic development. Both can benefit from comprehensive interaction. There is also a *romantic* view wherein TCAM is considered basically 'good' and should have the right to remain as it is. There is another view that TCAM is *marginalized* by conventional medicine in a hierarchical health system. Yet another *paternalistic* view is that TCAM has to be continuously updated by scientific studies (Haverkort 2006). Among these the utilitarian view remains dominant and many drugs have been developed and integrated based on traditional medical knowledge.

In an 'integrated system', TCAM is officially recognized and incorporated into all areas of health care provision which means that it is included in country's national drug policy; providers and products are registered and regulated; therapies are available at hospitals and clinics (both private and public); treatment with TCAM is reimbursed under health insurance; relevant research is undertaken; and education in TCAM is available. Countries like China, Republic of Korea and Vietnam can be considered as having such an integrated system. In an 'inclusive system', TCAM is not fully integrated into all aspects as in countries such as Equatorial Guinea, Nigeria, Mali, Canada and India. In a 'tolerant system', the national health care is based entirely on allopathy, but some TCAM practices are allowed under law (WHO 2002: 8).

The Alma Ata declaration in 1978 at the WHO international conference on primary health care was a milestone policy perspective in integrating TCAM practices which recommended inclusion of proven remedies into national drug policies and regulatory measures. It also ascertained that health is the state of complete physical, mental and social well being and not merely the absence of disease or infirmity, signaling a synergy with TCAM philosophy. Prior to this itself, Asia has seen much progress in incorporating TCAM into national policy which can be models for developed countries (Bodeker 2001: 164). Countries like China from 1950s had incorporated traditional medicine through the famed barefoot doctors program. Critics argue that this has ended in 'biomedicalisation' and resulted in a diluted form of traditional Chinese medicine. It is also argued that currently health system has transformed into a hierarchical system of pluralism as conventional medicine achieved both structural superiority and functional strength (Lee 1998). In Japan too from the Edo period a well established public health system with traditional medicine integration existed through the Toyama medicine distributors (JOICFP 1983: 2), however this had to give way to allopathic medicine during Meiji restoration era and later traditional medicine was revived in the 1970s owing to high consumer demand. However traditional culture especially related to food and health is well integrated into modern technological development in Japan which is stated as a reason for high life expectancy in the country. In South Asia too traditional medicine development started in early decades of 20th century. India took a pluralistic approach and parallel model where Ayurveda was promoted independently during the post independent period. Though it benefitted traditional medical systems in their self reliant development, they have not been integrated fully into the public health system due to enduring opposition from conventional medicine.

While there are WHO policy directives for integration of TCAM at international level, national governments have been slow to respond. At the same time public find appropriate ways to integrate various systems as per need. Researchers have argued that while international bodies and national governments may be enthusiastic about certain ways of integration, communities who are the beneficiaries may be less enthusiastic and maintain differing views about it for a variety of reasons (Vander Geest 1990: 1032). Thus the contradiction between public choices and national policies is evident although a slow change is seen since the last decade as evidenced in the increase in number of countries developing national policies. TCAM which was backed through a consumer or community supported movement in the past, is slowly obtaining state patronage through such proactive national policies.

6. Key Challenges

In the recent decades though there have been certain international and national policies for preserving and promoting traditional medicine, the progress of their implementation has been rather slow. Additionally these policies fall short of adequately addressing a number of concerns related to TCAM such as safety, efficacy, quality, rational use, availability, preservation and development of such health care, sustainable use of natural resources and assuring equity in transactions at various levels and so on (WHO 2002, Bodeker et al. 2007). Lack of sound scientific evidence relating to safety and efficacy, problems in ensuring quality and rational use, inadequate understanding of socio-cultural context

of their practice and usage, protection of intellectual property rights of knowledge holders, assuring sustainable natural resource use, regulation and capacity building of non-formal practitioners, developing appropriate methodologies for evaluation, resolving conflicts with mainstream medicine are some of the key challenges in the sector.

6.1 Safety, Efficacy, Quality

Towards the end of 19th century traditional medicine production shifted from a home level production to cottage industry and subsequently to large industrial mass production. For instance, today in India there are over 9,000 registered pharmaceutical industries of various Indian systems of medicine. Though the percentage of large industries is less, quality control is a major challenge.

