



The Fourth International Mediterranean Symposium on Medicinal and Aromatic Plants

Announcement : International Symposium

Medicinal and Aromatic Plants (MAPs) play a valuable and important role in economic, social, cultural and ecological aspects of local communities, the world over. Medicinal plants can be defined as botanicals which are used in official and various traditional systems of medicines throughout the world. Aromatic plants on the other hand are a special class of plants used for their aroma and flavour. Many of them are exclusively used for medicinal purposes in aroma therapy as well as in various systems of medicine. In one form or another, they benefit virtually everyone on Earth through nutrition, perfumery, bodily care, aroma therapy, nutraceuticals, phytopharmaceuticals and ritual healing. Medicinal and Aromatic Plants grow in almost all terrestrial and some aquatic ecosystems around the world.

The global herbal trade of medicinal and aromatic plants has been growing exponentially, and with an annual growth rate of 15% stands at 62 billion US\$ mark today and is likely to touch a scale of five trillion US\$ by 2050. An estimated 400000 tonnes of MAPs are traded annually. The range of species that comprise the MAP group probably extends to over 35,000 worldwide, of which at least 9,000 are known to have medicinal properties and between 2,000 and 3,000 are widely traded high-value products in commercial use. There are over 1300 medicinal plants used in Europe, of which 90 % are harvested from wild resources in the United States, about 118 of the top 150 prescription drugs are based on natural sources. Furthermore, up to 80 % of people in developing countries are totally dependent on herbal drugs for their primary healthcare, and over 25 % of prescribed medicines in developed countries are derived from wild plant species. With the increasing demand for herbal drugs, natural health products, and secondary metabolites of medicinal plants, the use of medicinal plants is growing rapidly throughout the world. The distribution of medicinal plants is not uniform across the world. For example, China and India have the highest numbers of medicinal plants used, with 11,146 and 7500 species, respectively, followed by Colombia, South Africa, the United States, and another 16 countries with percentages of medicinal plants ranging from 7 % in Malaysia to 44 % in India versus their total numbers of plant species. Cultivation of MAPs is thus a feasible diversification enterprise for many small-scale farmers as demand is high, trade opportunities are increasing and the income generating potential is good. Medicinal and Aromatic Plants (MAPs) are an integral component of many local trade supply chains. They are part of traditional medicine systems found in numerous local communities around the world, and comprise a wide range of species which have different sources, characteristics and uses. Since time immemorial, these products have made a significant contribution to human health and well-being as well as contributing to farm household income generation through trade.

Medicinal and Aromatic Plants (MAPs) are also well-known as Non-wood Forest Products (NWFP). From nature to standardized products, all these plants and products are of interest in a number of sectors. Due to the huge development in this sector, scientific researches for supporting ethnobotanical heritage and investigating novel information are gaining credence. Governmental regulations for conservation of biodiversity and concerns for public health and capacity building in private sector is increasing. Non-Governmental Organizations (NGOs) are working in all the related areas for biodiversity conservation, sustainable use of natural resources, encouraged approach for their cultivation, creating awareness among public regarding usefulness and entrepreneurship avenues offered by these plants. Thus, scientific-based organizations are important forums to bring together all the stakeholders in the MAP and/or NWFP sectors.

In this context, we have organized an international scientific event in the year 2013 as “**The First International Mediterranean Symposium on Medicinal and Aromatic Plants (MESMAP-1)**”. Since then, three successful symposiums have been convened wherein more than 1000 delegates from 50 different countries participated. Despite the fact that the title of the International symposium contains “Mediterranean”, we have the pleasure of welcoming the participants from all regions of the world in our past events. We received a number of official and private sponsorships from Turkey and abroad such as AMAPMED-Mediterranean Association of Medicinal and Aromatic Plants, AMAPSEEC- East European Association of Medicinal and Aromatic Plants, APTI- Association Pharmaceutical Teachers of India, THY-Turkish Airlines, Ministry of Food, Agriculture and Livestock, Ministry of Forestry and Water Affairs. The valuable articles from our esteemed delegates received in our previous symposiums were published as Special Issues in Thomson Reuters ISI - Indexed Journals of “Industrial Crops and Products” (ELSEVIER) and “Indian Journal of Pharmaceutical Education and Research (IJPER).”

