

Recommendations for improvement in Teaching and skill development of AYUSH students and physicians under MAHAMANA DECLARATIONS OF THE INTERNATIONAL SEMINAR held on April 27- May 2nd, 2020, By Faculty of Ayurveda, Institute of Medical Sciences (IMS), Banaras Hindu University (BHU) jointly with Patient Safety and Access Initiative of India Foundation (PSAIIF), Quality Council of India (QCI) & Federation of Indian Chamber of Commerce & Industry (FICCI)

Dear members,

This document has been prepared keeping in view the long history of medical education in BHU (since 1920) with a vision of Integration of Ayurveda with science and allopathic system of medicine, followed by discussions with several academicians and practicing doctors of Ayurveda and other systems of AYUSH. **All members are requested to add their views for its betterment.**

Introduction:

In the recent past, during COVID-19 pandemic, the World has realized the importance of AYUSH in health care. This was further validated by statistical data of highest recovery rate and lowest death rate in India, because of significant steps being taken by Ministry of Health, GoI. Several steps taken by our Prime Minister for psychological healing also supported this mission. The importance of Psychoimmunology and use of AYUSH Khada, yogic practices and other remedies, have significantly played a role in enhancing the immunity of common masses in the country.

Thus it has been realized to validate all aspects of AYUSH system of health care in general and Ayurveda in particular in more stringent scientific manner by using latest scientific tools. The WHO has also realized the need of this system and announced to establish an International centre of excellence of AYUSH-system in India. Through all these steps it is being aimed to integrate the best of ancient science, recent advancements in science & technology, to provide evidence based AYUSH system of health care, which may be accepted to all the countries in the World. In this process the Citizens have to be made an active partner in the crusade and make

them fully aware on safety, efficacy, and quality care standards of AYUSH products.

Thus, keeping in view the urgent need for development of this system the work force of AYUSH system has to be made more skilled, better-knowledge and well-informed about the advances, being made in health sector around the World. The proposed recommendations are being made for submission to GoI, for consideration as suggestion for future reform in teaching and practicing of AYUSH system of health care.

Objectives:

Capacity building in all areas of AYUSH for its universally acceptance as a therapy for diseases and wellness for healthy society is the demand of time. For this a national registry of the beneficiary of AYUSH treatment may be created to trace the diseases for which these systems are providing the treatment.

Primary Healthcare Centres of AYUSH need to be developed to provide treatment and awareness programme for all kinds to preventive measures, through the outreach programme in society and schools.

A feeling and requirement to maintain the quality and standards of AYUSH products and practices, should be introduced in common masses from the school-teaching itself, so that they can appreciate the importance of this system and also can control the quality of services.

1. The steps should be taken to educate students to bring standardization and uniformity in AYUSH healthcare delivery and to provide as criteria for coverage under health insurance. For this Insurance implementation required standards may be defined by the regulatory authorities.
2. The Govt-run health centres, private clinics and hospitals should be given orientation programme from time to time keep their knowledge updated. For this mandatory CME (continuing Medical education) may be included on yearly basis for all practicing and teaching AYUSH scholars.

3. Proper orientation programme may be organized to ensure the quality of raw material and finished products of AYUSH, which are prescribed by physicians and used by the society.
4. A self educated system and ecosystem should be in place for quality control. It is important because no health system would be effective unless its medicines are effective and safe.
5. The Indian Pharmacopoeial Commission should have separate section for Indian Medicine, as one country has one pharmacopoeia. The content of pharmacopoeia should be regularly examined, revised and update by all stake holders i.e botanical survey of India, Ministry of Health, AYUSH, spices Board, BSI, Forest Dept etc. There is no need to have separate pharmacopoeia for each system of AYUSH component. The special chapters may be added. Since AYUSH system use medicinal plants and their raw material so they are common in each system. There is no point duplicating the same plant in the name of different systems. The finished product may be different but the raw material will be the same. Thus common and basic knowledge of spices, vegetables and cereals and some commonly available medicinal plant should be made available in the school-level books.
6. Knowledge of packaging, logistics and storage of food material should be taught in schooling and also to common masses under awareness programme.
7. An orientation-programme or bridge programme should be organized for basic scientists and allopathic doctors to understand the USPs of AYUSH system and also the associated risks of overdosing and quality of the medicine/procedures. For this MoUs may be signed with leading laboratories, IITs, NITs and Universities of the country. The central instrumentation facilities and Institutes of DST, DBT, ICAR, ICMR, AYUSH and others may also be included. The experts may be trained for clinical laboratory, imaging facilities and direct (pratyaksha) visualization/intervention by endoscopy. The intricacies of clinical trials and observational studies and epidemiological studies may also be taught as per international norms.