According to WHO, the quantity and quality of safety and efficacy data available on TCAM are far from sufficient to meet the criteria needed to support its use worldwide. This is due to variety of reasons such as lack of proper documentation, appropriate policies and even a suitable research methodology. It is argued that while modern medicine emphasizes on a scientific approach, and content that is value-free and unmarked by cultural aspects, TCAM have developed rather differently with much influence by the culture and historical context in which they first evolved. Their epistemic framework, principles, concepts and practice are quite different from those of Western biomedicine (Shankar et al. 2006). They generally tend to focus on a holistic approach to life, equilibrium between mind and body and the environment and adopt a preventive approach (WHO 2002) thus making it difficult to develop appropriate methodologies without harming these unique features. Moreover issues such as chemical complexity of multiple plant based formulations are also challenges for developing a suitable methodology for research.

In popular parlance there is a general understanding that herbal medicines are safe. However reports of toxicity in traditional medicines have been a matter of concern currently. A recent study reported heavy metal content in Ayurvedic herbal preparations sold in the American market and have recommended mandatory toxic heavy metal testing for all herbal products. Researchers argue that such studies are important and needed, however are more related to the quality control failures of the mass manufacturing activities. Often these reports are wrongly interpreted and have a negative implication on the use. Effective quality control and regulation are certainly needed without limiting public access to these preparations or resorting to restrictive trade practice, at the same time ensuring public interest (Patwardhan 2005).

There has been no development of alternate standards and methods at any national or international level. Thus there are also differing risk assessments in different regions for TCAM. Like in other products, varying regulations in different countries often create double standards for export and domestic consumption of herbal products especially in developing countries. In many countries usage in tradition is considered a reason for exemption from strict safety regulations for TCAM, which may not be valid in all instances. According to Shia et al. (2007), when traditional medicine is practiced outside its original context and practiced as complementary or alternative medicine, there is a need for increased vigilance due to differing population characteristics, modification of formulations and methods of the transported knowledge. According to WHO, as a general rule evaluation of TCAM should take care of its medical, historical and ethnological background of herbal products and traditional experience of its use. European Union is adopting a 'traditional use registration' procedure for herbal medicines. Similarly many other countries are introducing such systems. Safety monitoring for herbal medicines is also increasing. Adverse experiences from plants such as *Aristolochia*, drug interactions of *St. John's wort* and toxicity of *Kava-kava* have increased awareness among public and scientific community. Under reporting and poor quality of data provided by users are major challenges for regulators (Barnes 2007). Countries with their own traditional medical systems are more likely to measure risks against benefits. Also in countries where TCAM is recently becoming popular, safety is often considered prime compared to efficacy like in the USA (Shia et al. 2005).

Standardization of several aspects such as nomenclature of medicinal plants and other resources, their collection practices, semi processes and final processing, packaging, preservation, storage, product life, labeling and modes of distribution including clinical application are needed to ensure quality, safety and efficacy of TCAM.

Monitoring of practitioners is also done in various countries by checking their usage of medicines and medical procedures, re-registration after a given number of years, medical supervision by allopaths, introduction of voluntary self regulation systems, and so on. Often ambiguities in regulations strain referrals and relationship of conventional practitioners and TCAM practitioners. Non disclosure of complementary therapies used along with conventional medicines by patients during allopathic consultation is as high as 77% which stymies efficacy assessment of therapies. Concern about negative responses, a perception that physicians need not know about therapies outside their domain, and physicians do not elicit questions about other therapies are considered reason for nondisclosure (Bodeker et al. 2007: 14). Other reasons could be that the patient did not consider complementary interventions as serious medical methods and lack of awareness about consequences of drug interactions. This fact points to a need to strengthen physician-patient relationship and building awareness about the potentials and likely problems of such therapies both among patients and conventional medical practitioners.

6.2 Rational Use

Information, education and communication are three major pillars of rational use. Qualification and licensing of providers, proper use of products of assured quality, good communication between TCAM providers, allopathic practitioners as well as patients and provision of scientific information and guidance for public (WHO 2002) are some of the key challenges in assuring rational use. Proper consumer information is most important in facilitating appropriate usage of TCAM.

WHO has its mission in essential drugs and medicines policy to help save lives and improve health by articulating policy and advocacy positions, working in partnership, producing guidelines and practical tools, developing norms and standards, stimulating strategic operational research, developing human resources and managing information (WHO 2002: 5). A country specific essential drug list for TCAM would facilitate sustainable and prioritized production and consumption of TCAM medicines.

6.3 Education

Two dimensions have been identified as important in education. The first one is to ensure that the knowledge, qualifications and training of TCAM practitioners are adequate. Secondly, there is a good understanding between TCAM practitioners and that of conventional medicine and there is complementarity in the practice.