The Fourth Mediterranean International Symposium on Medicinal and Aromatic Plants (MESMAP-4) will be organized at PALOMA Renaissance Antalya Beach Resort and SPA in Antalya, Turkey, during April 18-22, 2018. MESMAP-4 scientific program is envisaged to cover all related aspects and areas of MAPs and NWFPs, such as crop production, agronomy and plant breeding, taxonomy, ethnobotany, herbal medicines, plant biotechnology, phytopharmacology, pharmacognosy, plant molecular biology, phytochemistry, and aroma therapy. Selected papers will be published in a distinguished scientific journal with high impact factor after scientific evaluation. Symposium details are given at www.mesmap.com

THEMATICMAP

- Conservation, and Sustainable Use of MAPs
- Crop production, Agronomy, Plant breeding of MAPs
- Botany and Ethnobotany and Ethnopharmacology
- Biotechnology and Biochemistry for Germplasm development and their Conservation
- Natural product and Medicinal Chemistry
- Essential Oils and Secondary Plant Metabolites
- Value Addition for Product Development and Industrial Processing Technologies of MAPs
- Aroma therapy , Nutraceuticals, Phytopharmaceuticals and Drug Discovery through MAPs

- Current Regulations on Herbal Drugs and Food Supplements
- Pharmaceutical Sciences and Nanotechnology
- Marketing of MAPs and MAPs Products
- Legislations on MAPs and NWFPs

We are honored to request you to be our esteemed delegate and be with us in Antalya for this distinguished scientific event. It will be an amazing experience for you to take good memories back to your home.

We would like to wish you all the best. Looking forward to see you in Antalya, Turkey, in 2018 spring.

All the best

PROFESSOR NAZIM SEKEROGLU

Professor of Medicinal and Aromatic Plants, Kilis 7 Aralik University, Vocational School , 79000 , Kilis-TURKEY

Phone : +90 3488142667 / F: +90 3488142669

Cell : +90 5324015512

E-mail : nsekeroglu@gmail.com

Chairman of MESMAP Symposiums,

President of AMAPMED,

General Coordinator of GOFMAP

SEMINAR REPORT : HDFS - 2017

Jamia Hamdard, New Delhi

THIRD NATIONAL SEMINAR ON “CURRENT REGULATIONS ON HERBAL DRUGS AND FOOD SUPPLEMENTS”



Inaugural function from left: Bushra Parveen, Dr. Sayeed Ahmad, Dr. Arun Gupta, Professor Nadeem Siddiqui, Professor Seyed E. Hasnain, Professor R.K. Goyal, Professor S.S. Handa and Professor Vidhu Aeri



Valedictory function from left: Dr. Sayeed Ahmad, Dr. Arun Gupta, Professor Raisur Rehman, Professor S.H. Ansari and Mr. C.P. Khare

The NIRF Rank 1 Pharmacy institute of India (**School of Pharmaceutical Education and Research, Jamia Hamdard**) organized a National Seminar on Current Regulations for Herbal Drugs and Food Supplements in collaboration with the **Society for New Age Herbals**. The seminar covered important aspects pertaining to herbal medicines and food supplements. It asserted that a good regulatory framework with stringent quality control is essential for development of quality products in herbal drugs and food supplements that can be promoted and used throughout the globe and for refurbishing public faith in herbal products. More than 750 scientists from academia and various herbal drug and food supplement industries participated in the seminar.

Several dignitaries from India and abroad including Prof Hassan Khalid (Khartoum University, Sudan), and Dr. Mohamed Alamin and Dr. A.H. Mohamed (Licensing Authority of Herbal Drugs in Sudan) attended the seminar.

INAUGURAL SESSION

Professor Vidhu Aeri, Head of the Department of Pharmacognosy and Phytochemistry, welcomed the delegates, however Professor Nadeem Siddiqui introduced the gathering about seminar. The Chief Guest of the function, Professor Ramesh K. Goyal (Vice Chancellor, DPSRU, New Delhi) highlighted the importance of the theme, whereas Professor S. S. Handa, Eminent Pharmacognosist and Ex. Director of Indian Institute of Integrative Medicine, Jammu, in his Key Note speech stressed upon the critical need to bring together scientists, industry people, policy makers and regulatory agencies to consider challenges and opportunities of the next decade and discussed new guidelines for food and phytopharmaceuticals. In his presidential remarks, Professor Seyed Ehtesham Hasnain, Vice Chancellor, Jamia Hamdard, elucidated the necessity of putting medicinal herbs to rigorous scientific testing and developing standards so as to maintain quality for global competitiveness. Dr. Sayeed Ahmad, Organizing Secretary of the seminar, thanked the participants, valuable guests, invited speakers, chief guest (Professor R.K. Goyal), Key note speaker (Professor S.S. Handa) and acknowledged the support provided by Aimil, Hamdard, ICMR, Dabur, Rex Remedies, Fermish, Agilent, Dehlvi, Nature and Nature and Liimra.

