*Meeting Report***Exploring Traditional Medicine - Attempt to Validate Layman's Experience-based Health Care Systems Across the World**

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The past several decades have witnessed tremendous advances in medical sciences and health-care systems, resulting in substantial improvements in life-span and quality of life. However, in spite of these remarkably impressive progresses, many societies and populations in different parts of the world, especially from the so-called under-developed and developing countries, depend on 'traditional' health-care systems rather than the 'modern medicine'. Notwithstanding the common goal of providing a better state of health, there is a general disconnect, even some degree of distrust, between the modern and traditional health-care systems. Major factors that contribute to the disconnect and mistrust relate to the claims that modern medicine is experiment-based while the traditional systems are mostly folk-lore and experience-based, and therefore, lacks 'scientific' sanctity. Opponents of modern medicine on the other side claim that the traditional medicine systems are more holistic and based on thousands of years of experience compared to the reductionist approach of modern medicine of recent origin. Notwithstanding the debate about holistic vs. reductionist approaches, it is clear that the traditional medicine systems need systematic experimental studies to substantiate or modify the largely experience-based practices.

With a view to promote systematic study of the diverse traditional medicine systems across the world, the Executive Committee of the Inter-Academy Medical Panel (IAMP) initiated the "**Exploring Traditional Medicine**" project in collaboration with the Chinese Academy of Engineering (CAE), with support of the China Academy of Chinese Medical

Sciences (CACMS), and with the Nigerian Academy of Science (NAS) and the National Academy of Sciences of Sri Lanka (NASSL) being cooperating partners. The project is expected to explore the contribution of traditional medicine in human health care and define the methodologies required to assess the science, safety, quality and efficacy of the various traditional medical practices. As an approach to this objective, a meeting entitled "*Exploring Traditional Medicine*" was held at CACMS, Beijing (China) on 23rd and 24th September 2015, with support of the IAMP's member academies, to showcase successful examples of how traditional medical practices can play significant roles in global health care (see <http://www.iamp-online.org/content/exploring-traditional-medicine>).

During 2 days of the meeting, 24 case-studies describing investigations relating to different traditional medical practices were discussed by speakers from different countries. These included 9 from China and one each from Tanzania, Philippines, Zimbabwe, Turkey, South Africa, Sri Lanka, Madagascar, India, Nigeria, Indonesia, Croatia, Kenya, Ethiopia and Cameroon. The talks were grouped in four sessions, namely **Clinic** (7 talks), **Acupuncture and Moxibustion** (4 talks), **Public Health** (2 talks) and **Pharmacology** (11 talks).

The **Inaugural session** of the meeting on 23.9.2015 was addressed by **Professor Lai Meng Looi** (Co-Chair, IAMP), **Professor Daiming Fan** (President, Chinese Academy of Engineers), **Professor Boli Zhang** (President, China Academy of Chinese Medical Sciences), **Dr. B Schwartländer**

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(WHO representative in China). **Professor Looi** emphasized the importance of traditional medical systems that are prevalent in many countries of the world and said a lot can be learnt from history and tradition of systems like Chinese medicine and Ayurveda. **Professor Fan** mentioned that many rare diseases which cannot be cured by modern medicine may benefit from traditional systems. He noted that getting the correct diagnosis is not enough but other accessory factors (environmental and the patient) also need to be considered as they are in Chinese Medicine and in Ayurveda. He lamented that various traditional practices have already disappeared or are disappearing. Professor Fan noted that the Chinese Traditional Medicine has contributed enormously to China's health but there is need to identify scientific basis for traditional medicines. **Professor Boli Zhang** emphasized the need for systematic scientific evaluation of traditional medicine systems using modern technology and methods to answer many questions, and to prove their efficacy. He also

advocated integration of different traditional and modern medicine systems. He mentioned that the China Academy of Chinese Medical Sciences has established three well equipped research institutions to understand the traditional Chinese system in the context of modern science and technology. **Dr. Schwartländer** noted that the traditional medical systems carry thousands of years of experience and wisdom and are used by >80% population in Africa and >40% in China. He mentioned that traditional medicine often invites uninformed skepticism which makes it all the more important to systematically build the evidence base and good practices.

Session on Clinic, co-chaired by **Boli Zhang** (China) and **Folayan Esan** (Nigeria), included talks by **Boli Zhang** (China), **Jichola J J Masanja** (Tanzania), **Chen Wang** (China), **Erna Arollado** (Philippines), **Yiling Wu** (China), **Tsitsi Grace Monera-Penduka** (Zimbabwe), and **Alping Lu** (Hongkong). **Zhang** reported results of randomized