There are various models with respect to education. In some countries TCAM courses are integrated into allopathic medical education. Elsewhere TCAM courses are taught in the same duration and manner in which allopathic courses are designed. In some regions TCAM is taught through short term courses. In many developing countries informal, experiential learning by apprenticing with physicians continues to be the major trend. All of them have their own attendant issues. While little attention may be paid by allopathic students when it is integrated into their curriculum, a university level formal education for TCAM makes it difficult to transfer many of the experience based aspects of tradition in an institutional milieu. For example pulse diagnosis or the understanding of vital points or certain non physical methods of treatments are seldom taught in Indian Ayurvedic universities today. Similarly short term courses also fall short of giving sufficient learning for students about certain experiential elements. While experiential learning through apprenticing with a healer used to be the method traditionally, today it does not find its place in an overwhelmingly formalizing system and due to lack of recognition for those trained in family traditions.

6.4 Accessibility and Cost Effectiveness

Over 50% of deaths in developing countries are due to five infectious diseases. Common communicable diseases are widely prevalent in areas where access to modern drugs is limited (WHO 2002: 24). In the developing countries TCAM continues to be comparatively inexpensive though it is feared that a technology intensive production process would make TCAM unaffordable. For the health sector to improve, measures such as improving physical and economic access, preventive strategies, wellness management, promotion of best and essential practices in both communicable and chronic diseases, increased cooperation between various medical systems, sustainable natural resource use, protection of intellectual property rights, and equitable transactions are vital.

6.5 “Bio-medicalisation” of TCAM

Formalization of TCAM is resulting in increasing “biomedicalisation” of TCAM practices as they are being integrated into the formal health systems. Fears about safety and efficacy, hierarchical relationship of medical systems, economical and political factors including global dominance of the west, unfamiliarity with TCAM approaches among policy makers, are all playing a negative role in this phenomenon (Bodeker et al. 2007: 76). This contributes to erosion of local knowledge especially relating to non-material or metaphysical aspects, continued marginalization of practitioners, increasing absorption of best drugs and practices into allopathic knowledge and so on. Conflict with formal systems in many countries even those with strong history of TCAM, is a major issue as allopathic professionals in most regions have strong reservations and sometimes total disbelief about the benefits of TCAM (WHO 2002).

6.6 Research

A large number of present modern drugs are from traditional medical knowledge. Experience of drugs like Artemisia, St. John’s wort has boosted confidence among pharmaceuticals to establish the efficacy of other extensively used TCAM therapies (Patwardhan 2005). However recent reviews have shown that clinical trials in TCAM have been scanty and inadequately designed.¹⁹⁾ The low level of research has slowed development of national standards and integration efforts. There is an increase in research on TCAM in Japan and China while in other countries research programs have been bare minimum.

TCAM therapies and drugs can often be equated with modern surgical procedures without any rigorous clinical trials and are based on individual case reports of patient series. It is said that before randomized clinical trials are taken up, ethnographic, epidemiological, observational, survey and cohort methodologies are important for developing comprehensive research designs. Care should be exercised to be sensitive to the theoretical, clinical and cultural assumptions of the modality or system being evaluation in order to ensure that such research designs adequately measure what one thinks is being studied (Bodeker and Kronenberg 2002: 1589). It is a welcome situation that in some countries, exemption is given to medicines with history of use to pass to the phase three clinical trials with preliminary toxicity studies.

Epidemiological and public health mapping exercises are neglected aspects in the TCAM field. They are important to study population based effects of TCAM use as well as creating data on the presence and quality of service by TCAM providers, especially in areas where there is limited access to conventional health care (Bodeker and Burford 2007: 434). There are also insufficient contributions from social sciences to TCAM and most studies consider cultural knowledge as a stumbling block for health sector development.

19) The Cochrane of TCAM found that article indexed as alternative medicine formed only 0.4% of the total number of Medline listed articles for the period of 1966–1996. However this is steadily improving showing a positive trend (WHO 2002: 22).

6.7 Evidence Based Medicine (EBM)

EBM has emerged as an important dimension in modern medical care. The modernist attitude towards traditional knowledge has been as 'either modernize or disappear'. In a context where the mightiest comes to be identified with the best reason (Couze and Featherstone 2006: 459)²⁰⁾, traditional medicine is in a challenging process of proving itself through a completely different epistemology. However public preferences are moving in a direction where science is not the starting point for health decision making (Terasawa 2004, Janska 2005). It is feared that imposition of EBM, research on selected aspects of TCAM through randomized controlled studies, and the absorption of successful practices as evidence based 'modern' medicine would result in medical absorption and finally resulting in an erosion of 'alternate' approaches to health.