TECHNICAL SESSIONS

The technical session, comprising of 10 plenary lectures, had a balanced representation of industry, academics and the government agencies. Dr. J.L.N. Sastry (Dabur), Dr. Neeraj Tandon (ICMR), Professor S.K. Moulick (AIIMS), Dr. Khalid Khan (Fermish), Dr. Arun Gupta (Dabur), Dr. Santosh Joshi (Hamdard), Dr. N. Srikanth (CCRAS), Dr. N.B. Brindavanam (Dabur) and Dr. Aman Gupta (Amway) were the invited speakers.

TECHNICAL SESSION 1

Chaired by Professor Hasan Khalid (Professor University of Khartoum, Sudan), Professor R.K. Khar (Ex. Professor Jamia Hamdard), Dr. Khalid Mehmood Siddiqui (Ex. Deputy Director General, CCRUM)

Lecture 1: Necessity for the correction of AYUSH drug regulations

Dr. J.L.N. Sastry, Dabur India Ltd.

Dr. Sastry highlighted important aspects of Drugs and Cosmetics Act which require revision from the AYUSH perspective. He also shared that the rules for AYUSH drugs under Drugs and Cosmetics Act does not contain any provision for collection of samples from physicians, thus makes the physicians immune from any penalty. He further highlighted that for effective enforcement of quality related regulations to the ASU drugs, there is urgent need to create a central drug testing laboratory for AYUSH medicines.

The schedules of the regulations need urgent revision since, the therapeutic index of many companies have become the schedule. There is also need to revise the list of books mentioned in the schedule. To ensure the quality of drugs, Good Agricultural Cultivation Practices should also be covered in the regulation.

Lecture 2: Quality Control of Unani herbal medicines in India

Dr. Santosh Joshi, Hamdard Laboratories

Highlighted the quality challenges related to botanical raw materials like crop-to-crop variation due to natural challenges and processing conditions. Mixing of various grades of raw material, *e.g.*, incase of saffron also leads to quality issues in the final formulation.

Labelling issue: Preservatives are not mentioned on the label of herbal extracts which leads to quality issues, *e.g.*, detention of the consignment in the export country ports due to presence of starch (preservative, not mentioned on the label). Another issue is substitution in the formula due to non availability of a particular medicinal plant and incorrect and unsystematic storage of raw materials.

Lecture 3: Biodiversity Act, 2002 and its implications for biopharmaceutical sector

Dr. N. B. Brindavanam, Dabur India Ltd.

The speaker discussed the implications of Biodiversity Act, 2002 from the perspective of recognition of sovereign rights on the biological resources including for the purpose of commercial gains. The act is based on three pillars of “Conservation, Sustainable Use and Commercial use with equitable sharing.”

As per the Act, it is obligatory to seek prior approval from National Biodiversity Authority for access Bioresource/traditional knowledge for all activities centered around commercial use. The benefit sharing (monetary and non-monetary) mechanism (GSR-827) has also been defined in the act with Bioresource Management Committee, State Biodiversity Board and National Biodiversity Authority including free access for purely local use.

Impact: The Biodiversity Act, 2002 has no impact on research. The patent application may also be file without hinderance, however, the benefit sharing process must be agree upon before filing patent. However, it should be kept in mind that the National Biodiversity Authority keeps ecological health above human health.

TECHNICAL SESSION 2

Chaired by Professor S.K. Gouswami (Dean and Professor School of Life Sciences, J.N.U.), Professor Mohd Ali (Ex. Professor Jamia Hamdard), Dr. T.K. Mukherjee (Ex. Editor, IJEB, NISCAIR)

Lecture 4: Clinical trial of a herbal medicine in heart failure patients in a tertiary care hospital

Professor S. K. Maulik, All India Institute of Medical Sciences

Professor Maulik presented the preclinical and clinical research work on use of Arjuna bark aqueous extract in heart failure. He concluded that though, encouraging results were obtained in preclinical studies, the extract did not show any benefit as an add on therapy to the baseline treatment with modern drugs. He also reported that Arjuna bark did not show any interaction with commonly used cardiovascular medicines like diuretics and digoxin, *etc.* Further, the extract was found to have no effect on CYP2D6 enzyme (metabolises ACE inhibitors and Beta blockers).