clinical trial with patented Chinese multi-ingredient Qi-Shen-Yi-Qi Dripping Pills on secondary Myocardial Infarction which showed that its efficacy was as good as that of Aspirin. **Massanja** spoke about a placebo controlled double blind randomized clinical trial to show efficacy and safety of extracts of *Prunus africana* on symptomatic prostrate hyperplasia patients. **Wang** presented results of prospective, randomized, controlled, non-blinded multicentre trials to examine clinical efficacy of traditional Chinese medicine Maxingshigan-Yinquiaoan (MY), composed of 12 herbs, in treatment for H1N1 influenza in comparison with Oseltamivir, which is WHO recommended and is widely used against the novel H1N1 virus. Results indicated that MY can be used as a safe alternative treatment for H1N1 influenza without any side-effects. **Arollado** provided evidence for *Alternanthera sessilis*, a common edible weed in Philippines, being useful in improving the hemoglobin content in anemia through clinical and non-clinical evaluation. **Wu** discussed usefulness of Qili Qiangxin capsule in patients with chronic heart failure; this therapy was based on the hypothesis of homeostasis (Cheng), auto-adaptation (Zho), regulation (Tiao) and equilibrium (Ping), which in turn is based on 'qi-yin-yang-five elements' coupled with the ying (nutrients)-wei (defense) theory. **Monera-Penduka** presented data to show non-toxicity of *Morenga oleifera*, which is commonly used for medicinal and nutritional purposes by HIV positive patients in Zimbabwe. **Lu** discussed the traditional Zheng classification which can provide deeper insights into the indications of specific drugs.

Four speakers, **Fanrong Liang** (China), **Muzeyyen Arslan** (Turkey), **Zhishun Liu** (China) and **Lipeng Wang** (China), made presentations in the **session on Acupuncture and Moxibustion**, which was co-chaired by **Baoyan Liu** (China) and **Xiaochun Yu** (China). **Liang** presented data on effectiveness of Acupuncture treatment using specific acupoints on stomach meridian in functional dyspepsia patients as measured through improvements in cerebral responses and quality of life. **Arslan** talked about traditional wet-cupping therapy. Cupping, a traditional therapy dating back to at least 2000 years, includes needle cupping, moving cupping, retained cupping,

herbal cupping, and the most commonly practiced bleeding or wet-cupping. Data from 31 healthy individuals showed that the wet-cupping blood had higher activity of oxidants than venous blood and thus helps in removal of oxidants and decrease oxidative stress. **Liu** discussed findings of a randomized controlled trial for efficacy of electroacupuncture in moderate and severe benign prostratic hyperplasia. Acupuncture has been commonly used in lower urinary tract symptoms and the present results indicated that electroacupuncture at the acupoint BL35 may have better therapeutic effects. **Wang** talked about efficacy of acupuncture on migraine prophylaxis on the basis of a multicentre, double-dummy single-blinded and randomized trial involving 140 patients; results indicated that acupuncture was more effective than flunarizine in reducing pain intensity and improving the quality of life.

The third **session on Public Health**, co-chaired by **Chen Wang** (China) and **Liaquat Ali** (Bangladesh), had talks by **Nceba Gqaleni** (S. Africa) and **Senaka Pilapitya** (Sri Lanka). **Gqaleni** spoke about inclusion of traditional health practitioners in community based public private partnership for HIV and TB services in KwaZulu-Natal. He mentioned that of the about 15000 traditional health practitioners in Kwazulu-Natal area, more than 3000 received basic to advanced training in AIDS and TB under the programme. **Pilapitya** discussed integration of modern epidemiology, health promotion and public health practices to establish a health unit system based on Ayurvedic health promotion. He mentioned that besides the traditional Ayurveda, Unani, Siddha practices, Yakka-vadakama is also preserved among the aboriginal descendants in Sri Lanka. He explained the integrated programme of training Ayurvedic health promotion officers in basic concepts of community level health promotional principles of Ayurveda and contemporary epidemiological principles and public health practices; they were also trained in clinical research with a view to generate evidence about Ayurvedic practices.

The fourth **session on Pharmacology** was held in two sittings with first being co-chaired by **Depei Lu** (China) and **Zuguang Ye** (China) and second by

Vijay Kumar (Sri Lanka) and **Na Lin** (China) and included eleven talks by **Philippe Rasoanaivo** (Madagascar), **Subhash C Lakhotia** (India), **Olatunde Farombi** (Nigeria), **Lucy Lahrita** (Indonesia), **Stella Fatovic-Ferencic** (Croatia), **Serigne Omar Sarr** (Senegal), **Shao Li** (China), **Festus Tolo** (Kenya), **Tefera Worku** (Ethiopia), **Vincent P K Titanji** (Cameroon) and **Meng Cao** (China). **Rasoanaivo**, speaking about management of convulsions and migraines by the essential oils of *Myrothamnus moschatus*, mentioned that smoke of dried leaves of this plant are commonly used to treat convulsions and migraine in Madagascar; they found that essential oils extracted from this plant's leaves have neuroregeneration and anti-convulsive properties based on which two phytomedicines are now commercially sold. **Lakhotia** presented results of studies aimed at understanding the basic biology of Ayurvedic Rasayana formulations using the well known *Drosophila* model and showed that herbal *Amalaki Rasayana* and organo-metallic *Rasa-Sindoor* formulations show beneficial effects in fruit flies as generally stated in traditional Ayurvedic texts and more significantly, substantially suppress neurodegeneration in fly models of Huntington and Alzheimer diseases. These results suggest that these formulations need to be explored further for treating the increasing societal burden of neurodegenerative and other life-style disorders. The mercury containing *Rasa-Sindoor* was found to be more effective in several respects than *Amalaki Rasayana*; this evoked some discussion on the alleged toxicity of Ayurvedic, Chinese and other traditional medicines/formulations that contain heavy metals. It was stated that with good quality control and stringent processing as described in traditional literature, these formulations do not have any toxicity. **Farombi** talked about Kolaviron, a naturally occurring anti-oxidant and anti-inflammatory flavonoid from seeds of *Garcinia kola*, which are commonly used in Nigeria as a masticatory and which also have important roles in African ethno-medicine for treatments in inflammatory disorders, laryngitis, cough and liver diseases. Experimental data was presented to show that Kolaviron provides protection against oxidative damage to lipids, proteins and DNA, has metal-chelating activity, inhibits cancer