8. An educational programme should be initiated for consumers, patients, professionals, Doctors of other systems of health care, integrative medicine, nursing, folklore medicine practicing persons, Vaidyas, Researchers, Teachers, farmers, Industrialists, entrepreneurs of AYUSH system. The stake holders should be educated about the strength and weaknesses of AYUSH system. Since it is overlapping with daily life routines, religious practices so the scientific awareness about those practices should be propagated in the society so that these practices may come out of the ambit of "superstitions" to the "scientific-base built" practices. For this students should be properly educated under their syllabus. For proper identification of physicians of different branches of AYUSH health care, policy of introducing different name tags may be introduced as (1) vaidya for Ayurvedic physicians, (2) hakim for Unani system, (3) Yoga-chikitsak for Yoga, (4) Siddharth for siddha system and (5) Homeopathic chikitsak for Homeopathy physicians, (6) Naturopaths for Naturopathy etc,
9. Knowledge about regulatory affairs for manufacturing AYUSH drug, opening a clinic, use of ethical practices should be made available to each AYUSH professionals to avoid any unknown mistakes. The knowledge about pharmaco-vigilance should also be taught. The regulations related to quality control, export, biodiversity, endangered species, organic farming, natural plant collection and their benefits should be highlighted in UG and PG teaching. An interface should be developed with farmers and industries, in addition to patients and senior physicians to understand the complete picture of society for translational research and production of their knowledge.
10. Proper knowledge about Indian biodiversity, richness of flora and fauna in India should be ensured. They may be given opportunity to interact with farmers involved in cultivation, natural collection and post harvest storage and processing of medicinal plants under the teaching of Dravyaguna. By this way they will have 1st hand information about the raw materials of the finished products, which they use in hospitals.
11. In Clinical practices, the use of Astang Ayurveda (under developed (1) Bhoot Vidya, (2) Vajikaran and (3) rasayan-vigyan, in

addition to 5 developed branches of Ayurveda and all the 3 approaches of treatment (devavyapasharya, satvavajaya and youkti vyapasharaya), in addition to spiritual and cultural recommendations, "dos and don'ts" at physical and psychological level (Astang yoga), importance to follow the basic concepts related to Ahar, Nidra and Bramacharya etc should be applied. OPD for all branches of Astang Ayurveda and wellness centres should be established in Hospitals. For that proper training and research should be included at UG/PG level.

12. Knowledge of bioinformatics, biostatistics and artificial intelligence, online classes should be imparted as introductory level, so that an AYUSH scholar would fit properly to the developing society and health practices, around the World.
13. The interdisciplinary teaching may be planned through the subject experts for Ayurvedic-epidemiology, Ayurvedic-diagnostics/therapeutics and interdisciplinary pharmacology/pathology/nutraceuticals.
14. The functioning of proper accreditation agencies should be ensured to regulate the standard of teaching quality and infrastructure of teaching and research institutions in transparent manner. Knowledge about importance of 3rd party certification, ISO certifications, accreditations like NABL, NABH, GCP, GxPs should be given at UG level.
15. Knowledge about WHO recommendations, for Traditional Medicine Strategies, coming from time to time, must be taught to students of AYUSH system under special classes for students and through CMEs for practicing doctors of AYUSH system.
16. Training for nurses, pharmacists and other paramedics need to be sharpened for developing clinical skills and treatment guidelines based on patient specific treatment requirement, equivalent to staff trained in modern medicine.
17. For development of integrative medicine combined OPD and constitution of board of doctors, should be made, especially for chronic

diseases. This is the demand of consumers in general and patients in particular.

18. More emphasis should be given to out-reach and medical education programme during UG course. In PG programme, the students should be given chance to interact Traditional Community Healthcare Providers (VCS-TCHP), who are serving the society by their "prior knowledge" of traditional community healthcare practices. They are using the practices and medicine based on their family background, which is based on long experience, though not scientifically validated. By this approach those practices will get a chance of scientific validation through observational studies, through scientific tools.
19. Education about the concept of "Family physician", should be developed in AYUSH stake holders, because here one gets chance to interact with the whole family and also to understand the history of a particular patient in the light of his family background. Education about preventive interventions should include both pharmacologic as well as non-pharmacological strategies. The concept of early diagnosis, based on "Shad Kriya-kal" and Nadi-Parakshin" should be properly taught and practiced to Ayurveda physicians and students. In Ayurveda, environment, diet and genetic constitution are considered collectively for diagnosis (das-widh-pariksha) and treatment. Here wellness of a healthy person is an important factor. In other words, prevention is better than cure is the main principle and objective of Ayurveda.
20. Updated information about ongoing Researches, Manufacturing-practices, novel publications should be given along with skill of better communication and counseling to bring focus on the end-users. Proper labeling on drugs should be made as per allopathic medicine. The description about disease on the label should be banned and it should be only given on those products which are under "OTC products" not on all the medicines, to avoid "self use" of the prescription medicine". Introduction to all AYUSH agencies like CCRAS, NMPB, Indian pharmacopoeia, National library network, Bureau of Indian Standards (BIS), which is the legally standard setting body of our country and

certified by institutions like Quality Council of India (QCI), voluntary certification scheme for medicinal plant produce (VCSMPP) etc should be introduced at PG level, so that they can utilize their facilities during their studies. Under the teaching of research methodology, the existing syllabus must be supplemented with knowledge of drug testing, sophisticated Cell line laboratory, where in-vitro pharmacological studies animal based studies as per OECD guidelines, importance of knowledge of adverse effects of overdosing of AYUSH drugs etc should be given at UG and PG level.

21. The e-learning among all Ayush Colleges/ Universities/ Institutions to encourage Research and collaboration and knowledge of multi-disciplinary, inter-disciplinary and trans-disciplinary subjects should be encouraged. Regarding UG and PG education, the need of classroom teaching Vs online teaching, Attendance requirement and teacher-student ratio for establishing new colleges must be reviewed to have more academic institution to meet the demand of teachers. These rules must be users friendly with very high standard of examination of knowledge.
22. For hospital training, private and Govt hospitals may be engaged with these Institutions, who are focusing more on "online" teaching. We should also encourage research on Yoga and naturopathy with all AYUSH branches. In fact awareness about these branches should be initiated at the school level itself. Knowledge about hospital management, marketing and business management, social sciences should also be included as optional courses.

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