However, studies need to be carried out on the effect of Arjuna bark extract *per se* treatment in heart failure patients. It is noteworthy to mention that despite Arjuna bark being used as an aqueous extract in Unani system of medicine, ICMR considered it as a new drug (and not AYUSH drug) and asked for conduct of preclinical toxicity studies.

Lecture 5: Current Regulation on Food Supplements

Dr. Aman Gupta, Amway

Dr. Aman Gupta deliberated upon the Food Standards and Safety Regulation, 2016. He highlighted the issue of overlapping definitions of various drug and food agencies in India. He informed that the approval guidelines are for non-specific foods and food ingredients. For the formulation containing combination of approved products requires further approval.

Lecture 6: Drug Development and Regulatory aspects in ASU system: Scope and Challenges

Dr. S. Srikanth, Central Council for Research in Ayurvedic Sciences

Discussed the issues of overlapping regulations on food supplements, ethical doses of herbal extracts and drug interaction studies. He outlined that the drug interaction studies being carried out by CCRAS are indicative studies and do not provide absolute guarantee of no interaction with any drug.

He also discussed that the clinical trials esp. the add on trial are challenged by the demarcations of the medical systems, in case more than one medical system is involved. He also informed that the new guidelines on research on ASU drugs are currently in draft state and opinions are being sought.

TECHNICAL SESSION 3

Chaired by Dr. Gyan Singh (Ex. Editor, NISCAIR), Professor Mohd Husain (HOD, Biotechnology, Jamia Millia Islamia), Dr. Kshipra Mishra (Additional Director, DIPAS, DRDO)

Lecture 7: Phytopharmaceuticals : A new regulation in India

Dr. Neeraj Tandon, Indian Council for Medical Research.

Dr. Tandon informed that as per USFDA data, there are more than 50,000 ADRs due to botanicals and herbal drugs. CDSCO had issued phytopharmaceutical guidelines in 2013. Now a new appendix has been added in the schedule Y (Appendix 1B) outlining the process for new drug application of phytopharmaceuticals. As per this guideline, a comprehensive procedure for drug development research has been defined on the phytopharmaceuticals (mainly for, but not limited, to single herb products) in line with drug development process of pharmaceuticals including quality, safety, efficacy and drug interaction studies. The products approved under the new appendix, though being herbal products, can be prescribed by the practitioners of modern system of medicine.

Lecture 8: Current regulations on modern herbal medicine

Dr. Khalid Khan, Fermish Clinical Technologies

Dr. Khan outlined the regulations for herbal medicines in light of recent USFDA guidance for botanicals.

Lecture 9: Clinical research on herbal medicines: Indian perspective

Dr. Arun Gupta, Dabur India Ltd.

Dr. Gupta presented the aspects of clinical trial on herbal medicines with special reference to AYUSH systems. He highlighted the challenges and solutions for conduct of clinical trials from the point of view of blinding, control, randomization *etc.* He also outlined the details of regulatory aspects including registration of clinical trials and audio visual recording of informed consent.

Valedictory session

The valedictory function was addressed by Professor Raisur Rahman (Advisor, Unani AYUSH), Mr. C.P. Khare was guest of Honour. Dr. Arun Gupta (Co-ordinator) and President Society for New Age Herbals concluded the seminar after felicitation to sponsors and awardees of best paper by Dr. Sayeed Ahmad (Organizing Secretary).

GC-MS Metabolomics Workshop on 17th May 2017





GCMS workshop was attended by more than 65 delegates from JamiaHamdard and outside members, which was sponsored by Agilent Technologies.

The first Lecture was on Basics of GCMS by Indrajit Sen (Agilent technologies) followed by second Lecture on LC-QTOF Mass- spectrometer: A workhorse for metabolomics applications by SaurabhNagpal (Agilent technologies). Further, Demo on GCMS analysis of metabolites by Indrajit Sen &SaurabhNagpal (Agilent technologies) in Bioactive Natural Product Laboratory.