cell proliferation and inhibits stress response proteins. **Lahrita** presented results of a screening of 59 Indonesian medicinal plants for anti-diabetic and anti-obesity properties. Roots of *Eurycoma longifolia* and fruits of *Piper nigrum* were found to increase insulin sensitivity through increased glucose uptake and to reduce lipid accumulation in adipose cells. She noted that Jamu, the traditional medicine system in Indonesia, handed over from one generation to next as traditional knowledge, needs further systematic studies and proper legislation for IPR issues. **Fetovic-Ferencic** spoke about anti-tumour activity of Burr parsley, which has been noted in folk recipes written by Croatian priests centuries ago. Aqueous extract of Burr parsley (*Caucalis platycarpus*) was shown to have anti-tumour activity in mouse models; a commercial and registered product, tea Primus, is now recommended as adjuvant therapy for improving the immune system in patients undergoing chemo- and radio-therapy and in those suffering recurrent infections. **Sarr** discussed the anti-plasmodial activities of natural compounds from *Icania senegalensis*, used by traditional healers to cure malaria with no adverse effects. Chromatographically separated fractions were tested *in vitro* for anti-plasmodial and cytotoxic activity to identify the active compound that can be developed as an effective anti-plasmodium drug. **Li** elaborated the network target concept to decipher traditional Chinese medicine, with the core idea of building a biological network that captures complex diseases as well as the traditional Chinese medicine syndrome (Zheng) at system level. This can then be used to therapeutically target multi-component herbal formulations. **Tolo** described development of a registered anti-herpes herbal medicine, Zedupex, for management of human herpes. A lyophilized aqueous extract of dried and finely grinded *Carisa edulis* plants is provided as Zedupex powder or cream to traditional health workers for oral or topical application, respectively, for effective management of herpes infection. **Worku** discussed the antiplasmodial properties of organic extracts of different parts of *Clerodendrum myricoides* and *Dodoneae augustifolia* plants in infected mouse models. **Titanji** also discussed screening for anti-plasmodial activity of Cameroonian medicinal plants, based on local

ethno-botanical knowledge. Using Artemether and Quinine as reference, the anti-malarial activity of various extracts and pure compounds have been tested *in vitro*. **Cao** presented his group's study on the protective effect of Huangqin decoction in ulcerative colitis and colitis-associated colo-rectal cancer. *In vivo* testing of the extracts of the four herbs of Huangqin decoction prepared by different processes revealed that one of the extracts, HQD-1, is more effective and non-toxic.

The presentations were followed by visits to the impressively organized and equipped research laboratories, data base centre and hospitals associated with the China Academy of Chinese Medical Sciences.

This meeting provided a unique opportunity for formal as well as informal interactions and exchange of ideas/information between scientists and clinical practitioners who are familiar with the diverse traditional health-care systems in different countries. It was encouraging to note that each of these countries is aware that the traditional knowledge is experience-based and needs experimental validation for wider acceptability and for ensuring quality control. Except for some of the studies presented in the session on Pharmacology which looked for the "active compound", most presentations highlighted the holistic

approach of the traditional health-care systems. It was also apparent that compared to the traditional medical systems of other countries, the Chinese system and India's Ayurveda have the longest history and most diverse formulations. In addition, both systems also emphasize on life-style. It is also true that both systems are not easily comprehensible in contemporary vocabulary of science and medicine. This makes it imperative that to gain substantially from the wealth of experience based information, we need intensive in-depth studies to decipher the vast amount of knowledge in contemporary language. It would also be very interesting to look for parallels in the philosophy and practices of these two ancient health-care systems. The recent announcement of Nobel Prize for the discovery of Artemisinin at the CACMS (Beijing) re-emphasizes the need for in-depth studies on the traditional medical systems using the powerful contemporary methods and analytical practices.

The meeting at Beijing on "Exploring Traditional Medicine" provided to me, and most other participants, the first opportunity to get acquainted with the layman's health-care systems in various countries that have long histories of human existence. This also highlighted the need for urgent and systematic studies on these rather isolated sources of information, which would otherwise get lost forever.