6.8 Intellectual Property Rights and Equitable Benefit Sharing

Discussions on ownership issues of TCAM have been centered on two major multilateral bodies. The Convention on Biological Diversity and the World Trade Organization's (WTO) agreement on Trade Related Intellectual Property Rights (TRIPS) which advocates exclusive rights on any invention under patents, geographical indications, trade secrets and trade marks and makes no distinction for traditional knowledge. TRIPS takes the position that ownership is fully based on registration of innovations. While there are discussions ongoing on how to synergize and find a balance between these two conventions, the topic assumes high importance as researchers and pharmaceutical industries are increasingly looking for better products and commercial applications.

6.9 Natural Resources and Their Sustainable Use

TCAM is highly dependant on biodiversity and there is increasing demand for plants, animal and mineral resources. This has led to a situation of endangering many important medicinal plants. There is still no country wise estimation of medicinal plant diversity, data on cultivated and wild sources and trade data in terms of domestic and export demand. There is also insufficient data on agro-technology of medicinal plants. Variation in active ingredients in plants collected from different agro-climatic locations is also a major problem. Though many countries have initiated efforts of both in-situ and ex-situ conservation of medicinal flora and fauna, efforts in this area remain abysmally low and confounded by non-transparency. It is estimated that in countries like India 95 % of medicinal resources are harvested from the wild through unsustainable collection methods. Around 300 medicinal plants in the country have been categorized under different levels of threat status (FRLHT 2002)²¹⁾. WHO has prepared guidelines on good agricultural practices but the implementation of this has also been low.

6.10 Local Healers

From the local healers point of view lack of successors, erosion of knowledge, conflicts with mainstream knowledge, lack of recognition, restrictive regulations for collection of medicinal materials, lack of adequate intellectual property protection, incompatibility of local ownership values with contemporary laws are some of the key concerns.

20) According to Couze and Featherstone (2006: 458, 460), "They (such impositions) attest to the alternative visions and trajectories sidelined when modernity acquires the force of a project of worlding a world according to a singular vision and temporalization of history and older knowledge may be readmitted but subject to the critical and skeptical judgment of a rational method, uncluttered by faith and dogmas".

21) See also www.frlht.org for detailed data on endangered medicinal plants in India and efforts for their conservation.

6.11 Need for an Intercultural Approach

It is necessary to understand these challenges in light of the historical background of post-colonial developments of these knowledge systems. One of the major influences has been the positivist school of both modern natural and social sciences which continued to marginalize contributions of traditional knowledge till recent times. In the promotion of TCAM in the contemporary context it is essential to have an intercultural approach. As mentioned earlier traditional medical knowledge in various countries have evolved within socio-cultural and historical context and their epistemic framework, principles, concepts and practice are quite different from those of modern science (WHO 2002: 7, Shankar et al. 2007). While there is a contemporary value in applying modern science and technology tools for creating objective and verifiable standards for traditional knowledge products and concepts, currently the approach to creating standards is one-sided. This is because it does not adequately consult the available qualitative TCAM standards and parameters. Furthermore, most therapies in TCAM involve both drug as well as non-drug interventions (Shankar et al. 2007) making it complex to develop appropriate methodology.

Today, government regulators do not take epistemological differences into account while setting standards to monitor quality in respect of consistency, safety and efficacy of TCAM products and services. An intercultural collaborative approach involving in-depth consultation between traditional and modern sciences will be central to overcome some of the complex challenges mentioned in this section.

7. Conclusion

Traditional medical knowledge is widely prevalent around the world and the larger public has integrated them for their various health needs. While continued community or public patronage is sustaining and even fostering their growth both in developing and developed countries, there exists a gap between public choice and national, institutional efforts for integration. High external resource use and technology orientation in development coupled with markets as major determinant of distribution is continuing to marginalize traditional medical cultures in the health systems.

It is evident that any model of healthcare based on a single system of medicine will find it difficult to cope with the health care demands in near future. It is also obvious that traditional and cultural medical knowledge has a catalyzing effect in meeting health sector development objectives and will continue to be so in both the worlds. But there exist major differences in the usage of TCAM in developed and developing world. While safety is the prime concern in developed countries, access and cost seem to be issues in developing countries. Challenges and issues also seem to be quite different in the eyes of various stakeholders such as regulators, consumers, practitioners and the industry.

There is scant data on utilization of TCAM and a dearth of policy research as well as good integration models in the sector. It is essential not to romanticize the TCAM but seriously consider issues of safety, efficacy and quality, access and rational use through suitable policy measures and appropriately integrate them with the mainstream health system without compromising the diversity and unique aspects. Following WHO's caution (WHO 2002: 20), without a critical assessment of what should be integrated and what should not, there is a risk of developing a health care system that costs more, is less safe and fails to address the management of health in a publicly responsible manner. Hence appropriate policies will have to be designed taking care of the epistemological subtleties of these systems and their contextual realities.

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